Operations Department (OD) — Complete SOP Set

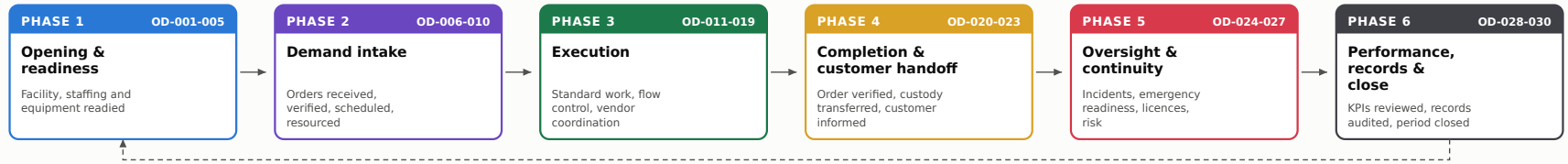
Archetype: MACHINERY_MANUFACTURING · Machinery Manufacturing

Tier: Free (entire Operations department) · Modules: 30 · Standard: locked 13-section

Contents

PHASE	MODULES
1 · Opening & readiness	OD-001 … OD-005
2 · Demand intake	OD-006 … OD-010
3 · Execution	OD-011 … OD-019
4 · Completion & customer handoff	OD-020 … OD-023
5 · Oversight & continuity	OD-024 … OD-027
6 · Performance, records & close	OD-028 … OD-030

FIGURE 1 — OPERATIONS WORKFLOW



Six phases · 30 modules · one continuous operating cycle, closing back into Phase 1 the next operating day.

Modules

- OD-001 — Daily Operations Opening Procedure
- OD-002 — Shift Handover & Briefing
- OD-003 — Staffing & Coverage Verification
- OD-004 — Work Area Readiness & Housekeeping Inspection
- OD-005 — Operational Equipment Availability Check
- OD-006 — Customer Order / Work Request Intake
- OD-007 — Order Verification & Acceptance Review
- OD-008 — Job Scheduling & Sequencing
- OD-009 — Resource & Capacity Allocation
- OD-010 — Incoming Material / Supply Verification
- OD-011 — Standard Work Execution & Process Adherence
- OD-012 — Work-in-Progress Tracking & Status Update
- OD-013 — Operational Handoff Between Work Stages
- OD-014 — Output Monitoring & Throughput Review
- OD-015 — Bottleneck Identification & Response
- OD-016 — Rework & Nonconforming Work Handling
- OD-017 — Schedule Deviation & Change Management
- OD-018 — Subcontractor & Vendor Coordination
- OD-019 — Interdepartmental Coordination Review
- OD-020 — Job / Order Completion Verification
- OD-021 — Delivery / Service Turnover
- OD-022 — Customer Communication & Status Notification
- OD-023 — Customer Feedback & Complaint Intake
- OD-024 — Operational Incident Reporting & Response
- OD-025 — Emergency & Business Continuity Readiness Check
- OD-026 — Regulatory, License & Permit Currency Verification
- OD-027 — Operational Risk Review
- OD-028 — Operational KPI Review
- OD-029 — Operational Records Retention & Documentation Audit
- OD-030 — End-of-Shift / End-of-Day Operations Closeout

Phase 1 — Opening & readiness

OD-001 — Daily Operations Opening Procedure

Estimated completion time: 30–60 minutes per shift start

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1. Purpose

To establish a consistent facility and shift start-up sequence at a machinery manufacturing operation so that production lines, utilities, and personnel are confirmed ready and a documented readiness sign-on is completed before any fabrication, machining, or assembly work begins.

2. Scope

Covers the opening sequence for a production shift — facility utility bring-up, line power-on confirmation, staffing and readiness sign-on, and start-of-shift documentation across fabrication, machining, and assembly areas. Excludes work-area housekeeping (see OD-004), equipment availability confirmation (see OD-005), and safety-specific readiness such as guarding and machine-hazard verification (see SD-001).

3. Responsibilities

- Shift Supervisor — owns the opening sequence, authorizes the readiness sign-on, and releases the shift to begin work.
- Line Lead / Cell Lead — verifies line power-on, staffing coverage, and first-piece readiness within assigned area and reports status to the Shift Supervisor.
- Facilities Technician — confirms utility bring-up (compressed air, electrical distribution, coolant/lubricant supply, ventilation) is within operating parameters before line release.

4. Required PPE & Lockout/Tagout

- Standard facility PPE: safety glasses, hearing protection where posted, closed-toe safety footwear, and area-specific attire.
- Lockout/Tagout: Verify that no active LOTO locks or tags from prior shift/maintenance remain on equipment scheduled to run; do not remove locks. Energization of equipment under LOTO is authorized only by the applying authorized employee per 29 CFR 1910.147. Detailed hazardous-energy control is handled under SD-001.

5. Regulatory References

- 29 CFR 1910.147 (The Control of Hazardous Energy — Lockout/Tagout) — energy verification before start-up.

- 29 CFR 1910.212 (General Requirements for All Machines) — machine operating condition at start-up.
- 29 CFR 1910.132 (General Requirements — Personal Protective Equipment).
- 29 CFR 1910.22 (Walking-Working Surfaces — general condition of the workplace).
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow

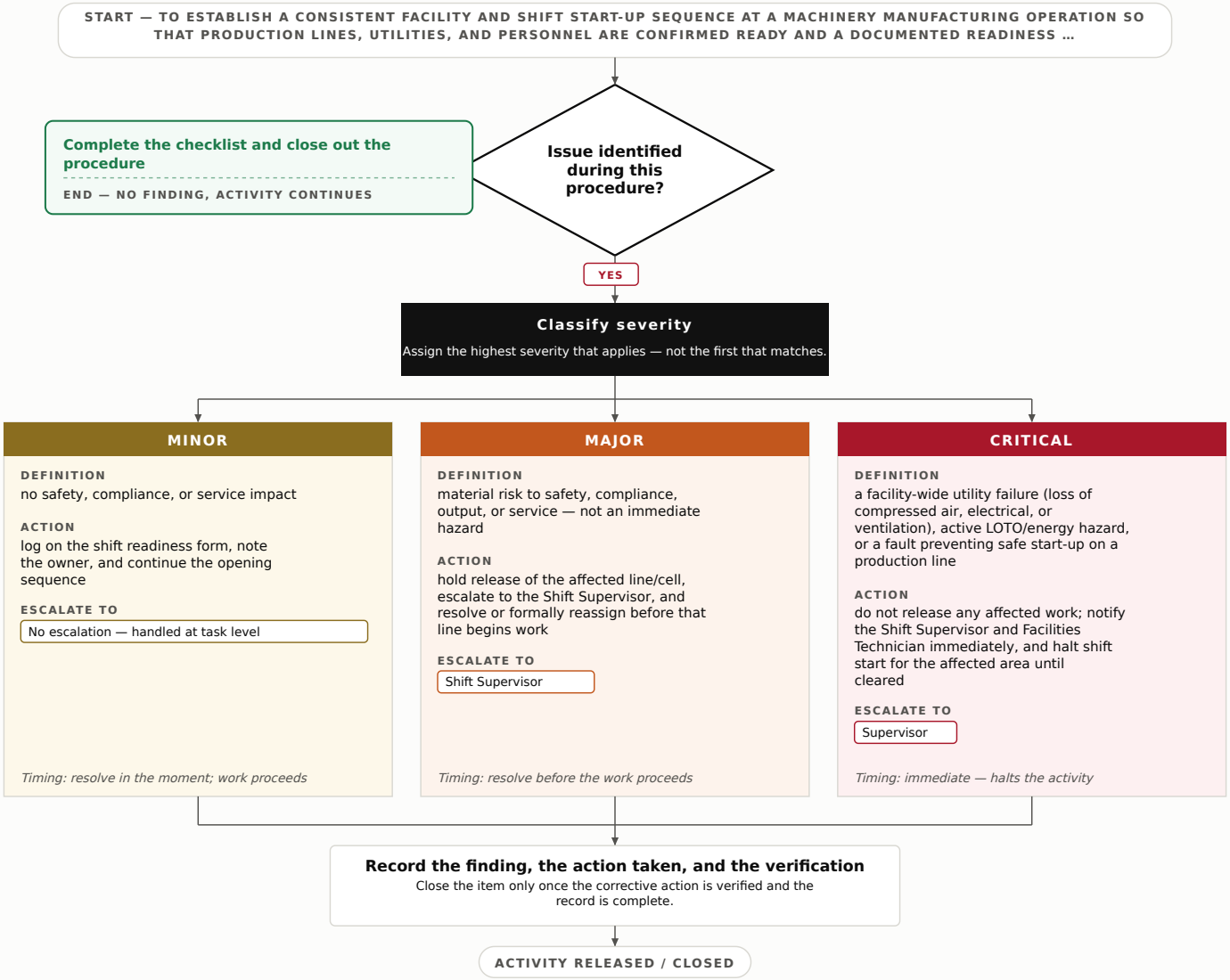
7. Step-by-Step Procedure

1. Facilities Technician confirms core utilities are online and within operating parameters: electrical distribution energized, compressed air at target pressure, coolant/cutting-fluid and lubricant supply available, ventilation/exhaust running.
2. Line Lead walks the assigned cell(s) and confirms power-on state of production equipment (CNC/machining centers, presses, assembly stations, test benches) reaches normal ready/idle state without fault codes.
3. Line Lead confirms staffing coverage against the shift roster for each station and notes any gaps requiring reassignment.
4. Line Lead verifies raw and in-process material (e.g., steel/aluminum stock, machined parts, motors/components) staged from prior shift is present at start points; material intake conformance is handled under receiving procedures, not here.
5. Line Lead reports area readiness status to the Shift Supervisor, flagging any open issues by severity.
6. Shift Supervisor reviews all area reports and utility status, resolves or classifies open issues per Section 8, and authorizes the readiness sign-on.
7. Shift Supervisor releases the shift to begin work only after sign-on is complete and no unresolved Critical findings remain.
8. Shift Supervisor records the completed opening on the shift log/readiness sign-on form, including start time, area status, and any deferred issues with owners.

8. Decision Tree

OD-001 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Daily Operations Opening Procedure



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Utility parameters confirmed within operating range before any line release.
- Every scheduled line/cell has a documented ready status and staffing confirmation.
- Readiness sign-on authorized by the Shift Supervisor and time-stamped.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Core utilities online and within operating parameters (air, power, coolant/lube, ventilation)		
Production equipment reaches normal ready/idle state without active faults		
No residual/unauthorized LOTO locks or tags on equipment scheduled to run		
Staffing coverage confirmed against shift roster for each station		
Start-point material staged and present for scheduled lines		
All open issues classified and routed per Section 8		
Readiness sign-on authorized and shift log completed		

11. KPIs

- On-time shift start (readiness sign-on complete by scheduled start): ≥ 95%.
- Opening sequence completed within target duration (≤ 60 minutes): ≥ 90% of shifts.
- Shifts released with unresolved Critical findings: 0.

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-002 — Shift Handover & Briefing

Estimated completion time: 15–30 minutes per shift changeover

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1. Purpose

To ensure a structured, documented transfer of production status, open issues, and shift priorities from the outgoing to the incoming production crew so that machining, assembly, and fabrication work continues without loss of information, rework, or missed customer commitments.

2. Scope

Covers the outgoing→incoming handover of run status, work-order progress, open production issues, quality holds, WIP location, and priority sequencing across cells and lines in a Machinery Manufacturing operation. Excludes the safety pre-shift briefing, which is covered under SD-003, and maintenance-crew handover, which is covered under MD-001.

3. Responsibilities

- Outgoing Shift Lead — compiles current run status, open issues, WIP counts, and quality holds; presents the handover and answers questions.
- Incoming Shift Lead — receives and verifies the handover, confirms priorities, and acknowledges open items in writing.
- Operations Supervisor — witnesses or spot-audits the handover, arbitrates disputed priorities, and escalates unresolved Critical items.

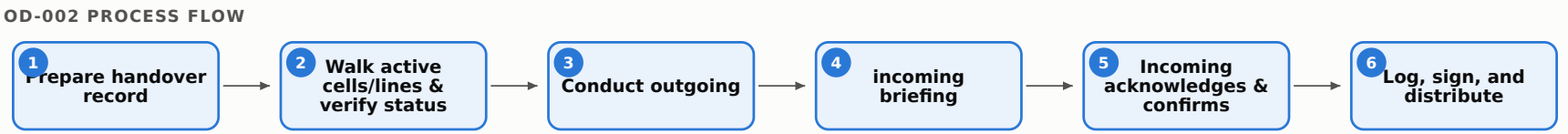
4. Required PPE & Lockout/Tagout

- Standard facility PPE (safety glasses, hearing protection, and safety footwear) if the handover is conducted on the shop floor near active equipment.
- Not applicable — this is an information-transfer task; no hazardous energy is controlled. Any equipment lockout status carried into the handover is referenced only, not performed here (see MD-001).

5. Regulatory References

- None sector-specific govern shift handover content itself; internal operations policy applies. Related general-industry obligations that frame recordkeeping and communication include OSHA 29 CFR 1910.1200 (Hazard Communication — carrying chemical/material status between shifts) and 29 CFR 1904 (recording of work-related injuries/illnesses noted during a shift). ISO 9001:2015 clauses on control of documented information and traceability apply where the facility is certified. Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



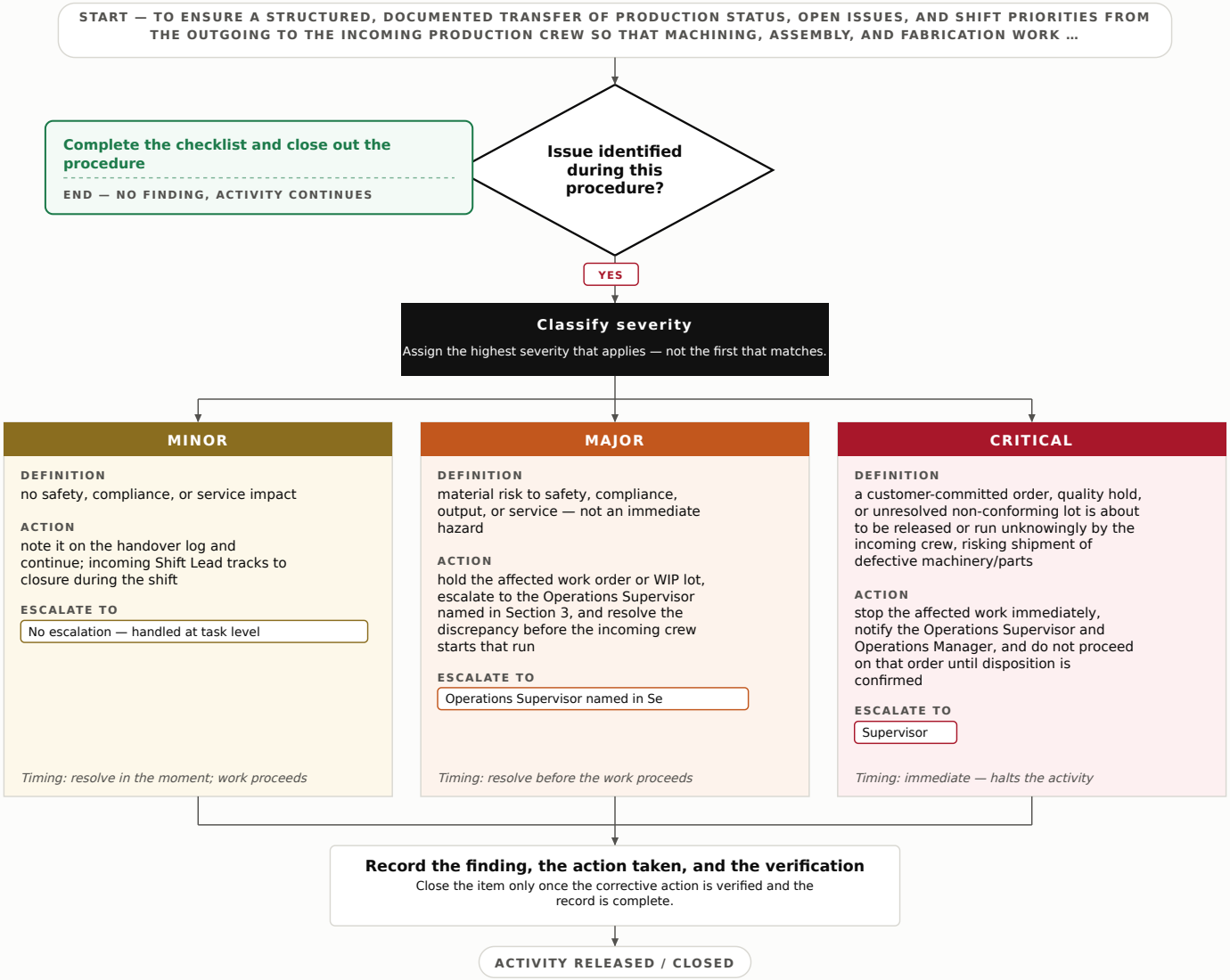
7. Step-by-Step Procedure

1. Outgoing Shift Lead updates the shift handover log with each active work order: part number, quantity produced vs. planned, machine/cell status, and any run interruptions.
2. Record open issues — quality holds, non-conforming lots pending disposition, material shortages (e.g., steel or aluminum stock from 331110/331318 not yet received), and any subassembly awaiting machined parts from an outside shop.
3. Note WIP location and count for each cell so the incoming crew can locate in-process housings, blades, engine parts, or assemblies without a search.
4. Rank the top priorities for the incoming shift (customer due dates, expedited orders, catch-up on behind-plan runs) and flag any commitment to Industrial Machinery Wholesalers (423830) at risk.
5. Conduct a brief walk of active cells/lines with the incoming Shift Lead, confirming machine states and WIP visually against the log.
6. Incoming Shift Lead asks clarifying questions and confirms understanding of each open item and priority.
7. Both leads sign the handover log; incoming Shift Lead assumes ownership. Supervisor spot-audits or countersigns per facility policy.
8. Distribute the completed log to the Operations Supervisor and archive per records retention policy.

8. Decision Tree

OD-002 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Shift Handover & Briefing



READING THIS TREE

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- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Handover log reflects actual WIP counts verified during the cell walk, not carried-forward estimates.
- Every open quality hold and non-conforming lot is listed with current disposition status.
- Top priorities and at-risk customer due dates are explicitly stated and acknowledged in writing.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
All active work orders listed with produced vs. planned counts		
WIP location and counts verified against physical cell walk		
Open quality holds / non-conforming lots documented with status		
Material shortages and inbound-part gaps noted		
Priorities and at-risk customer commitments stated and ranked		
Both outgoing and incoming leads signed the log		
Completed log distributed and archived		

11. KPIs

- Handover log completion rate: 100% of shift changeovers documented and signed.
- Open-item carryover accuracy: ≥98% of listed open issues match actual floor status on incoming verification.
- Handover-related production disruptions: ≤1 per month attributable to missed or unclear handover information.

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

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1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-003 — Staffing & Coverage Verification

Estimated completion time: 20–40 minutes per operating period (shift start)

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1. Purpose

Confirm that every production, quality, and safety-critical role required to run the operating period on the manufacturing floor is physically present, currently qualified, and assigned to a defined station before the shift is released to run. This protects output continuity, machine-guarding coverage, and the presence of qualified operators at powered equipment (CNC/machine tools, presses, assembly cells, compressors, and test benches).

2. Scope

Covers pre-shift verification of role presence, current qualification status, and station assignment against the operating period's minimum-manning requirement across production, material handling, quality, and floor safety functions. Excludes schedule and shift assignment, which is covered under HR-015, and staff competency assessment/training records, which are covered under TR-020; this procedure consumes their outputs but does not author them.

3. Responsibilities

- Operations Supervisor (Shift Lead) — owns the verification; confirms presence, matches assignments to the minimum-manning matrix, and authorizes release of the operating period.
- Production Line/Cell Lead — reports actual attendance at each station and flags gaps at safety-critical positions (machine operation, spotting, overhead/crane, LOTO-authorized roles).
- Area Safety Coordinator — confirms that safety-critical coverage (first aid/CPR responder, LOTO-authorized personnel, powered-industrial-truck operators where applicable) is present and current before run authorization.

4. Required PPE & Lockout/Tagout

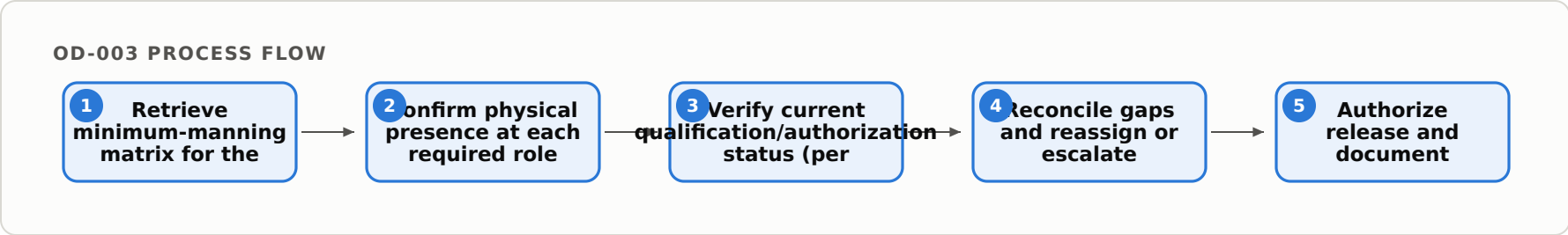
- Standard facility PPE for floor walk-through (safety glasses, hearing protection where posted, safety footwear).
- Not applicable — this verification task involves no hazardous energy; however, it confirms that LOTO-authorized personnel are present per the facility LOTO program before equipment is energized for the period.

5. Regulatory References

- 29 CFR 1910.147 (Control of Hazardous Energy / LOTO) — confirms authorized-employee coverage is present for the period.
- 29 CFR 1910.132 (General Requirements, PPE) and 29 CFR 1910.38 (Emergency Action Plans) — presence of designated responders/roles.

- 29 CFR 1904 (Recording and Reporting Occupational Injuries and Illnesses) — staffing records supporting incident context.
- FLSA (29 CFR Part 785, hours worked) as an internal-policy basis for presence records.
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



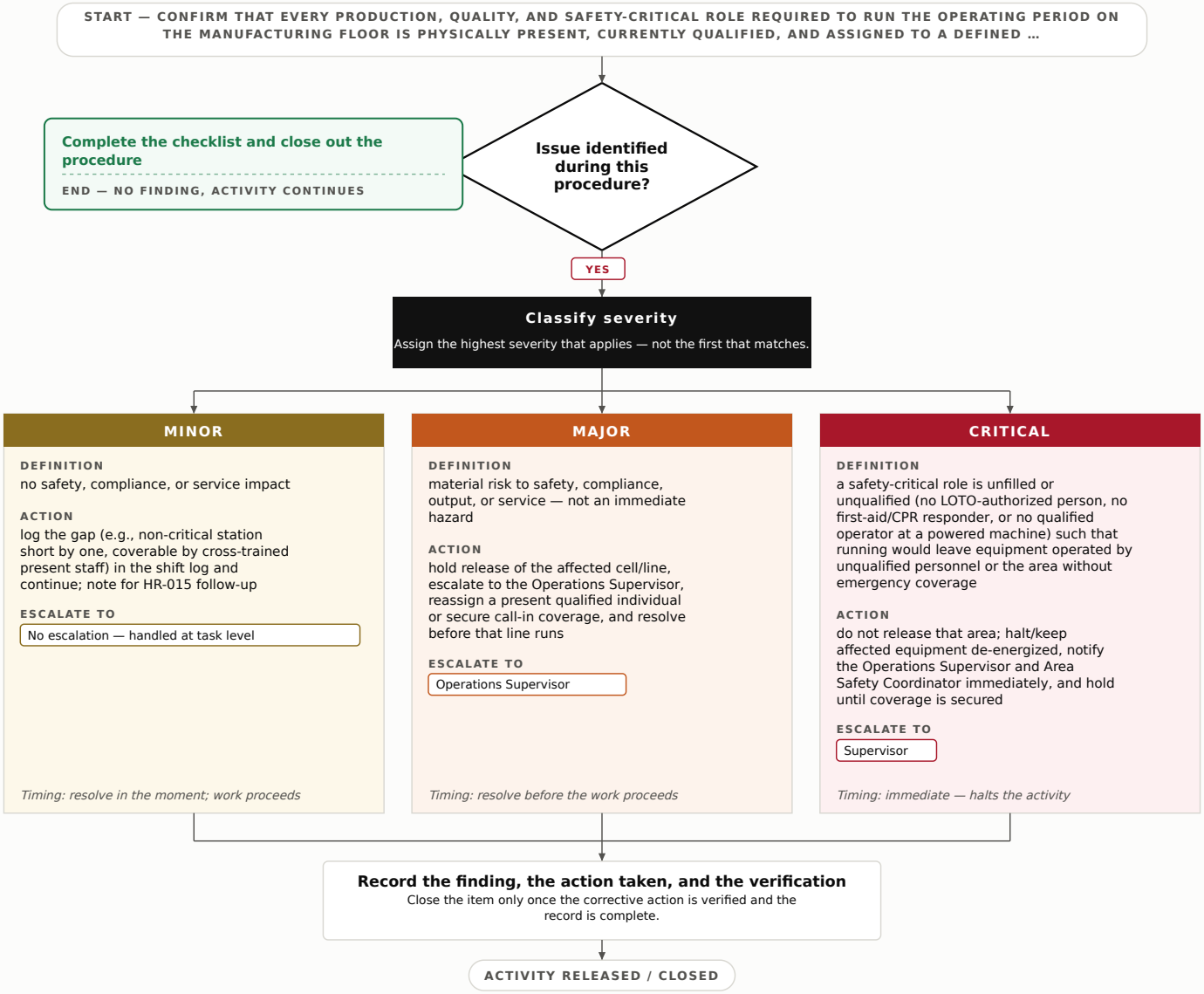
7. Step-by-Step Procedure

1. Retrieve the operating period's minimum-manning matrix and station map (source assignments per HR-015); confirm the required headcount per function for the day's production plan.
2. Walk the floor / take roll at each cell, line, and test area; record actual present headcount against each required role and station.
3. For each safety-critical role (machine operator, LOTO-authorized, first-aid/CPR responder, powered-industrial-truck operator where the facility operates lift equipment), confirm the assigned individual's authorization is current per TR-020 records.
4. Identify any gaps: unfilled required stations, present-but-unqualified assignments, or expired authorizations.
5. For each gap, reassign a present qualified individual, or trigger call-in/escalation; do not energize or run a cell that lacks its required qualified operator or safety coverage.
6. Confirm material-handling and quality coverage sufficient to keep lines fed and inspected for the planned run rate.
7. Record final verified coverage, note any residual gaps and the interim control applied, and obtain supervisor authorization to release the period.
8. File the completed verification record for the operating period in the shift log.

8. Decision Tree

OD-003 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Staffing & Coverage Verification



READING THIS TREE

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- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- All required stations on the minimum-manning matrix are reconciled to a named present individual.
- Every safety-critical role has a present, currently authorized individual confirmed against TR-020 records.
- Any gap has a documented interim control or a hold before release.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Minimum-manning matrix retrieved for the operating period		
Physical presence confirmed at all required stations		
Machine/cell operators currently qualified (per TR-020)		
LOTO-authorized personnel present for energized equipment		
First-aid/CPR responder present for the area		
Material-handling & quality coverage adequate for run rate		
Gaps resolved or hold applied; release authorized		

11. KPIs

- Operating periods released with full verified required coverage: ≥ 98%
- Verification completed before scheduled shift start: 100%
- Unresolved Critical staffing findings at release: 0

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

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1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-004 — Work Area Readiness & Housekeeping Inspection

Estimated completion time: 20–40 minutes per production cell/line at shift start

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1. Purpose

Confirm that each production work area is clear, organized, and fit for the day's operations before machinery is energized and staffed, reducing slip/trip/struck-by hazards and preventing contamination or defects from disorderly staging of parts and consumables.

2. Scope

Covers the start-of-shift readiness and housekeeping inspection of production floor cells, assembly stations, machining/fabrication areas, and adjacent aisles within Operations. Excludes warehouse/storage housekeeping (covered under WH-023) and maintenance-shop housekeeping (covered under MD-025).

3. Responsibilities

- Production Supervisor — owns the inspection, verifies findings, authorizes the area for production start, and signs off.
- Cell/Line Operator — performs the walk-down of their assigned station, corrects minor housekeeping items, and reports findings.
- Operations Lead (Shift) — coordinates cross-cell corrections, escalates hazards, and holds affected work areas when readiness fails.

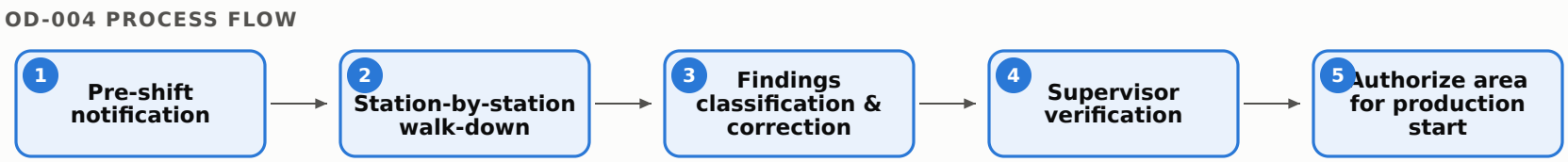
4. Required PPE & Lockout/Tagout

- Standard facility PPE: safety glasses, steel/composite-toe footwear, hearing protection where posted, and cut-resistant gloves when handling stock, swarf, or blades/edged components.
- LOTO: Not applicable for the inspection itself — machinery remains de-energized/unstarted during walk-down. If a housekeeping obstruction requires access to hazardous energy points, apply lockout/tagout per the facility LOTO program (29 CFR 1910.147) before proceeding.

5. Regulatory References

- 29 CFR 1910.22 (Walking-Working Surfaces — housekeeping, aisles, clearances)
- 29 CFR 1910.176 (Handling materials — clear passageways, orderly storage of staged material)
- 29 CFR 1910.1200 (Hazard Communication — labeling/containment of cleaning agents, coolants, oils)
- 29 CFR 1910.147 (Control of Hazardous Energy — where obstruction removal requires equipment access)
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



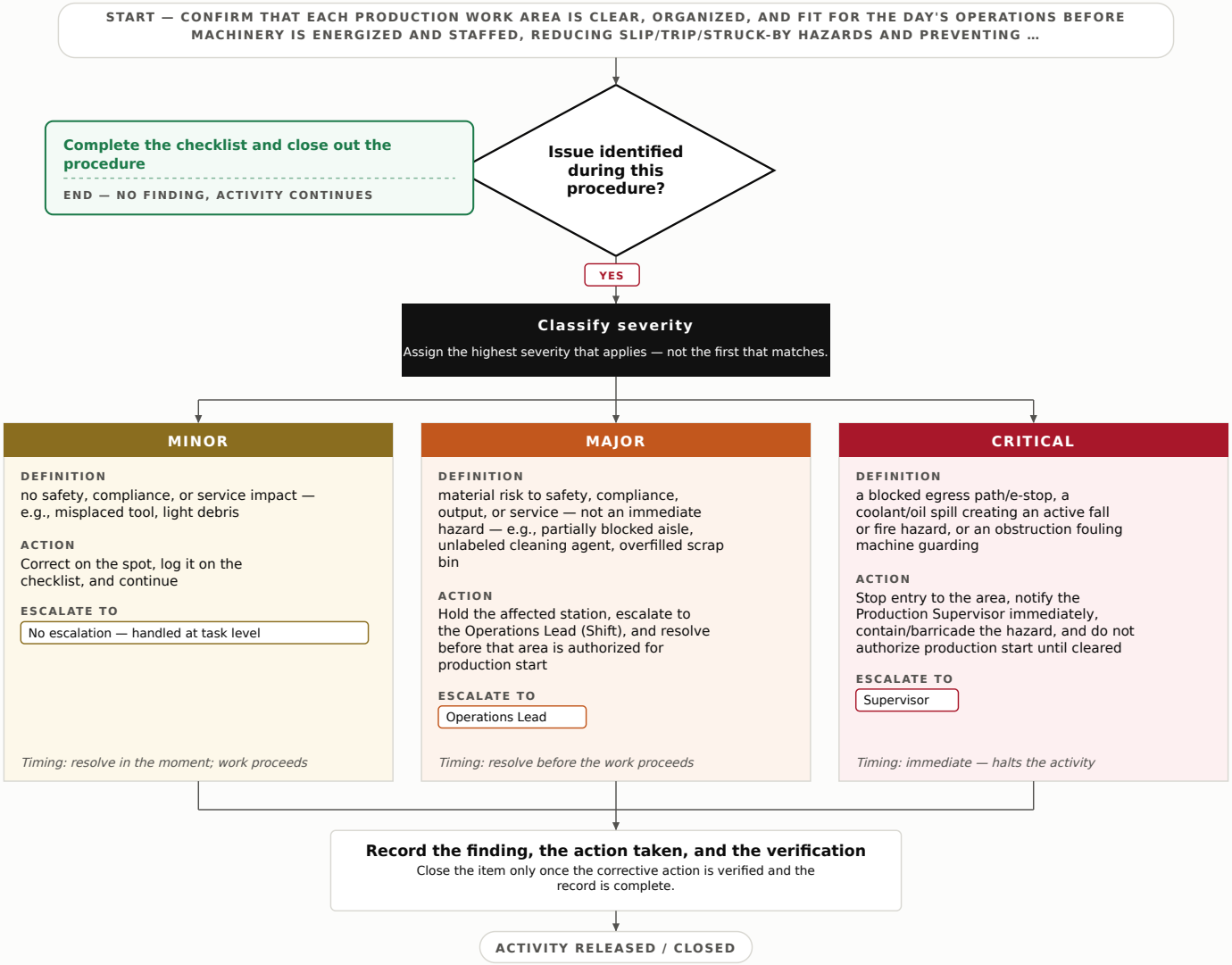
7. Step-by-Step Procedure

1. Review the prior shift's turnover notes and any open housekeeping findings before entering the area.
2. Confirm aisles, egress paths, and emergency-equipment access (extinguishers, e-stops, eyewash) are clear and unobstructed.
3. Inspect each station for orderly staging of incoming stock and parts (bar/sheet/casting stock, subassemblies, fasteners) so nothing blocks operator movement or guarding.
4. Verify floors are free of accumulated swarf, chips, coolant/oil spills, packaging debris, and banding; confirm spill kits and waste/scrap containers are in place and not overfilled.
5. Check that hand tools, fixtures, gauges, and consumables are returned to designated locations (shadow boards/point-of-use) and that cleaning agents/coolants are labeled and capped per HazCom.
6. Confirm lighting, ventilation, and floor markings/guarding boundaries are intact and visible; note any damaged mats, guards, or signage.
7. Correct minor items on the spot; hold and tag any station that fails readiness until resolved.
8. Record findings, corrective actions, and area status on the Inspection Checklist and log for shift turnover.

8. Decision Tree

OD-004 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Work Area Readiness & Housekeeping Inspection



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Egress routes, e-stops, and emergency equipment verified clear and accessible.
- Floors verified free of spills, swarf, and slip/trip debris.
- Staged material and tooling verified orderly and within designated locations.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Aisles, egress paths, and e-stops clear and accessible		
Floors free of swarf, chips, coolant/oil, and debris		
Incoming stock and staged parts orderly, not blocking guarding/movement		
Tools, fixtures, and gauges returned to designated locations		
Cleaning agents/coolants labeled, capped, and stored per HazCom		
Scrap/waste containers in place and not overfilled; spill kit present		
Lighting, guarding boundaries, and floor markings intact and visible		

11. KPIs

- Start-of-shift inspection completion before production start: 100% of active cells/lines.
- Critical findings open at production start: 0.
- Repeat housekeeping findings at the same station within 5 shifts: ≤ 1.

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-005 — Operational Equipment Availability Check

Estimated completion time: 20–45 minutes per shift/production run

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1. Purpose

To confirm that the machines, powered equipment, tooling, fixtures, and calibrated instruments required for the upcoming production period are physically present at the workcenter, functional, and formally released for use — so scheduled builds, machining, assembly, or test operations can start on time without improvised substitutions.

2. Scope

Covers the pre-run availability verification of production equipment and associated tooling/fixtures across machining, assembly, and test workcenters in Operations. Excludes equipment condition/inspection (see ED-003), preventive-maintenance status determination (see PM-024), and mobile-handling-equipment pre-use checks (see WH-004); this procedure confirms presence, functional state, and release status only.

3. Responsibilities

- Production Line Operator — performs the availability check at assigned workcenter, verifies tooling/fixture presence and release tags, records results.
- Operations Supervisor / Shift Lead — reviews findings, authorizes go/no-go for the run, escalates unresolved gaps.
- Tool Crib / Materials Coordinator — confirms staged tooling, fixtures, and calibrated instruments are issued and accounted for prior to run start.

4. Required PPE & Lockout/Tagout

- Standard facility PPE: safety glasses, hearing protection where posted, closed-toe safety footwear; cut-resistant gloves where sharp edged blanks/tooling are handled.
- LOTO: Not applicable to the availability check itself — equipment remains in its existing energy state. If any energized troubleshooting is required, stop and defer to the qualified LOTO procedure; do not begin service under this SOP.

5. Regulatory References

- 29 CFR 1910.147 (The Control of Hazardous Energy — LOTO), 29 CFR 1910.212 (General Requirements for All Machines), 29 CFR 1910 Subpart S (Electrical), 29 CFR 1910.219 (Mechanical Power-Transmission Apparatus).
- Internal policy: Operations Equipment Readiness & Release Standard.
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow

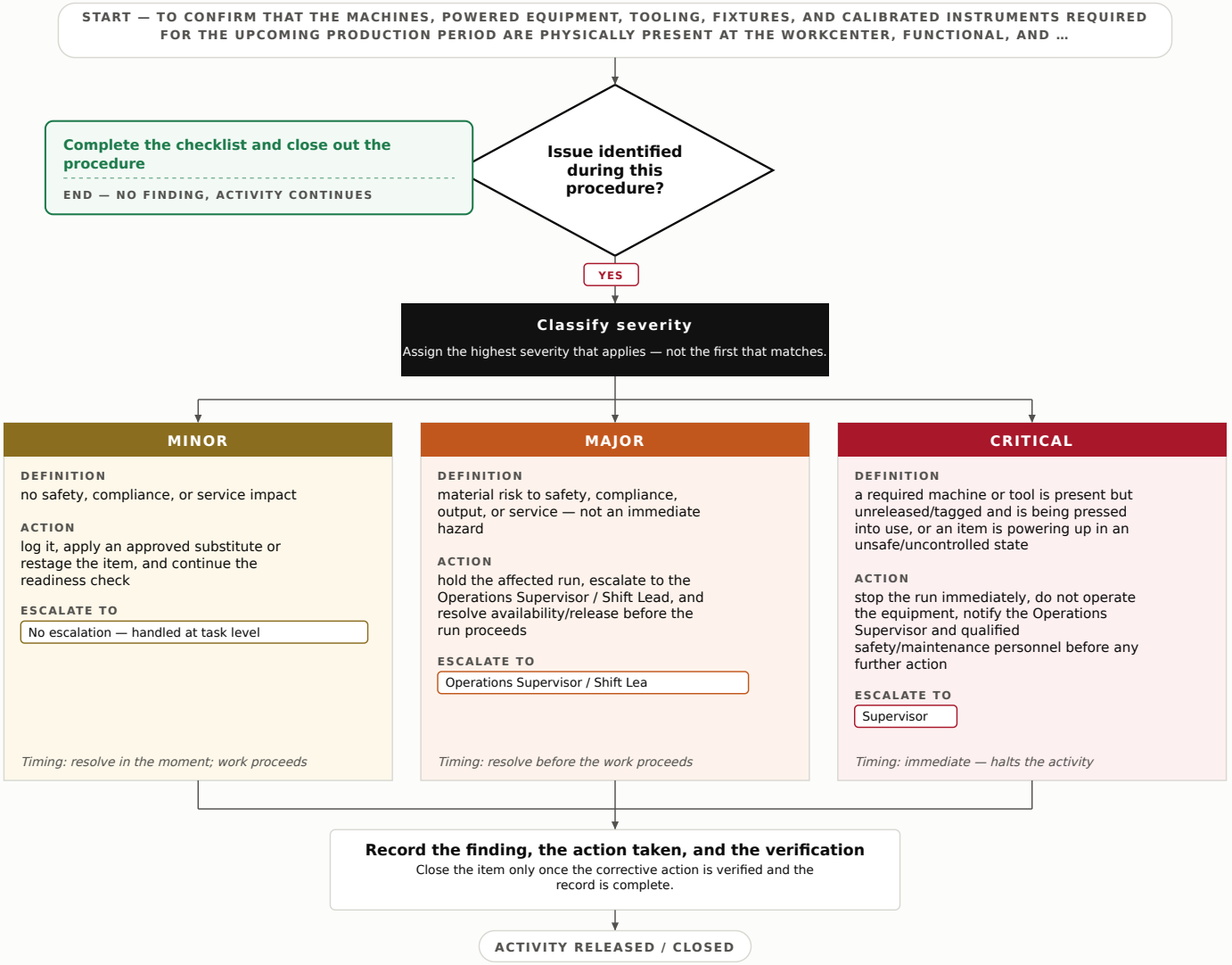
7. Step-by-Step Procedure

1. Obtain the production schedule and the equipment/tooling requirement list for the period (machines, fixtures, dies/blades/cutters, calibrated gauges, powered assembly/test units).
2. Walk the assigned workcenter and confirm each required machine and powered unit is physically present and positioned at its station.
3. Confirm required tooling, fixtures, and calibrated instruments are staged and issued from the tool crib; match item/serial IDs to the requirement list.
4. Verify each machine/unit powers up to ready/idle state and controls respond as expected (presence-of-function check only — not a condition inspection per ED-003).
5. Confirm each item carries a current "Released for Use" status and is not under a hold, tag-out, or PM-hold flag (PM status per PM-024).
6. Identify any missing, non-functional, or unreleased item; note substitution options and notify the Tool Crib / Materials Coordinator to expedite staging.
7. Report go/no-go status to the Operations Supervisor / Shift Lead for run authorization.
8. Record all findings on the Inspection Checklist and log the readiness outcome in the shift record.

8. Decision Tree

OD-005 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Operational Equipment Availability Check



READING THIS TREE

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- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Every line item on the equipment/tooling requirement list is accounted for (present or substituted with an approved equivalent).
- All in-use items show current "Released for Use" status with no open hold/tag flags.
- Functional power-up/ready confirmation recorded for each powered unit.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Required machines physically present at workcenter		
Tooling, fixtures, dies/blades/cutters staged and issued		
Calibrated instruments/gauges present with current status		
Powered units reach ready/idle state; controls respond		
"Released for Use" status confirmed (no tag-out/PM hold)		
Approved substitutions documented where applicable		
Readiness outcome logged and run authorized		

11. KPIs

- Run-start readiness rate (workcenters ready at scheduled start): ≥ 98%
- Availability-related run delays per month: ≤ 2
- Checklist completion & sign-off before run start: 100%

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

Phase 2 — Demand intake

OD-006 — Customer Order / Work Request Intake

Estimated completion time: 20–45 minutes per order/request

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

To receive, record, and route incoming customer purchase orders, build-to-order jobs, and field service requests so that every commitment entering the Operations queue is captured accurately, traceable to a customer and part/model, and released for downstream scheduling. This protects delivery promises and preserves the order-to-serial traceability that machinery buyers and industrial wholesalers require.

2. Scope

Covers intake of all inbound orders and work requests — new equipment builds, spare/replacement parts, and service/warranty requests — from receipt through logging and assignment of an internal order number. Excludes order acceptance and manufacturing-capability review (credit, lead-time feasibility, spec conformance), which is covered under OD-007.

3. Responsibilities

- Order Intake Coordinator — receives incoming requests through all channels, verifies completeness, and logs each into the order-management system with a unique order number.
- Operations Supervisor — resolves incomplete, ambiguous, or conflicting intake data and authorizes routing to scheduling; approves handling of any priority/expedite flags.
- Sales/Contract Administrator — confirms customer identity, contract/PO reference, and pricing terms on the source document before intake is closed.

4. Required PPE & Lockout/Tagout

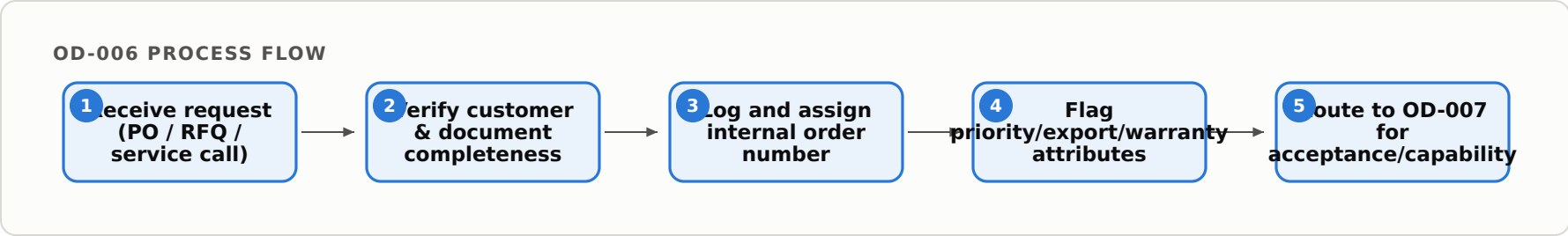
- Standard facility PPE if the intake station is located on or adjacent to the production floor (safety glasses, hearing protection in posted zones); none required for office-based intake.
- Not applicable — no hazardous energy involved in order intake.

5. Regulatory References

- 29 CFR 1904 — OSHA recordkeeping (applies where an intake activity touches the floor; general facility obligation).
- FTC Standards / general contract-formation and consumer-protection rules governing written order acknowledgment (internal policy implements as customer PO acknowledgment).

- 15 CFR 730–774 (EAR) export-classification screening at order entry where equipment/parts ship internationally; member-specific regimes (e.g., ITAR/FDA UDI capture for dental-equipment orders) apply only to affected members and are handled as applicability flags, not the governing frame.
- None otherwise sector-specific; internal order-management and records-retention policy applies.
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



7. Step-by-Step Procedure

1. Retrieve the incoming request from its channel (email, EDI/portal from Industrial Machinery Wholesalers, phone, or field service form) and timestamp receipt.
2. Confirm the customer of record — legal name, account number, ship-to/bill-to, and authorized contact — against the customer master file.
3. Validate the source document: PO number, part/model number, quantity, requested delivery date, pricing terms, and any drawing/revision references.
4. Classify the request type — new build, spare/replacement part, or service/warranty — and note applicable serial or equipment identifiers.
5. Screen for handling flags: expedite/priority, international shipment (export classification), and warranty coverage; annotate each.
6. Create the record in the order-management system, assign a unique internal order number, and attach the source document.
7. Route the logged order to acceptance/capability review per OD-007; do not commit a delivery date at intake.
8. Document the intake: complete the log entry, note any open questions, and save all attachments to the order record.

8. Decision Tree

OD-006 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Customer Order / Work Request Intake

START — TO RECEIVE, RECORD, AND ROUTE INCOMING CUSTOMER PURCHASE ORDERS, BUILD-TO-ORDER JOBS, AND FIELD SERVICE REQUESTS SO THAT EVERY COMMITMENT ENTERING THE OPERATIONS QUEUE IS CAPTURED ACCURATELY, TRACEABLE …

Issue identified during this procedure?

Complete the checklist and close out the procedure

END — NO FINDING, ACTIVITY CONTINUES

YES

Classify severity

Assign the highest severity that applies — not the first that matches.

MINOR

DEFINITION

no safety, compliance, or service impact

ACTION

log the discrepancy in the order record (e.g., missing PO line note), continue intake, and flag for Sales/Contract Administrator follow-up

ESCALATE TO

No escalation — handled at task level

Timing: resolve in the moment; work proceeds

MAJOR

DEFINITION

material risk to safety, compliance, output, or service — not an immediate hazard

ACTION

place the order on intake hold, escalate to the Operations Supervisor, and resolve the missing or conflicting data (unverified customer, ambiguous part/model, unclear delivery date) before routing to OD-007

ESCALATE TO

Operations Supervisor

Timing: resolve before the work proceeds

CRITICAL

DEFINITION

an order is logged or released against a misidentified customer or an unscreened international/controlled shipment, exposing the facility to a fraudulent order or an export-control violation

ACTION

stop the intake immediately, notify the Operations Supervisor and Sales/Contract Administrator, and do not route until identity and export screening are cleared and documented

ESCALATE TO

Supervisor

Timing: immediate — halts the activity

Record the finding, the action taken, and the verification

Close the item only once the corrective action is verified and the record is complete.

ACTIVITY RELEASED / CLOSED

READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Customer of record verified against the master file before an order number is assigned.
- Part/model, quantity, and requested date present and legible on the logged record.
- Priority, export, and warranty flags applied and reviewed.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Receipt timestamped and channel identified		
Customer verified against master file		
PO/part/model/quantity/date captured		
Request type classified (build/part/service)		
Export & warranty flags screened		
Unique internal order number assigned		
Source document attached and record saved		

11. KPIs

- Order logging accuracy (fields correct on audit): ≥ 99%.
- Intake turnaround (receipt to logged order number): ≤ 1 business day for ≥ 95% of orders.
- Orders routed to OD-007 with complete data (no rework): ≥ 97%.

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-007 — Order Verification & Acceptance Review

Estimated completion time: 45–90 minutes per order (longer for custom or first-article builds)

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

To confirm that an incoming customer order — its scope, technical specification, drawing revision, material call-outs, delivery terms, and the shop's capacity to build it — is fully understood and achievable before the order is formally accepted and committed to production. This prevents accepting work the facility cannot make to spec, on time, or at agreed terms.

2. Scope

Covers the review and acceptance decision for all incoming production orders, quotes converted to orders, and change orders across all product lines (cutting tools, powered equipment, engines/engine parts, peripherals, precision assemblies, compressors, and related machinery). Excludes order logging, which is covered under OD-006, and production scheduling/sequencing, which is covered under OD-008.

3. Responsibilities

- Order Review Coordinator (Operations) — leads the acceptance review, reconciles the order against drawings/specs, and records the accept/hold/reject decision.
- Manufacturing/Quality Engineer — confirms specification interpretation, tolerance feasibility, material grade availability, and process capability.
- Operations Supervisor — approves final acceptance, authorizes commercial terms, and signs off on any deviation or conditional acceptance.

4. Required PPE & Lockout/Tagout

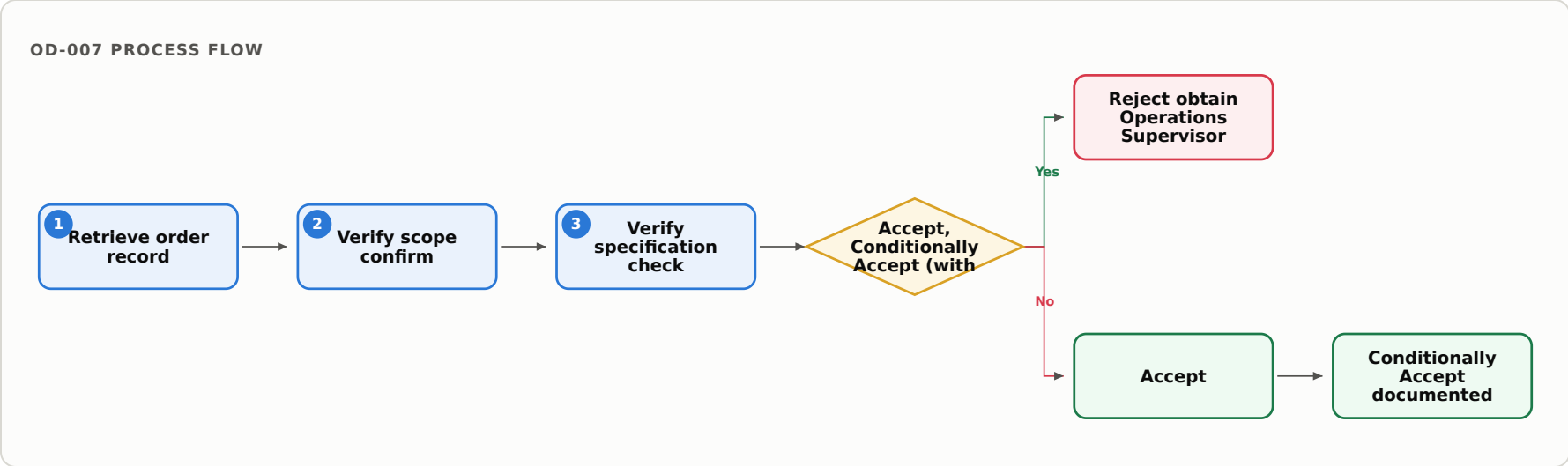
- Standard facility PPE if the review requires entry to the shop floor (safety glasses, hearing protection where posted); office-based review requires none.
- Not applicable — no hazardous energy involved in the review task itself.

5. Regulatory References

- OSHA 29 CFR 1910 (General Industry — hazard communication, machine guarding, and PPE obligations that apply once accepted work enters production) as an internal-capability check on any order requiring new processes.
- Contract/terms basis: UCC Article 2 (sale of goods) governs order formation and acceptance terms for all members.
- Quality-system basis: internal quality-management procedure (e.g., ISO 9001 contract-review clause where the facility is certified) applies to specification and capability confirmation.

- None sector-specific mandates the acceptance-review task itself; internal policy and customer contract terms govern. Member-specific product regimes (e.g., FDA 21 CFR 820 for dental equipment lines, FCC Part 15 for communications equipment) apply only to those product lines and must be flagged in the capability check when present.
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



7. Step-by-Step Procedure

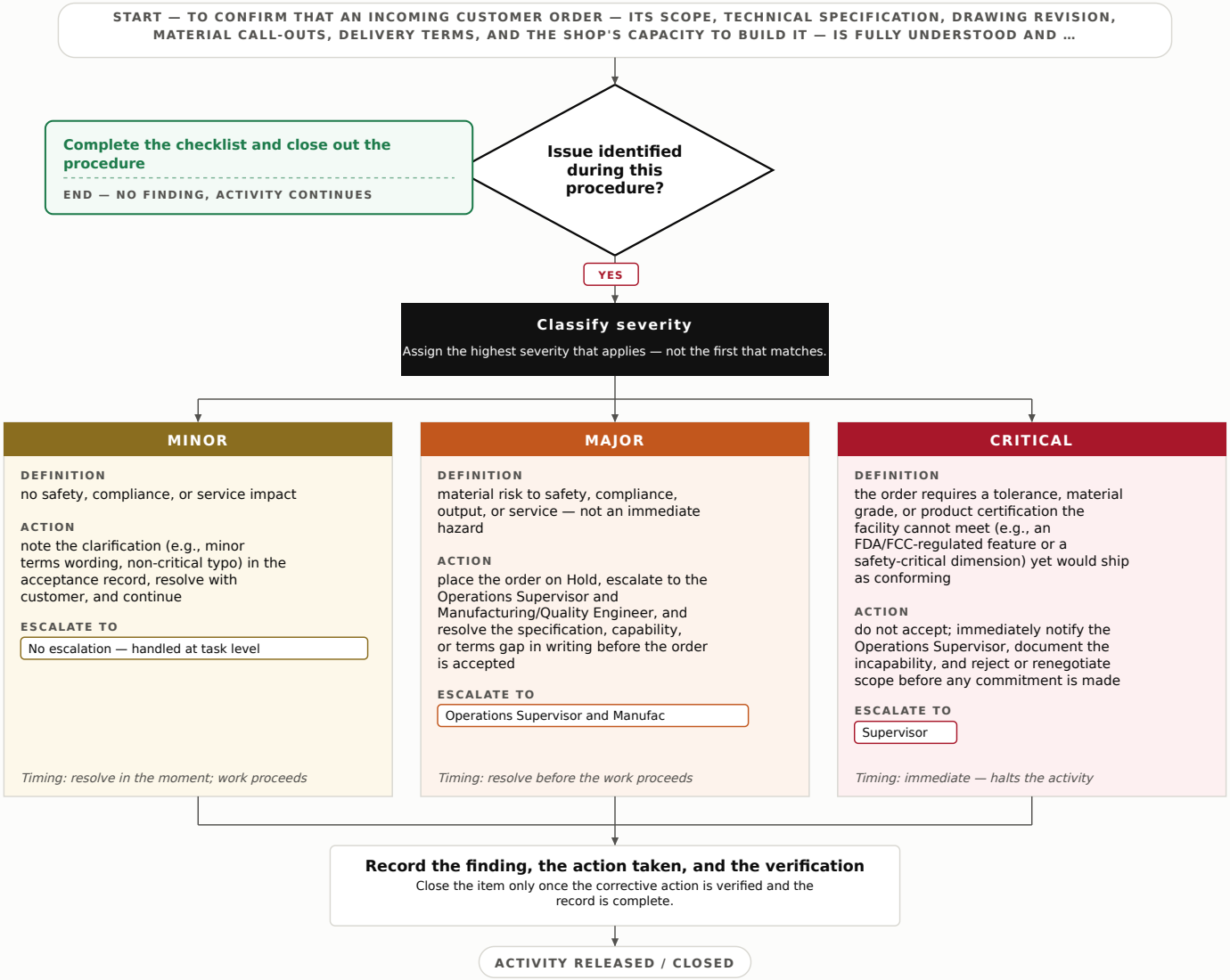
1. Retrieve the order record and confirm it has been logged (per OD-006); pull the referenced drawing, revision level, part numbers, and quantities.
2. Verify scope: confirm the deliverable (product, configuration, options, quantity, and any customer-supplied material or tooling) matches what the customer intends; resolve ambiguities in writing.
3. Verify specification: check dimensional tolerances, surface finish, material grade (e.g., steel from 331110, aluminum stock from 331318), heat-treat/coating call-outs, and applicable test or certification requirements against the current drawing revision.
4. Confirm capability: with the Manufacturing/Quality Engineer, verify the shop's processes, machine tolerances, gauging, and any outsourced operations (e.g., machining via 332710, motor/drive supply via 335312) can hold spec.
5. Confirm material and long-lead availability against current stock and supplier lead times; flag any gap that affects feasibility (do not schedule — hand to OD-008).
6. Validate commercial terms: price, payment terms, delivery/Incoterms, tolerances on quantity, inspection/acceptance criteria, and any liability or certification clauses.
7. Make the decision — Accept, Conditionally Accept (with documented deviation), Hold, or Reject — and obtain Operations Supervisor sign-off.

8. Record the review outcome, all confirmed values, and the signed decision in the order acceptance record; notify the customer of acceptance or of any required clarification.

8. Decision Tree

OD-007 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Order Verification & Acceptance Review



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Drawing revision level confirmed current and matches the order.
- Every dimensional/material/certification requirement mapped to a confirmed shop capability or approved outsourced source.
- Commercial terms (price, delivery, acceptance criteria) reconciled and authorized.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Order scope and quantity match customer intent		
Drawing revision current and specification legible/complete		
Tolerances and material grades within shop capability		
Material/long-lead availability confirmed with supplier		
Outsourced operations identified and sourced		
Commercial terms and acceptance criteria validated		
Accept/Hold/Reject decision recorded and signed		

11. KPIs

- Acceptance review completed before commitment: 100% of orders.
- Orders accepted then found infeasible (spec/capability rework): ≤ 2%.
- Median review turnaround from logged order to decision: ≤ 1 business day.

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-008 — Job Scheduling & Sequencing

Estimated completion time: 45–90 minutes per scheduling cycle (daily or per shift)

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

This procedure defines how accepted manufacturing work orders are sequenced into the operating schedule so that customer due dates, order priority, and available production capacity are balanced across machining, fabrication, sub-assembly, and final-assembly cells. It exists to prevent late shipments, minimize idle and changeover time, and give the floor a single authoritative build sequence.

2. Scope

Covers the placement, ordering, and release of accepted work orders into the operating schedule for a Machinery Manufacturing facility, including priority ranking, due-date sequencing, and load-leveling against posted capacity. Excludes the assignment of specific operators or machines to jobs, which is covered under OD-009, and preventive maintenance windows, which are covered under PM-008.

3. Responsibilities

- Production Scheduler — builds and maintains the operating schedule, sequences accepted work orders by priority and due date, and releases the daily/shift build list.
- Production Planning Manager — approves priority tier overrides, resolves conflicts between competing due dates, and authorizes expedites.
- Cell/Line Supervisor — confirms floor readiness against the released sequence and flags capacity or material shortfalls back to the Scheduler.

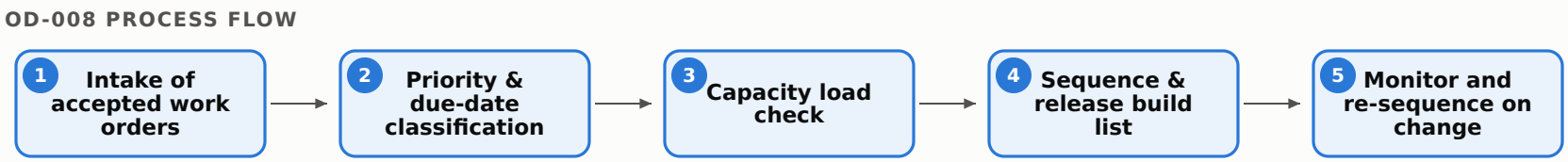
4. Required PPE & Lockout/Tagout

- Standard facility PPE (safety glasses, hearing protection, safety footwear) when the Scheduler enters production floor areas to verify status; standard office attire in the planning office.
- Not applicable — this is a planning/coordination task involving no hazardous energy. LOTO for any equipment referenced in the schedule is governed by PM-008.

5. Regulatory References

- None sector-specific govern scheduling itself; internal Production Planning Policy applies. General OSHA recordkeeping and workplace obligations remain in force facility-wide (29 CFR 1904; 29 CFR 1910), and export-controlled or contract-flagged orders must be sequenced consistent with applicable order/contract terms (e.g., ITAR/EAR flags where a member manufactures controlled machinery or components). Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



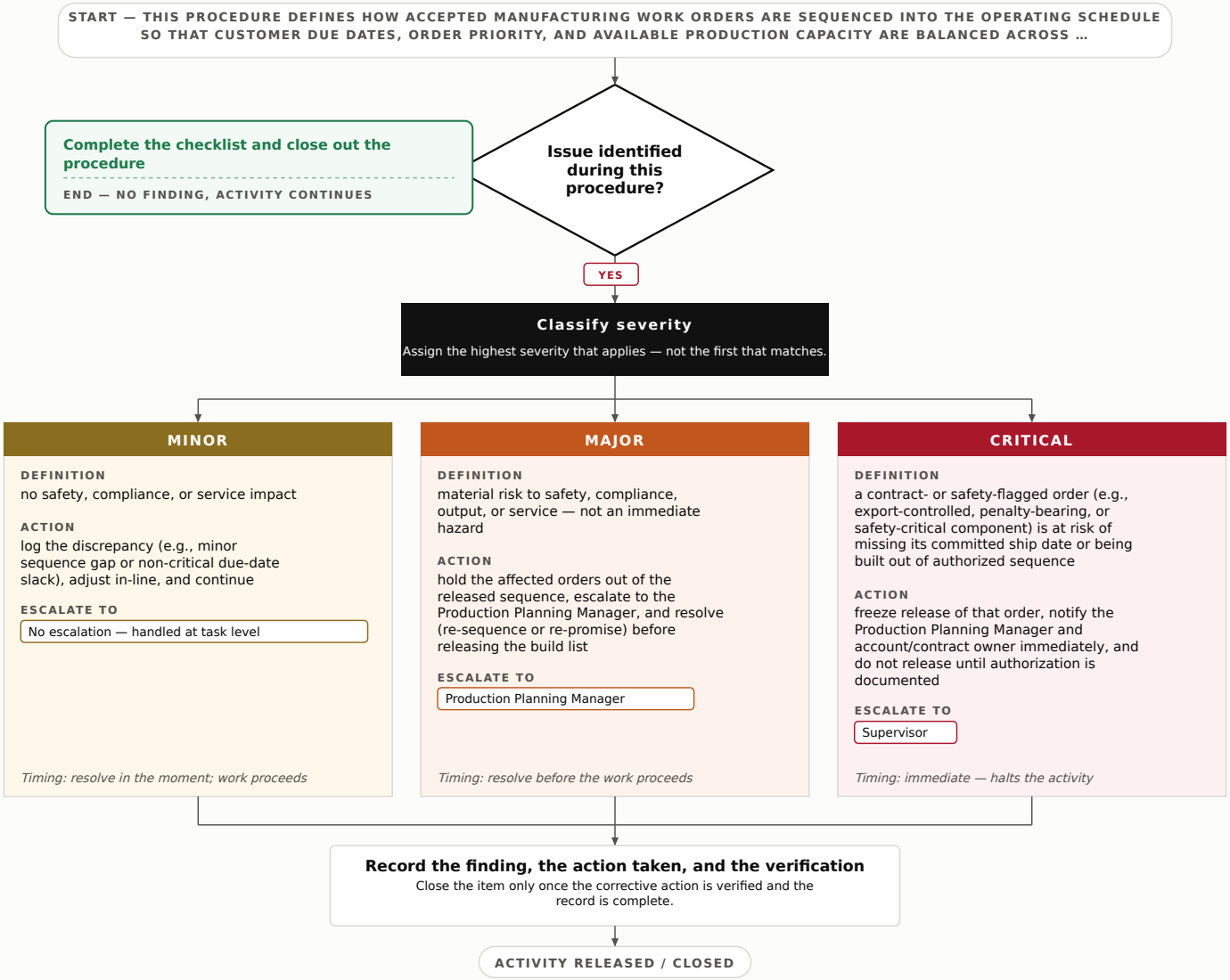
7. Step-by-Step Procedure

1. Pull all accepted work orders released for scheduling (confirm each carries verified material availability from receiving of upstream steel, aluminum, and machined components; incomplete-material orders are held, not sequenced).
2. Assign each order a priority tier per policy (Standard, High, Expedite) using contract commitment, customer downstream ship date, and penalty/late-clause exposure.
3. Sort within each tier by promised due date, then by required lead time (longest-lead operations first) to protect ship dates.
4. Load-check the proposed sequence against posted cell/line capacity for the scheduling horizon; identify overloads and bottleneck operations.
5. Level the load: shift lower-priority or slack-bearing orders, group like setups to reduce changeover, and route around any maintenance windows flagged in PM-008 (do not schedule PM — only respect its posted windows).
6. Resolve conflicts where two orders compete for the same constrained resource by escalating to the Production Planning Manager for tier override or expedite authorization.
7. Publish the sequenced build list to the affected cells/lines and confirm receipt with each Cell/Line Supervisor; note that operator/machine assignment is completed under OD-009.
8. Record the released schedule, any overrides, and the rationale in the scheduling system, and log the version/timestamp for traceability.

8. Decision Tree

OD-008 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Job Scheduling & Sequencing



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Every sequenced order has verified material availability and a valid due date before release.
- Priority tiers and any overrides are documented with rationale and Planning Manager approval where required.
- Released sequence respects posted maintenance windows (PM-008) and does not overload posted capacity.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
All accepted orders reviewed and material-verified before sequencing		
Priority tier assigned to each order per policy		
Orders sequenced by due date within tier		
Load-check completed; no unaddressed capacity overload		
Contract/export-flagged orders confirmed in authorized sequence		
Build list published and acknowledged by each Cell/Line Supervisor		
Schedule version, overrides, and rationale logged		

11. KPIs

- Schedule adherence (jobs started in released sequence) — ≥ 95%
- On-time-to-promise for scheduled orders — ≥ 98%
- Unplanned re-sequencing events per week — ≤ 3

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-009 — Resource & Capacity Allocation

Estimated completion time: 45–90 minutes per production shift or planning cycle

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1. Purpose

To assign qualified personnel, machine capacity, tooling, and floor/bench space to scheduled production work orders so that committed capacity is real and confirmed before work is released — preventing over-commitment of work cells, machining centers, assembly stations, and shared equipment common across machinery manufacturing operations.

2. Scope

Covers the matching of released work orders to available personnel headcount, machine/cell capacity, tooling and fixtures, and physical work space, including confirmation that stated capacity is actually available for the planning window. Excludes staffing presence and attendance verification, which is covered under OD-003, and the sequencing/order of scheduled operations, which is covered under OD-008.

3. Responsibilities

- Production Planner / Scheduler — builds the resource-to-work-order allocation plan and confirms available capacity against demand for the planning window.
- Operations Supervisor / Cell Lead — validates that assigned personnel are skill-qualified for the operation and that assigned machines and fixtures are physically available and serviceable.
- Maintenance Lead — confirms whether machines/cells scheduled for allocation are in run-ready status or are held in the PM/repair queue.

4. Required PPE & Lockout/Tagout

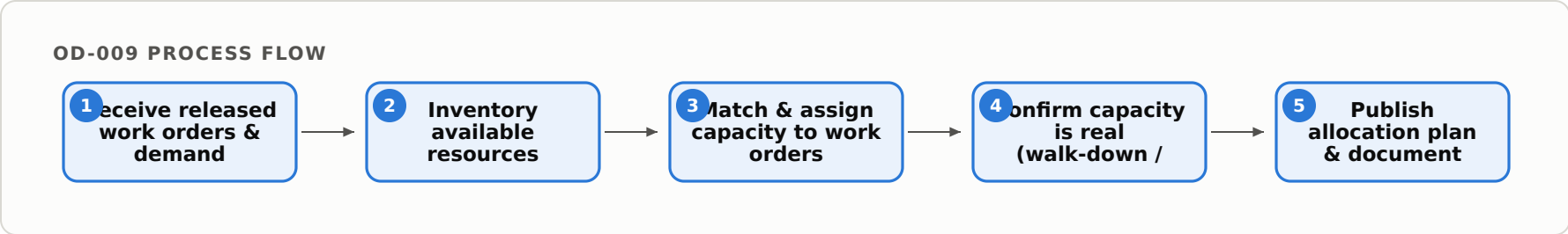
- Standard facility PPE when walking the production floor to verify capacity (safety glasses, hearing protection in posted areas, closed-toe safety footwear).
- Not applicable — this is a planning/coordination task; no hazardous energy is controlled here. Any machine taken out of allocation for service is locked/tagged out under the facility LOTO program, not by this procedure.

5. Regulatory References

- 29 CFR 1910.132 (General Requirements — PPE assessment) and 29 CFR 1910.147 (The Control of Hazardous Energy / LOTO) — applicable to all members where personnel and equipment are allocated to powered production work.
- 29 CFR 1910.176 (Handling Materials — General) where allocation includes staging/storage space and powered material handling.

- Internal capacity-planning and resource-allocation policy governs the planning logic itself; no sector-specific capacity regulation applies uniformly across the span (e.g., customer-specific quality-system planning expectations such as ISO 9001:2015 §7.1 may apply by contract).
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



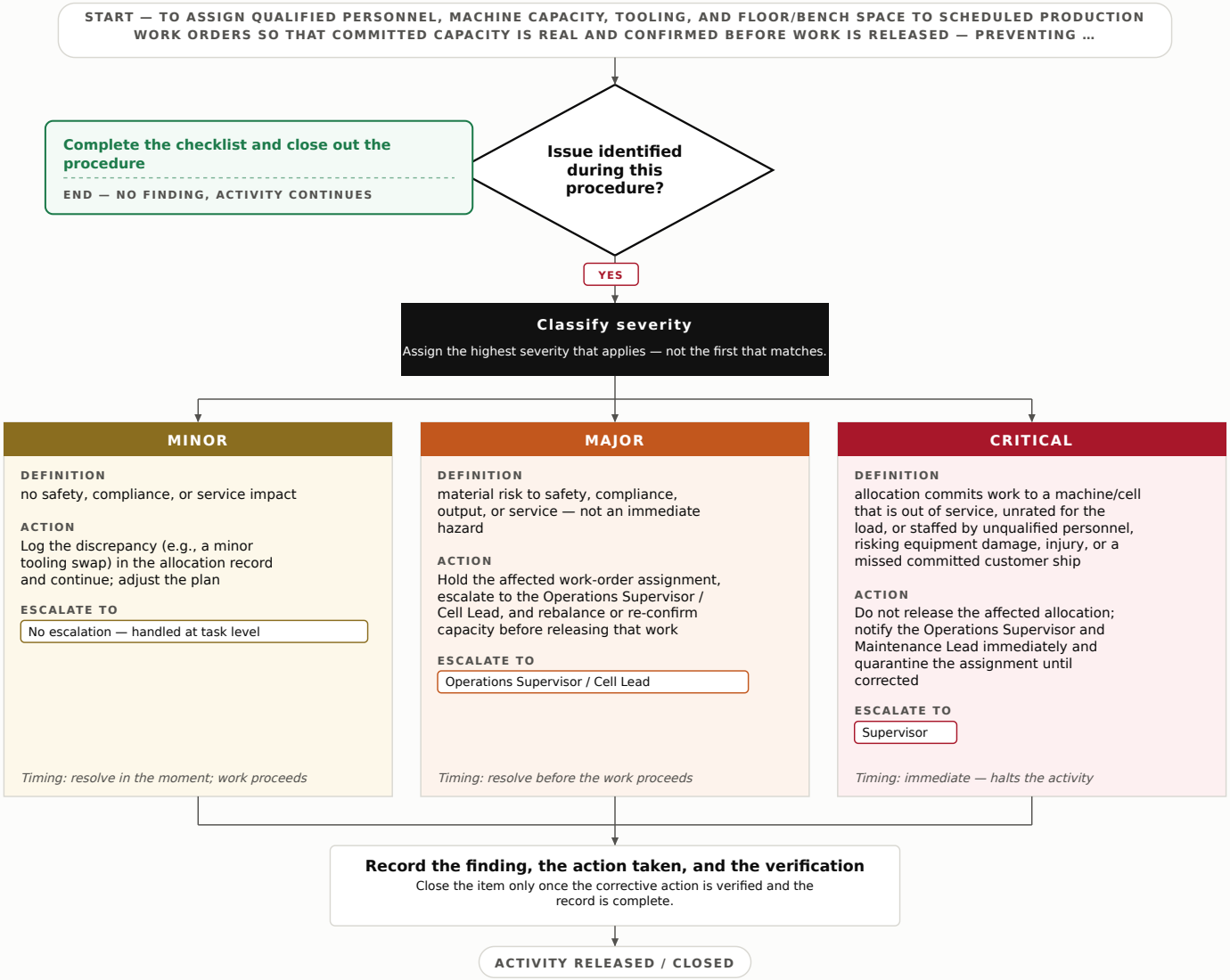
7. Step-by-Step Procedure

1. Pull the list of released work orders for the planning window and note each operation's required skill class, machine/cell type, tooling/fixtures, and space footprint.
2. Retrieve current available capacity: qualified personnel count by skill class (headcount confirmed per OD-003), machine/cell hours, fixture and tooling availability, and open bench/floor space.
3. Confirm machine and cell serviceability status with the Maintenance Lead; exclude any resource in the PM or repair queue from available capacity.
4. Verify inbound material and stock feeding the operations is on hand or scheduled (e.g., iron/steel mill stock, aluminum extrusions, machine-shop components) so allocated capacity is not stranded waiting on material.
5. Assign each work order to specific personnel, machine/cell, tooling, and space — never exceeding the confirmed rated capacity of any single resource for the window.
6. Perform a physical walk-down or live system check to confirm each allocated resource is actually present, run-ready, and unencumbered — this is the "capacity is real" confirmation.
7. Resolve any over-allocation or capacity gap before release; re-assign or flag for schedule adjustment (sequencing handled under OD-008).
8. Publish the confirmed allocation plan and document assignments, capacity figures, confirmation basis, and any exceptions in the operations record.

8. Decision Tree

OD-009 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Resource & Capacity Allocation



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Every allocated resource has a confirmed run-ready/serviceable status before assignment.
- No single machine, cell, fixture, or person is allocated beyond its confirmed rated capacity for the window.
- Personnel assignments match required skill class for each operation.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
All released work orders have assigned personnel, machine/cell, tooling, and space		
Machine/cell serviceability confirmed with Maintenance (none from PM/repair queue)		
No resource allocated above confirmed rated capacity for the window		
Personnel skill class matches each assigned operation		
Inbound material/stock confirmed on hand or scheduled for allocated work		
Physical/system walk-down confirms allocated resources are real and available		
Allocation plan documented with capacity figures and exceptions noted		

11. KPIs

- Capacity confirmation accuracy (allocated vs. actually available) ≥ 98%
- Over-allocation incidents per planning cycle = 0
- Work orders released with fully confirmed resources ≥ 95%

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-010 — Incoming Material / Supply Verification

Estimated completion time: 20–45 minutes per inbound receipt (varies with line-item count and lot size)

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

To confirm that inbound production materials and supplies — steel and aluminum stock, machined parts, sub-assembly components, motors, and consumables — match the purchase order in identity, quantity, and physical condition before they are accepted into the plant, so that defective, wrong, or damaged inputs never enter production.

2. Scope

Covers verification of received materials/supplies against the purchase order, packing list, quantity, lot/heat identification, and visible physical condition for all Operations-managed inbound receipts. Excludes spec-conformance and dimensional/metallurgical testing, which is covered under QC-003; putaway and stock location, covered under WH-006; and the dock count reconciliation, covered under SH-008.

3. Responsibilities

- Receiving Operator (Operations) — physically inspects the receipt, matches it to PO and packing list, records identity/quantity/condition findings, and tags accepted or held material.
- Materials/Inventory Coordinator (Operations) — resolves PO discrepancies with procurement, authorizes acceptance or supplier return, and maintains verification records.
- Operations Supervisor — reviews held or rejected receipts, approves disposition, and signs off on verification closeout.

4. Required PPE & Lockout/Tagout

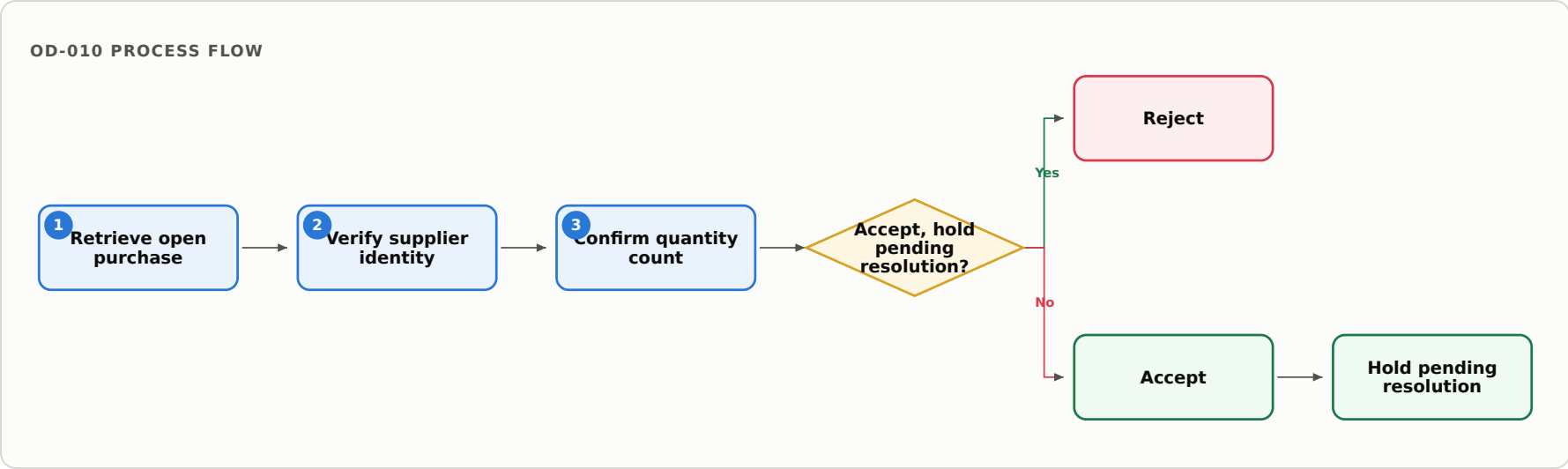
- Standard facility PPE: safety glasses, cut-resistant gloves (for steel/aluminum stock and machined parts with sharp edges), steel-toe footwear; high-visibility vest where powered material handling operates in the receiving area.
- Lockout/Tagout: Not applicable to the verification task itself — no hazardous energy is controlled. Where powered handling equipment (forklift, pallet jack, crane) is used to move a receipt, follow that equipment's operating procedure.

5. Regulatory References

- 29 CFR 1910.176 (Handling Materials — General; storage, clearance, and housekeeping of received goods)
- 29 CFR 1910.1200 (Hazard Communication — inbound labeling and Safety Data Sheet receipt for any chemical/consumable inputs)
- 29 CFR 1910.132 (General Requirements for Personal Protective Equipment)

- Internal Materials Verification & Receiving Policy (traceability, lot/heat capture, supplier nonconformance) where no sector-specific standard governs the check itself
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



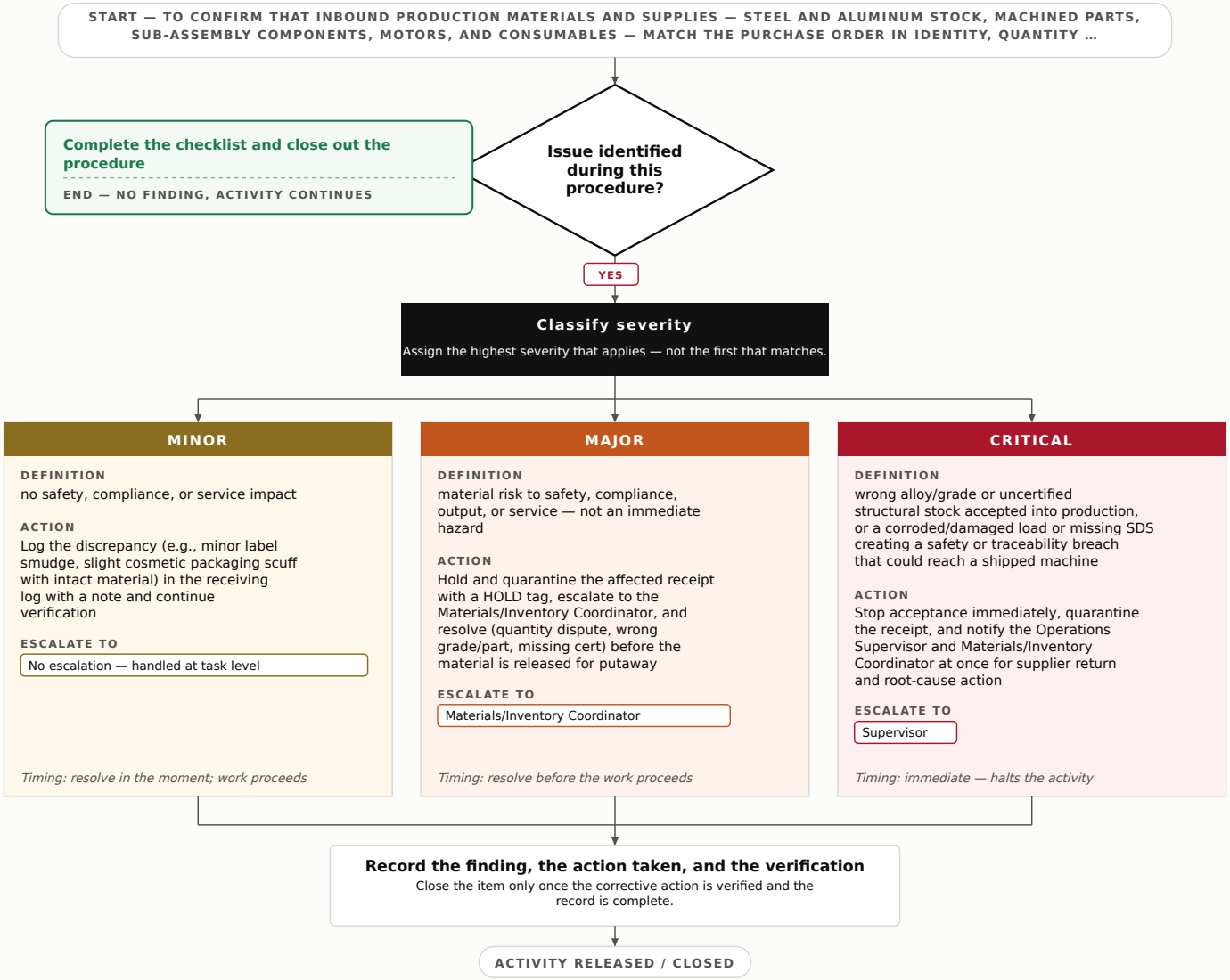
7. Step-by-Step Procedure

1. Retrieve the open purchase order and matching packing list/bill of lading for the receipt; confirm the shipment is intended for this facility and PO.
2. Verify supplier identity and line items against the PO — e.g., steel/aluminum mill stock (from 331110/331318), machined parts (from 332710), or motors (from 335312) — confirming part numbers, grade/alloy, and description match.
3. Confirm quantity by count, piece, weight, or coil/bundle as the PO unit of measure specifies; note any over- or under-shipment against ordered quantity.
4. Verify required traceability documentation is present — mill/heat certificates for metal stock, certificates of conformance for machined parts, and Safety Data Sheets/HazCom labels for consumables and fluids.
5. Inspect visible physical condition: check for shipping damage, corrosion/oxidation, bent or gouged stock, cracked packaging, moisture intrusion, missing labels, or seal breach. (Spec-conformance and dimensional testing is performed under QC-003, not here.)
6. Assign disposition: accept, hold pending resolution, or reject; apply the corresponding status tag/label to the material or pallet.
7. Escalate any discrepancy per the Decision Tree; contact the Materials/Inventory Coordinator for PO or supplier resolution.
8. Record the verification result — PO number, line items, quantities received, lot/heat IDs, condition notes, and disposition — in the receiving log and close out the entry.

8. Decision Tree

OD-010 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Incoming Material / Supply Verification



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Identity match confirmed: part number, grade/alloy, and supplier verified against PO for every line.
- Quantity confirmed in PO unit of measure with any variance documented.
- Traceability documentation (mill/heat cert, C of C, SDS) present and legible for every applicable line.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
PO and packing list retrieved and match this receipt		
Part number / grade / alloy matches PO on all lines		
Quantity verified in correct unit of measure		
Lot/heat certs, C of C, and SDS present and legible		
No shipping damage, corrosion, or seal breach		
Disposition tag applied (Accept / Hold / Reject)		
Verification recorded in receiving log		

11. KPIs

- Verification completion before putaway: 100% of receipts verified prior to WH-006 handoff.
- Receiving discrepancy escape rate: < 1% of verified lines reaching production with an undetected identity/quantity error.
- Documentation completeness: ≥ 99% of accepted lines with complete traceability records at closeout.

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

Phase 3 — Execution

OD-011 — Standard Work Execution & Process Adherence

Estimated completion time: 30–60 minutes per work-order run (setup through close-out)

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

To ensure production work in Machinery Manufacturing is performed to the documented standard work method — the defined sequence, setup parameters, and cycle steps captured in the routing/work instruction — so that fabrication, machining, and assembly of components (blades, engine parts, tractor sub-assemblies, compressors, peripherals, dental/communications equipment) is repeatable, and that deviations from the defined method are surfaced and recorded.

2. Scope

Covers operator adherence to the released work instruction for a given operation: confirming the correct revision, executing steps in sequence, running to defined parameters, and logging any deviation from method. Excludes in-process quality checks, which are covered under QC-007, and safe-work method (task hazard sequencing), covered under SD-005.

3. Responsibilities

- Production Operator — executes the operation exactly to the released work instruction; stops and reports any deviation from the defined method.
- Production Supervisor (Operations) — confirms the correct work-instruction revision is at the station, authorizes runs, and dispositions reported deviations.
- Manufacturing/Process Engineer — owns the standard work document; reviews recurring deviations and approves any method change.

4. Required PPE & Lockout/Tagout

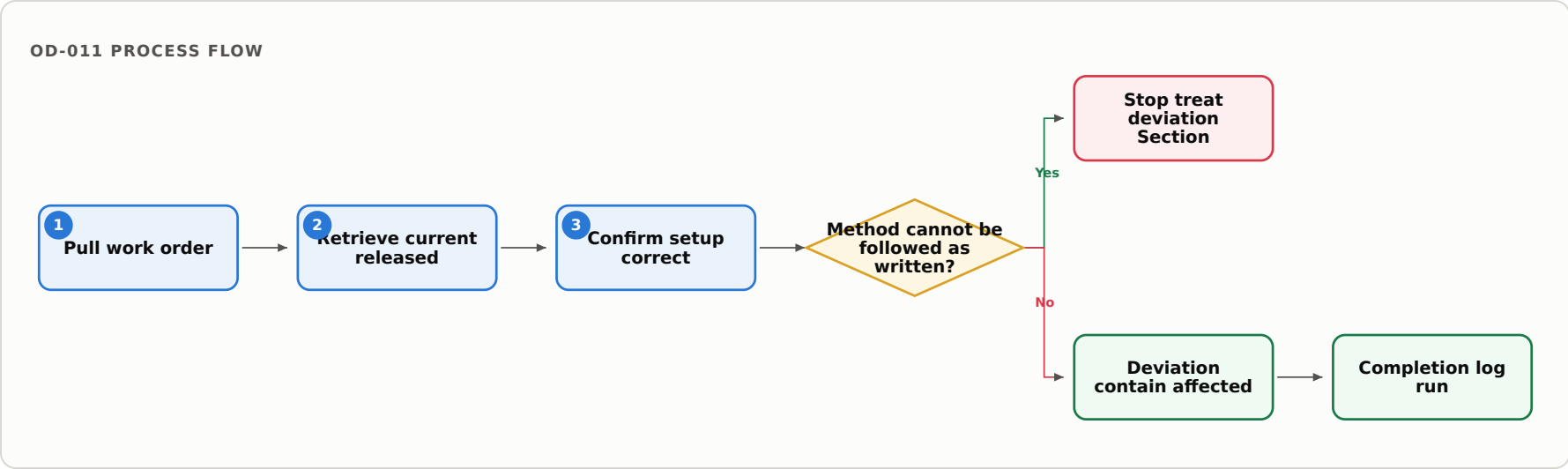
- Standard facility PPE: safety glasses/eye protection, hearing protection in posted areas, hand protection appropriate to material handling, closed-toe safety footwear.
- Lockout/Tagout: Not authored here — where a step requires setup, jam clearing, or intervention on powered equipment, apply energy-isolation per SD-005 before contact.

5. Regulatory References

- 29 CFR 1910.147 (The Control of Hazardous Energy — Lockout/Tagout), referenced only for energy-isolation hand-off.
- 29 CFR 1910.212 (General Requirements for All Machines — machine guarding).

- Internal QMS document control (e.g., ISO 9001:2015 clauses 7.5 documented information and 8.5.1 control of production) as the governing basis for released-revision control and standard-work adherence.
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



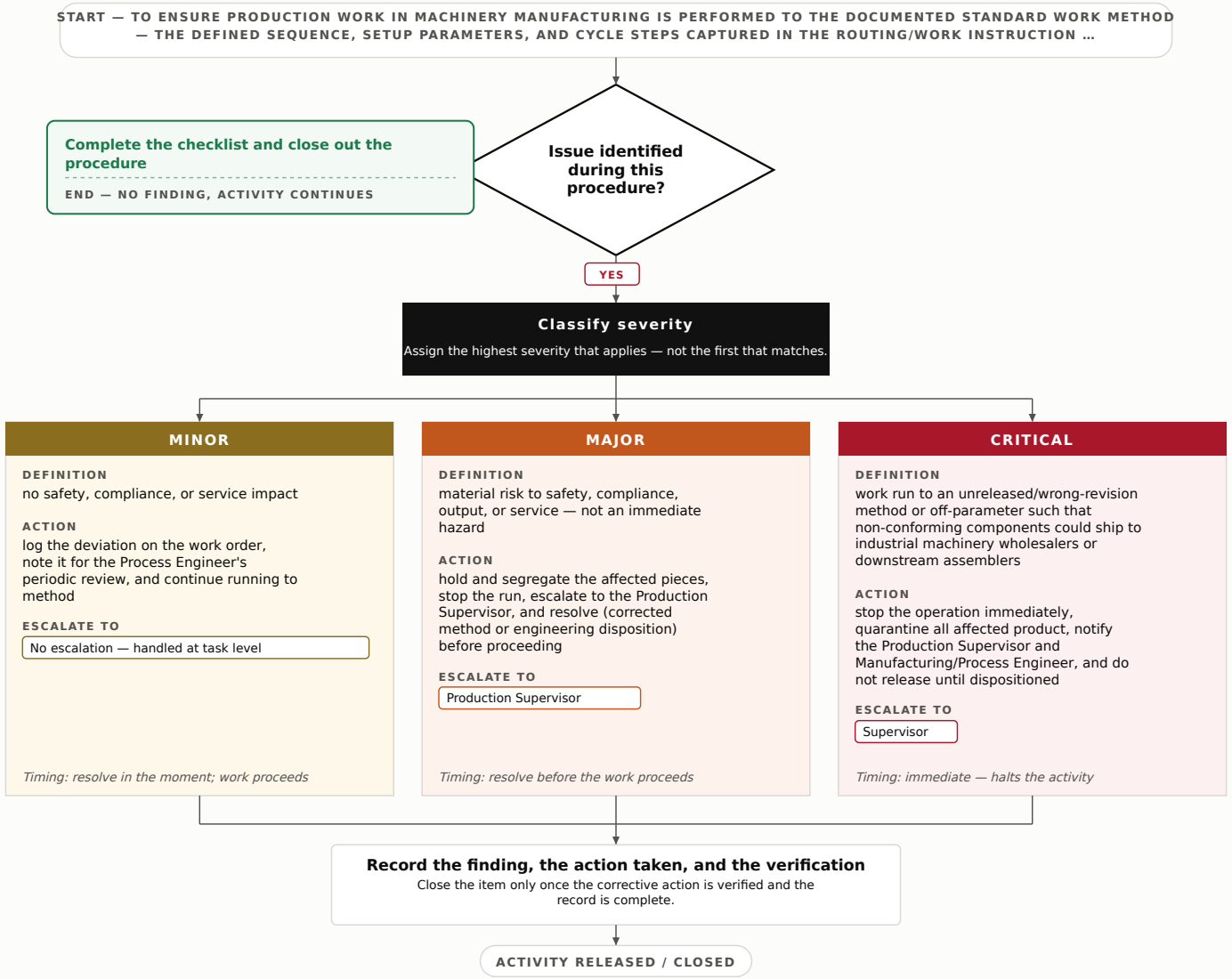
7. Step-by-Step Procedure

1. Pull the work order and confirm the routing operation number matches the station and job scheduled.
2. Retrieve the current released work instruction; verify the revision level against the document-control register — do not run against a superseded or uncontrolled copy.
3. Confirm setup: correct fixtures, tooling, program number, and material lot (steel/aluminum stock or purchased machined parts) match the instruction's stated requirements.
4. Execute the operation step-by-step in the defined sequence; run to the specified parameters (feeds/speeds, torque, cycle, or process settings) without undocumented shortcuts or resequencing.
5. Continuously compare actual method against the instruction; if the method cannot be followed as written, stop and treat as a deviation (Section 8).
6. For any deviation, contain the affected pieces and record what differed from the defined method, quantity affected, and time.
7. On completion, log run quantity, operator, revision level executed, and any deviation reference on the work order / production record.
8. Route completed record to the Production Supervisor for close-out; ensure the deviation log is updated before the station is released for the next job.

8. Decision Tree

OD-011 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Standard Work Execution & Process Adherence



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Released work-instruction revision verified against document control before run start.
- Setup (tooling, fixture, program, material lot) confirmed to match the instruction.
- Steps executed in defined sequence with no undocumented deviations.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Work order matches station and scheduled operation		
Work instruction is current released revision		
Fixtures, tooling, and program match instruction		
Material lot matches routing requirement		
Operation executed in defined sequence		
Run parameters within defined settings		
Deviations (if any) logged and dispositioned		

11. KPIs

- Standard-work adherence rate ≥ 98% of runs executed to released method with no undocumented deviation.
- Wrong-revision run incidents = 0 per month.
- Deviation close-out time ≤ 1 business day from log to disposition.

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-012 — Work-in-Progress Tracking & Status Update

Estimated completion time: 15–30 minutes per shift-level update cycle; 5–10 minutes per individual job status change.

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

To ensure the current status, location, and completed operations of every active production job (work order / traveler) are accurately recorded and visible to Operations staff, so that machined and assembled components move through the shop without loss, stall, or misrouting. This gives supervisors a real-time picture of open work at a Machinery Manufacturing facility.

2. Scope

Covers the recording and updating of work-in-progress (WIP) status for active shop jobs across all production stages, from release to close, and the visibility of that status via the shop's tracking system and floor boards. Excludes throughput/cycle-rate measurement, which is covered under OD-014, and quality/inspection result data, which is covered under QC-027.

3. Responsibilities

- Production Operator — updates job/traveler status at each operation completion, records quantity and current work-center location, flags stalls or discrepancies.
- Operations Supervisor / Shift Lead — reviews the WIP board each shift, resolves misrouted or stalled jobs, escalates status gaps, verifies daily close-out.
- Production Planner / Scheduler — maintains the master job list in the tracking system, reconciles WIP records against released work orders, owns data-integrity corrections.

4. Required PPE & Lockout/Tagout

- Standard facility PPE (safety glasses, hearing protection, safety footwear) when recording status at or near operating machinery on the production floor; no additional PPE for terminal/office entry.
- Not applicable — no hazardous energy is involved in the status-recording task itself. LOTO governing the machines is handled under the applicable maintenance procedure, not here.

5. Regulatory References

- 29 CFR 1910.1200 (Hazard Communication) — where WIP records reference chemical/coolant lots staged with jobs.
- 29 CFR 1910.145 (Specifications for Accident Prevention Signs and Tags) — where physical job tags/travelers double as floor status indicators near equipment.

- None otherwise sector-specific to WIP tracking; internal Operations record-keeping and traceability policy applies. Customer-, contract-, or export-driven traceability requirements (e.g., ISO 9001 record control, ITAR/EAR marking for applicable communications or engine members) apply where invoked by the order.
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow

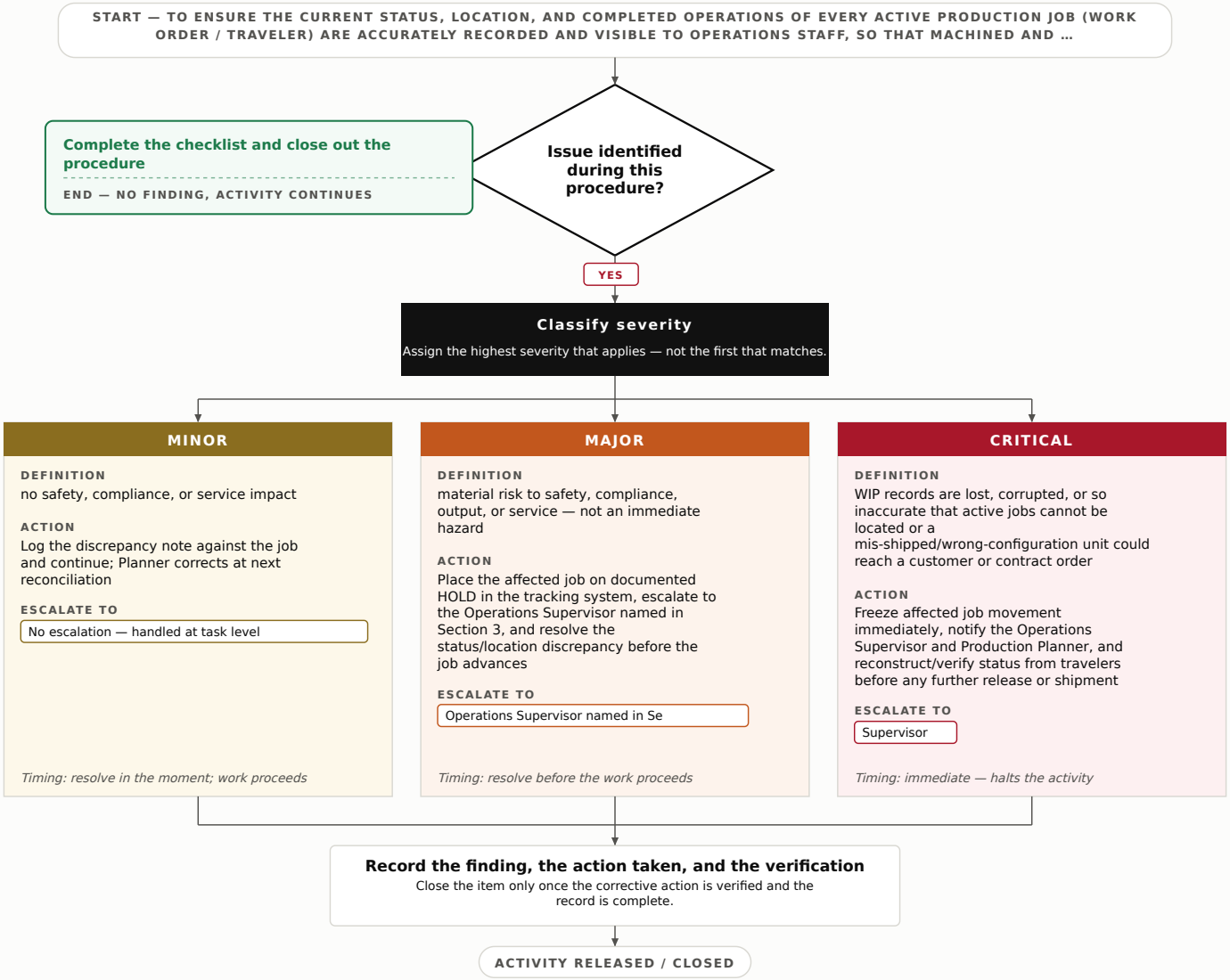
7. Step-by-Step Procedure

1. Confirm the job/traveler is entered in the tracking system at release, with work-order number, part number, quantity, routing, and current work center identified.
2. At the start of each operation, record the job's arrival at the work center (scan, log, or board move) so its location is visible.
3. On completing an operation, record completed quantity, operation code, operator, and timestamp; move the job status to the next routed work center.
4. Flag and note any hold, stall, short quantity, or missing-material condition against the job so it is visible to the supervisor — do not advance status past an unresolved hold.
5. Refresh the WIP board (physical and/or system view) so open jobs, their stage, and their location reflect the floor reality.
6. Supervisor reviews the WIP list each shift, reconciles system status against physical location, and clears misroutes or stalled jobs.
7. Planner reconciles the day's WIP records against released work orders and corrects any data-integrity discrepancies.
8. At job completion, record close-out (final operation, quantity, disposition to next department per handoff to 423830 Industrial Machinery Wholesalers or downstream operations) and document the update in the tracking record.

8. Decision Tree

OD-012 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Work-in-Progress Tracking & Status Update



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Every active job has a current, visible status and location in the tracking system.
- All operation completions recorded within the same shift they occur.
- No job advanced past an unresolved HOLD condition.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
All released jobs present in tracking system with routing		
Each active job shows current work-center location		
Operation completions logged with quantity and timestamp		
Held/stalled jobs flagged and visible on WIP board		
System status reconciled against physical floor location		
Closed jobs recorded with final disposition/handoff		
No data-integrity discrepancies open past reconciliation		

11. KPIs

- WIP record accuracy (system vs. physical audit) ≥ 98%
- Status updates logged within same shift ≥ 95%
- Jobs advanced past unresolved HOLD = 0

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-013 — Operational Handoff Between Work Stages

Estimated completion time: 15–30 minutes per handoff event

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

To ensure that partially completed machinery and components — castings, machined parts, subassemblies, and their travelers — transfer between work stages, crews, or process cells with complete, verified information so that downstream stages can proceed without rework, missing parts, or undocumented deviations.

2. Scope

Covers the controlled physical and documentary transfer of work-in-process (WIP) between production stages, cells, or crews within a single facility, including traveler/router reconciliation, WIP count, tooling and fixture status, and open-issue flagging at the boundary. Excludes shift-to-shift personnel handover, which is covered under OD-002, and stage quality release/spec-conformance sign-off, which is covered under QC-013.

3. Responsibilities

- Production/Cell Operator — physically stages WIP, reconciles part counts to the traveler, and records in-process status at the point of transfer.
- Line Lead (Operations) — verifies handoff completeness, confirms open issues are flagged, and authorizes the transfer to the receiving stage.
- Production Supervisor (Operations) — resolves disputed or incomplete handoffs, approves exceptions, and owns handoff records and metrics.

4. Required PPE & Lockout/Tagout

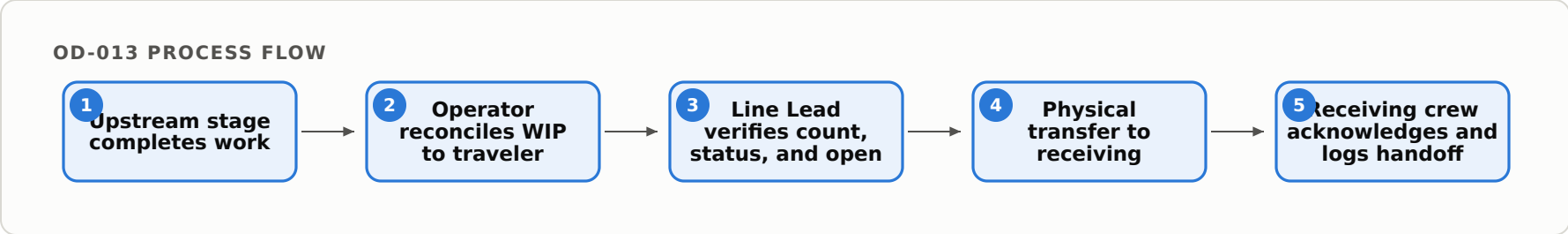
- Standard facility PPE: safety glasses, hearing protection in posted areas, cut-resistant gloves when handling machined edges or blades, and steel-toe footwear.
- LOTO applies only where WIP is transferred from or into powered equipment (conveyors, fixtured machining centers, presses); isolate and verify zero energy per the machine-specific LOTO procedure before physical removal. No hazardous energy is involved in the documentary reconciliation itself.

5. Regulatory References

- 29 CFR 1910.147 (The Control of Hazardous Energy / Lockout-Tagout) — where WIP is removed from or loaded into powered equipment.
- 29 CFR 1910.176 (Handling Materials — General; use of mechanical equipment, secure storage, clearance) for staging and movement of WIP.
- 29 CFR 1910.1200 (Hazard Communication) where cutting fluids, coolants, or process chemicals accompany transferred WIP.
- Internal WIP-traceability and material-lot control policy governs the documentary content of the handoff (e.g., ISO 9001:2015 clause 8.5.2 identification and traceability, where the facility maintains a certified QMS).

- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



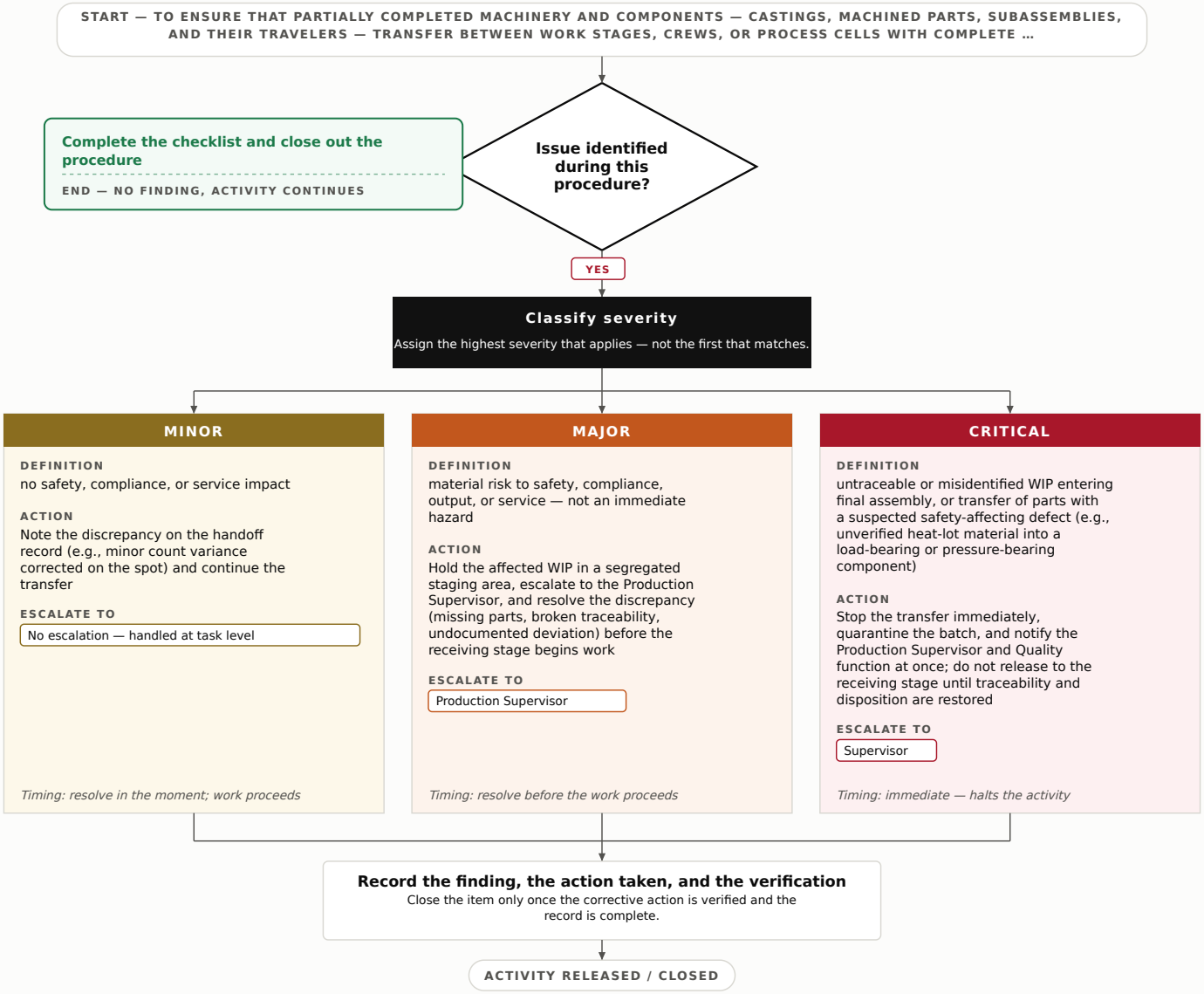
7. Step-by-Step Procedure

1. Confirm the upstream operation is complete for the batch being transferred and that no in-process step remains open on the traveler/router.
2. Reconcile physical WIP count (parts, subassemblies, castings) against the traveler quantity; segregate and tag any scrap, hold, or rework pieces separately.
3. Verify material-lot and heat/lot identification remains attached and legible on the transferring WIP for traceability to upstream inputs (steel, aluminum, purchased machined parts).
4. Record in-process status: last completed operation, machine/cell used, tooling or fixture condition, and any known deviations or partial completions.
5. Flag all open issues (dimensional concern, missing hardware, pending QC release) on the handoff record; do NOT sign for issues owned by QC-013 or OD-002.
6. Line Lead reviews the handoff record, confirms count and status, and authorizes transfer; receiving crew physically accepts WIP into their staging area.
7. Receiving crew acknowledges receipt on the handoff record, confirming count and condition match what was transferred.
8. File the completed handoff record against the batch/traveler and update the WIP tracking system for stage location.

8. Decision Tree

OD-013 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Operational Handoff Between Work Stages



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- WIP physical count matches traveler quantity at both send and receive.
- Material-lot / heat-lot identification is intact and legible on transferred WIP.
- In-process status and any deviations are recorded and legible on the handoff record.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
WIP count reconciled to traveler at transfer		
Material/heat-lot ID attached and legible		
In-process status and last operation recorded		
Scrap/hold/rework segregated and tagged		
Open issues flagged (QC/OD items referenced, not authored)		
Receiving crew acknowledgment captured		
WIP tracking system updated for stage location		

11. KPIs

- Handoff record completeness (all required fields captured): ≥ 98%
- Count-discrepancy rate at receiving stage: ≤ 1% of handoffs
- WIP rejected/returned by receiving stage due to incomplete handoff: ≤ 2% of transfers

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-014 — Output Monitoring & Throughput Review

Estimated completion time: 30–60 minutes per shift/review cycle

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

Establish a consistent method for monitoring the rate and volume of finished and in-process machinery output (e.g., assembled units, machined parts, fabricated blades or components, sub-assemblies) against the production plan, so shortfalls and overruns are detected early and corrected while the shift is still running.

2. Scope

Covers shift- and cell-level tracking of actual output versus planned output, identification of throughput variances, and their routing for corrective action across production lines and assembly cells. Excludes KPI definition and periodic KPI review, which is covered under OD-028, and process-capability analysis, which is covered under QC-026.

3. Responsibilities

- Production Supervisor — owns the throughput review each shift, compares actual counts to plan, and initiates corrective routing for variances.
- Line/Cell Operator — records accurate part/unit counts at defined tally points and reports stoppages or slow-running conditions promptly.
- Operations Manager — reviews recurring or major variances, reallocates labor/machine capacity, and authorizes plan adjustments.

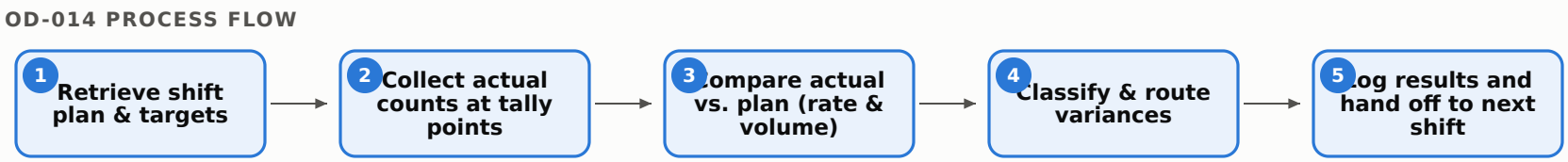
4. Required PPE & Lockout/Tagout

- Standard facility PPE for the production floor: safety glasses, hearing protection where posted, and safety footwear when walking active lines.
- Not applicable — this is a monitoring and data-review task involving no interaction with hazardous energy. If a count discrepancy requires entering a machine guard or clearing a jam, that work is governed by the applicable machine LOTO procedure and is out of scope here.

5. Regulatory References

- None sector-specific to output monitoring; internal production-planning and operations policy applies. General workplace requirements that apply across all members of this archetype include OSHA 29 CFR 1910 (General Industry — e.g., 1910.212 machine guarding, 1910.147 control of hazardous energy) where floor observation is involved. Recordkeeping practice should align with the facility's ISO 9001 Quality Management System procedures where maintained (e.g., control of records). Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



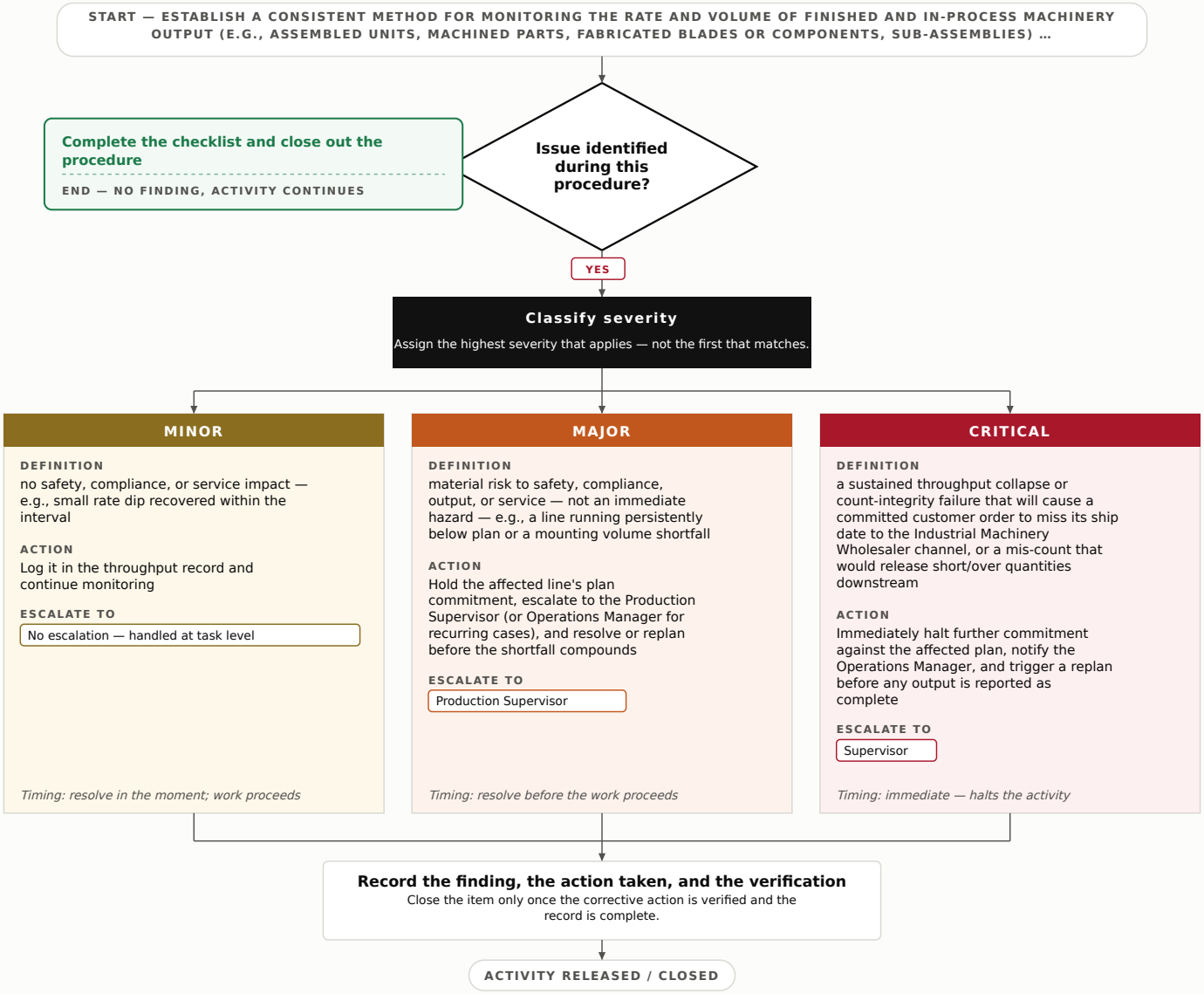
7. Step-by-Step Procedure

1. Retrieve the current production plan for the shift/cell, including planned volume, target run rate (units or parts per hour), and scheduled changeovers.
2. Confirm tally points are defined and counting devices (counters, MES/ERP terminals, tally sheets, scale-based counts) are functioning and zeroed at shift start.
3. At each scheduled interval (e.g., hourly), record actual output volume and running rate for each active line or cell.
4. Compare actual cumulative volume and instantaneous rate against plan; calculate the variance and note whether the line is ahead, on plan, or behind.
5. For any behind-plan or unusual overrun condition, note the apparent cause category (material starvation, machine slowdown/stoppage, changeover, staffing, quality hold) without diagnosing capability — capability review is OD-028/QC-026 territory.
6. Classify each variance by severity per Section 8 and route it to the responsible role for corrective action.
7. Confirm corrective actions taken during the shift and update the running actual-vs-plan tally.
8. Document final counts, variances, causes, and actions in the shift throughput log and hand off open items to the incoming Production Supervisor.

8. Decision Tree

OD-014 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Output Monitoring & Throughput Review



READING THIS TREE

No finding
Activity stands. Complete the checklist and continue.

Minor
Handled in place at task level; no escalation.

Major
Supervisory decision required before the next stage.

Critical
Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Counting devices verified functional and zeroed at shift start.
- Actual counts reconciled against MES/ERP or tally records at each interval.
- All Major/Critical variances have a recorded cause category and routed owner.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Shift production plan and targets retrieved and current		
Tally points defined and counters/terminals functioning		
Actual volume recorded at each scheduled interval		
Actual rate compared to target and variance calculated		
Variance cause categories noted for behind/over conditions		
Major/Critical variances escalated and routed		
Shift throughput log completed and handed off		

11. KPIs

- Plan attainment (actual volume ÷ planned volume): ≥ 95%
- Tally intervals recorded on schedule: 100% of scheduled intervals
- Major/Critical variances logged with cause and owner: 100%

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-015 — Bottleneck Identification & Response

Estimated completion time: 45–90 minutes per identified constraint event; continuous monitoring across the shift

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1. Purpose

This procedure defines how Operations detects work-in-process constraints — machine, material, tooling, or labor limitations that slow the flow of parts through the production line — and responds to restore throughput. It exists to protect committed output and on-time delivery to industrial machinery wholesalers while keeping the shop working to takt.

2. Scope

Covers detection, classification, and first-response containment of bottlenecks across fabrication, machining, sub-assembly, and final assembly cells at this facility. Excludes rescheduling of production sequence, which is covered under OD-017, and reallocation of line capacity across orders, which is covered under OD-009.

3. Responsibilities

- Production Supervisor — monitors WIP flow, confirms a suspected constraint, classifies severity, and authorizes first response.
- Cell Lead / Line Operator — reports abnormal cycle time, queue build-up, or starved stations; executes containment actions within the cell.
- Maintenance Lead — assesses equipment-related constraints (spindle, hydraulic, pneumatic, conveyor, motor drive) and confirms whether hazardous energy control is required before intervention.

4. Required PPE & Lockout/Tagout

- Standard facility PPE: safety glasses with side shields, hearing protection in posted areas, steel-toe footwear, and cut-resistant gloves when handling stock, tooling, or finished parts.
- LOTO required only if response requires entry into a machine guard, clearing of a jam, or contact with stored hydraulic, pneumatic, or electrical energy — apply per facility lockout/tagout program before any physical intervention. Data-only monitoring requires no LOTO.

5. Regulatory References

- 29 CFR 1910.147 (The Control of Hazardous Energy — Lockout/Tagout), where response involves servicing or unjamming equipment.
- 29 CFR 1910.212 (General Requirements for All Machines — machine guarding).
- 29 CFR 1910.219 (Mechanical Power-Transmission Apparatus).
- 29 CFR 1910.176 (Handling Materials — General), where constraint response involves moving WIP or stock.

- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow

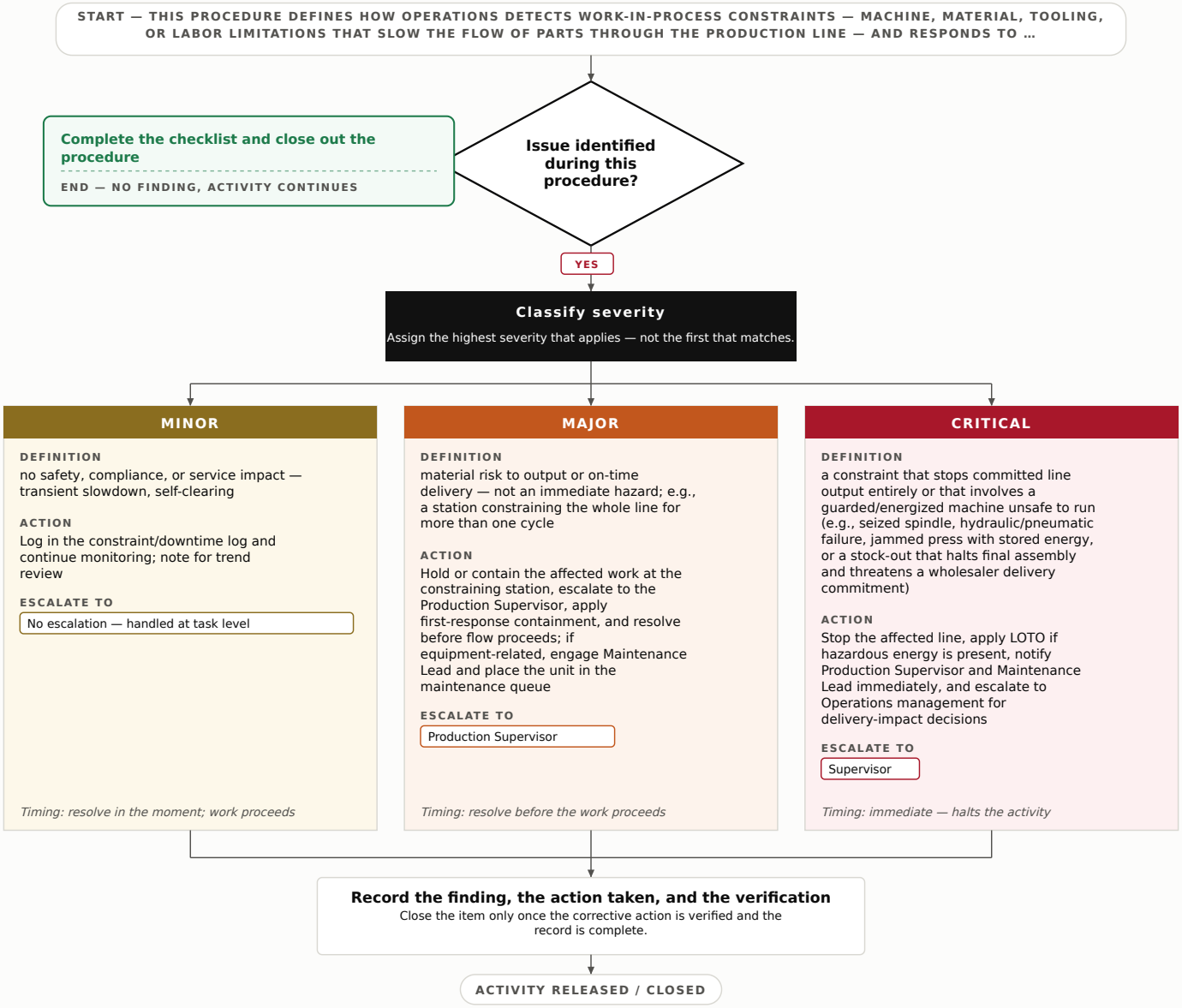
7. Step-by-Step Procedure

1. At shift start and at defined intervals, walk the line and review WIP queue levels, station cycle times against baseline, and material staging at each cell.
2. Identify constraint signals: growing queue ahead of a station, starved downstream stations, cycle time exceeding baseline, tooling change delays, or short supply of incoming stock (bar, sheet, castings, sub-components from machine shops or motor/generator suppliers).
3. Verify the signal is a true bottleneck — confirm it is the single slowest constraining step, not a one-off event, by comparing throughput before and after the suspected station.
4. Determine the constraint type: equipment, tooling, material, or labor. For equipment, notify Maintenance Lead and confirm whether hazardous energy control is needed before any intervention.
5. Classify severity using the Decision Tree (Section 8) and take the corresponding first-response action.
6. Execute containment: rebalance operators within the cell, expedite staged material, deploy backup tooling, or hold the affected work — without altering the master schedule (route to OD-017) or reassigning order capacity (route to OD-009).
7. Confirm flow is restored: cycle time returns toward baseline and downstream queues normalize.
8. Document the event in the constraint/downtime log: time detected, constraint type, station, severity, action taken, duration, and outcome. Route unresolved items to the responsible role.

8. Decision Tree

OD-015 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Bottleneck Identification & Response



READING THIS TREE

No finding
Activity stands. Complete the checklist and continue.

Minor
Handled in place at task level; no escalation.

Major
Supervisory decision required before the next stage.

Critical
Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Constraint confirmed as the true slowest step before response is committed.
- Correct constraint type (equipment / tooling / material / labor) identified and routed to the right role.
- Containment action verified to restore cycle time toward baseline without breaching schedule or capacity ownership (OD-017 / OD-009).
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
WIP queues reviewed at all cells this shift		
Cycle times compared against documented baseline		
Suspected constraint confirmed as true bottleneck		
Constraint type classified and routed to correct role		
LOTO applied where physical intervention required		
Flow confirmed restored toward baseline		
Event recorded in constraint/downtime log		

11. KPIs

- Mean time to detect a confirmed constraint: ≤ 15 minutes from signal onset.
- Mean time to restore flow after Major/Critical constraint: ≤ 60 minutes.
- Constraint events logged with complete data fields: 100%.

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-016 — Rework & Nonconforming Work Handling

Estimated completion time: 30–90 minutes per nonconforming lot (excluding queued rework run time)

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

To ensure that machined, fabricated, or assembled units failing dimensional, functional, or cosmetic specification are promptly segregated, controlled, and re-run so that nonconforming product never advances to the next operation or to the customer. Applies across the assembly, machining, and finishing lines of this archetype.

2. Scope

Covers physical segregation, identification, containment, tracking, and re-run execution of nonconforming work identified at any in-process or final operation. Excludes formal disposition (use-as-is / scrap / repair decisions), which is covered under QC-014, and rework authorization sign-off, which is covered under QC-016. This procedure hands off to those modules and does not duplicate their decisions.

3. Responsibilities

- Production Operator — tags and physically segregates the nonconforming unit at point of detection; records the defect and work-order number; performs the re-run once authorized.
- Line Lead / Shift Supervisor — verifies containment, escalates classification, coordinates the re-run slot on the affected machine or cell, and confirms disposition per QC-014 has closed before release.
- Quality Technician — confirms defect against the applicable spec/drawing, applies nonconforming (red) tag, maintains the nonconforming material record, and verifies re-run output before it re-enters flow.

4. Required PPE & Lockout/Tagout

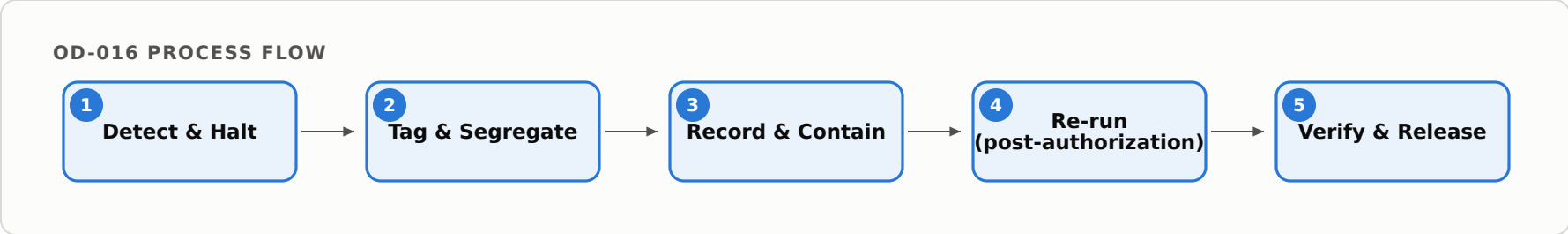
- Standard facility PPE: safety glasses, hearing protection in posted areas, cut-resistant gloves when handling sharp or deburred metal edges, steel-toe footwear.
- LOTO applicable only when a re-run requires machine setup, tooling change, or clearing a jam — isolate hazardous energy per the facility LOTO program before entering the point of operation. Segregation and tagging of parts alone involve no hazardous energy.

5. Regulatory References

- 29 CFR 1910.147 (The Control of Hazardous Energy / Lockout-Tagout) — applies when re-run setup exposes hazardous energy.
- 29 CFR 1910.212 (General Requirements for All Machines — machine guarding) — applies to any machine used for re-run.
- 29 CFR 1910.1200 (Hazard Communication) — governs coolants, solvents, and cleaning agents used during rework.

- Internal Quality Management System / nonconforming-product control procedure (e.g., an ISO 9001:2015 clause 8.7 aligned internal policy) provides the documentation basis; specific customer or contract quality flow-downs may add requirements.
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



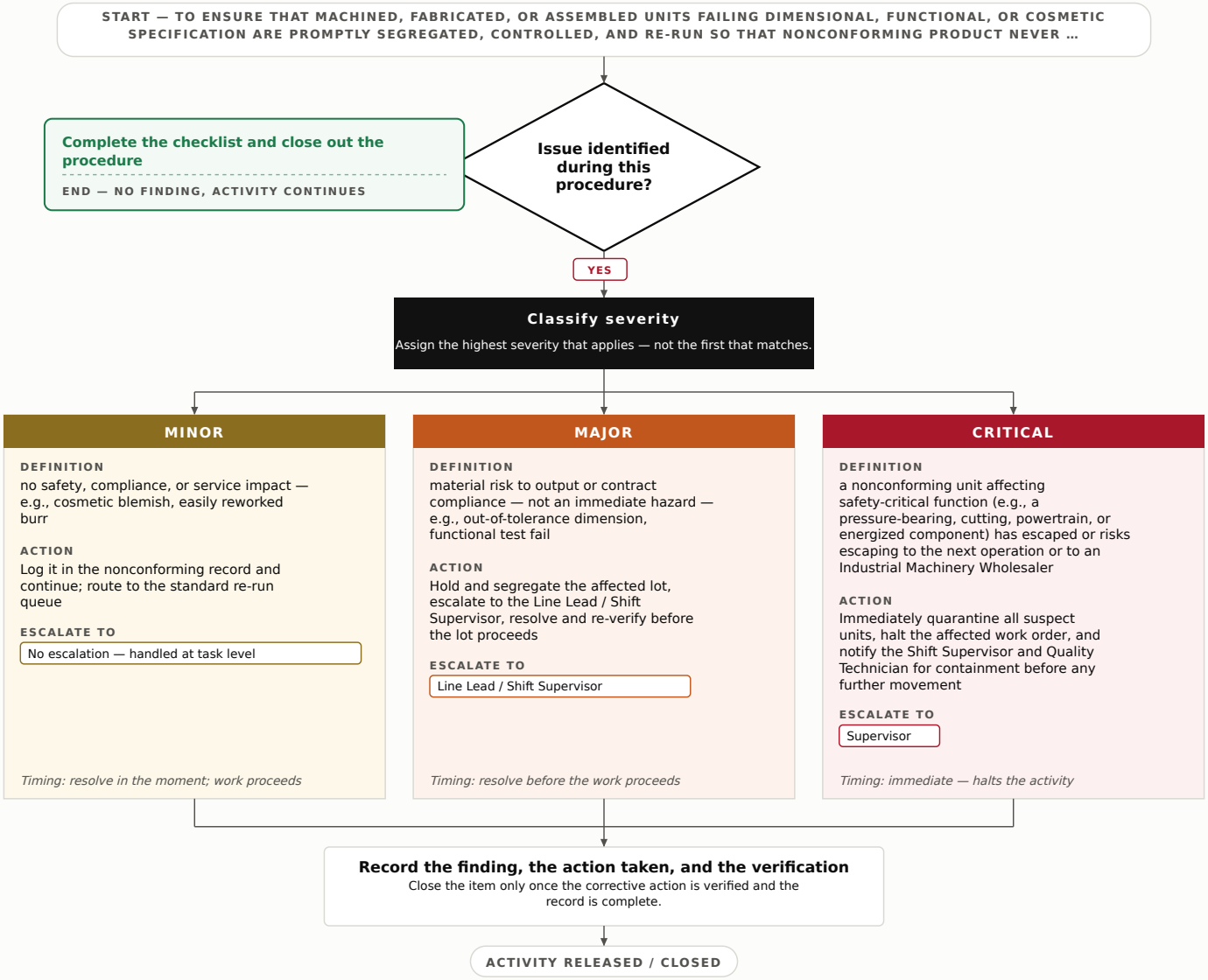
7. Step-by-Step Procedure

1. On detection of a unit failing dimensional, functional, or cosmetic spec, stop passing it downstream; do not place it in the good-parts flow.
2. Apply a red nonconforming tag noting work-order number, part number, operation, defect description, quantity, and detecting operator.
3. Move the unit(s) to the designated nonconforming/hold area; never leave them commingled at the workstation or on the outbound rack.
4. Log the nonconformance in the nonconforming material record (defect, cause if known, quantity, source operation).
5. Notify the Line Lead; confirm formal disposition per QC-014 and rework authorization per QC-016 are obtained before any re-run — do not begin rework without them.
6. Once authorized, apply LOTO for any setup/tooling change, perform the re-run to the current drawing/spec, and record the rework parameters used.
7. Route re-run output to the Quality Technician for re-verification against the same spec that caused the original reject.
8. On pass, remove the red tag, update the record to closed, and release the unit to the next operation; on fail, re-segregate and return to step 4.

8. Decision Tree

OD-016 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Rework & Nonconforming Work Handling



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Every nonconforming unit bears a completed red tag and is physically in the hold area.
- Nonconforming material record entry matches the tag (work order, part, quantity, defect).
- Re-run output re-verified against the original failing spec by Quality before release.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Nonconforming units segregated from good-parts flow		
Red tag complete (WO#, part#, operation, defect, qty)		
Nonconforming material record entry created/updated		
Disposition (QC-014) and authorization (QC-016) confirmed before re-run		
Re-run performed to current drawing/spec; parameters recorded		
Re-run output re-verified and passed by Quality		
Record closed and unit released, or re-segregated on fail		

11. KPIs

- Nonconforming units segregated & tagged within 15 minutes of detection: ≥ 95%
- Rework first-pass re-verification yield: ≥ 90%
- Escaped nonconformances reaching next operation or customer: 0

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-017 — Schedule Deviation & Change Management

Estimated completion time: 30–90 minutes per change event (excluding downstream re-planning)

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

To provide a controlled method for recording, evaluating, authorizing, and communicating schedule deviations, delays, and priority shifts in the production plan so that build commitments, material availability, and work-order sequencing at a machinery manufacturing operation remain accurate and traceable.

2. Scope

Covers detection, classification, impact assessment, authorization, and documentation of changes to the master production schedule and open work orders across fabrication, machining, sub-assembly, and final assembly. Excludes bottleneck root-cause response, which is covered under OD-015, and customer notification of schedule impacts, which is covered under OD-022.

3. Responsibilities

- Production Scheduler / Planner — logs the deviation, recalculates work-order sequence and material need dates, and maintains the change register.
- Operations Supervisor — assesses shop-floor impact, authorizes reschedules within delegated limits, and reallocates labor and machine time.
- Materials / Inventory Coordinator — confirms availability of steel, aluminum, castings, and purchased sub-assemblies against revised dates and flags procurement gaps.

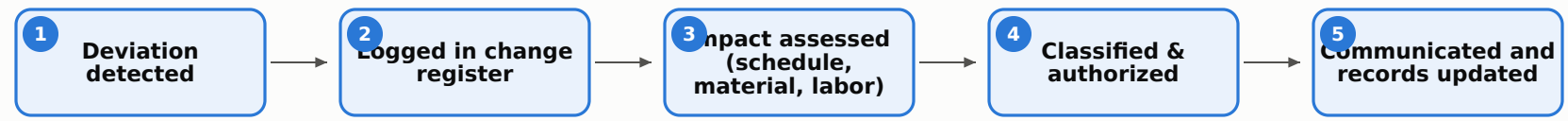
4. Required PPE & Lockout/Tagout

- Standard facility PPE when the assessment requires presence on the shop floor (safety glasses, hearing protection, safety footwear per posted area rules).
- Not applicable — no hazardous energy involved in the scheduling and change-management activity itself.

5. Regulatory References

- None sector-specific to production scheduling; internal planning and change-control policy applies. General recordkeeping and workplace obligations that apply to every member of the span remain in force, e.g., OSHA 29 CFR 1904 (recording work-related events) and 29 CFR 1910 (general industry) where reschedules affect staffing or floor operations; contract-driven commitment records governed by internal quality-management procedures (e.g., ISO 9001-based document control where adopted). Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



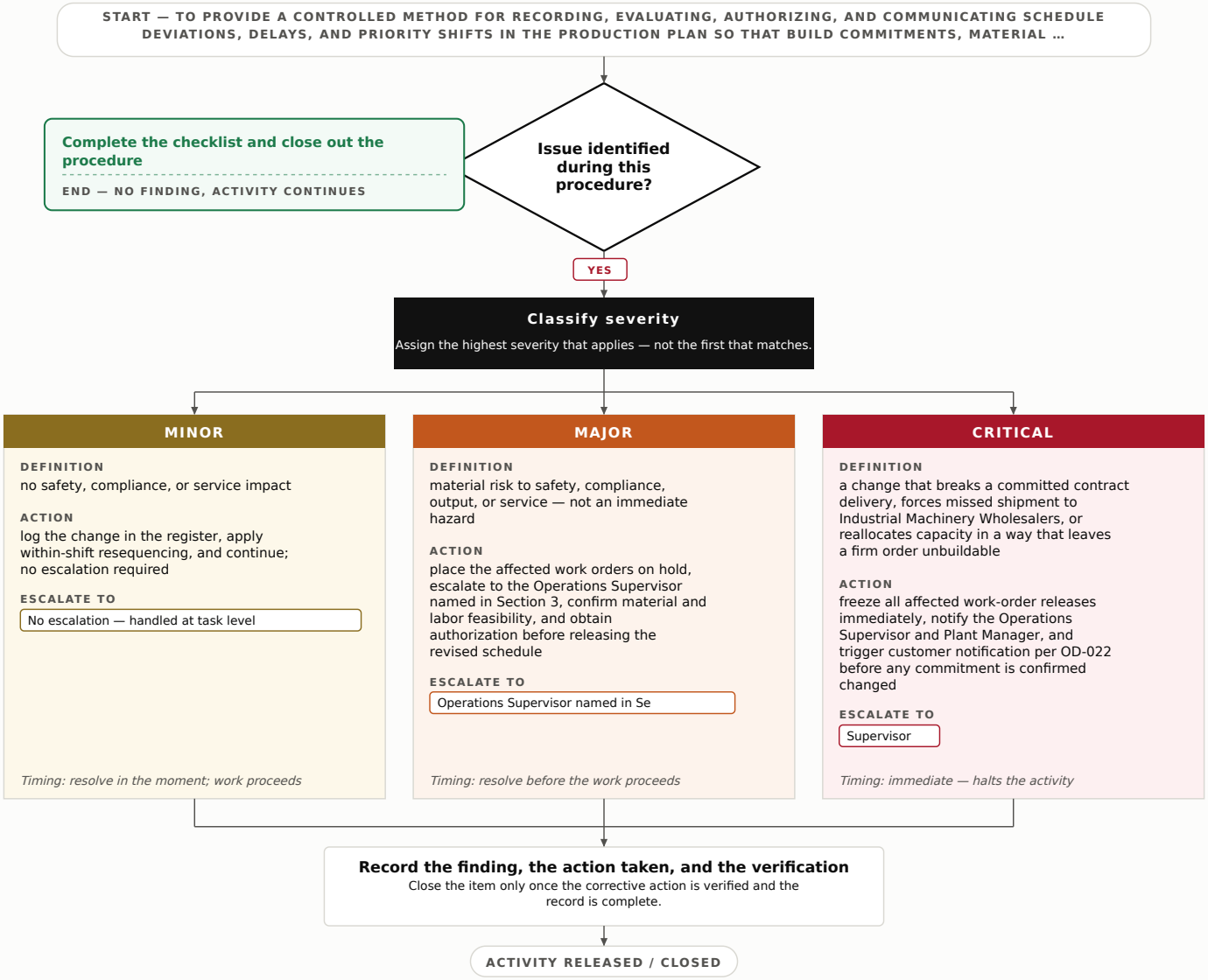
7. Step-by-Step Procedure

1. Capture the trigger — record the source of the deviation (late inbound steel/aluminum or castings, machine downtime, quality hold, priority customer, engineering change, or absenteeism) with date, time, and affected work-order numbers.
2. Log the event in the change register with a unique reference number and current baseline dates.
3. Assess schedule impact — recalculate the affected work-order sequence, downstream due dates, and any float consumed across fabrication, machining, and assembly.
4. Assess material impact — with the Materials Coordinator, confirm on-hand and on-order steel, aluminum, machined parts, and purchased sub-assemblies against the revised need dates; flag any shortage requiring expedite.
5. Assess labor and machine-time impact — verify capacity and shift coverage for the revised plan with the Operations Supervisor.
6. Classify severity (Section 8) and obtain authorization at the appropriate level before altering the released schedule.
7. Update the master schedule and open work orders; hand off customer-facing notification to OD-022 where an external commitment date moves.
8. Document the final approved change, retain the register entry, and record affected commitment dates for audit traceability.

8. Decision Tree

OD-017 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Schedule Deviation & Change Management



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Every deviation has a unique register entry with baseline and revised dates.
- Material availability re-verified against revised need dates before schedule release.
- Authorization level matches classified severity and is recorded.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Deviation logged with reference number and timestamp		
Affected work orders identified and re-sequenced		
Material need dates re-checked with Materials Coordinator		
Labor/machine capacity confirmed for revised plan		
Severity classified and correct authorization obtained		
Master schedule and work orders updated		
Customer-impact hand-off routed to OD-022 where applicable		

11. KPIs

- Deviations logged within 1 hour of detection ≥ 95%
- Reschedules authorized before schedule release 100%
- Committed delivery dates held after change management ≥ 90%

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-018 — Subcontractor & Vendor Coordination

Estimated completion time: 45–90 minutes per subcontractor/vendor engagement cycle

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

To coordinate external providers — machine shops, heat-treat/finishing houses, casting or component suppliers, and specialty vendors — who perform part of the manufacturing operation, so that outsourced work integrates on schedule and to specification with in-house production.

2. Scope

Covers the coordination lifecycle for subcontracted operations and purchased-part vendors: scope confirmation, scheduling, material and drawing hand-off, progress tracking, and receipt back into the production flow. Excludes contractor maintenance supervision, which is covered under MD-018, and contractor safety, which is covered under SD-023.

3. Responsibilities

- Operations Coordinator — issues work packages to subcontractors/vendors, tracks committed dates, and confirms receipt back into the flow.
- Production Supervisor — approves outsourced scope, resolves schedule conflicts against the shop floor plan, and authorizes hold/release decisions.
- Purchasing/Procurement Lead — validates vendor qualification, purchase-order terms, and insurance/certification currency before work is released.

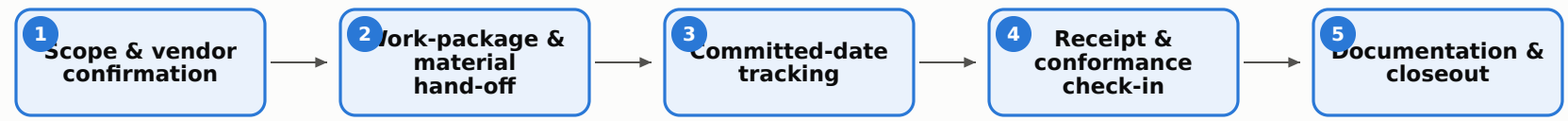
4. Required PPE & Lockout/Tagout

- Standard facility PPE (safety glasses, hearing protection, steel-toe footwear) when handling inbound/outbound subcontract material at the dock or staging area.
- Not applicable — no hazardous energy involved in the coordination task itself; any energy-control on shared equipment is governed by SD-023/MD-018.

5. Regulatory References

- None sector-specific to the coordination function; governed by internal procurement policy and purchase-order terms. General commercial and record-retention obligations apply (e.g., UCC contract terms; U.S. export controls under EAR 15 CFR 730–774 where subcontracted parts or drawings are controlled). Where a vendor supplies material with hazards, hazard communication under 29 CFR 1910.1200 requires SDS transfer at receipt. Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



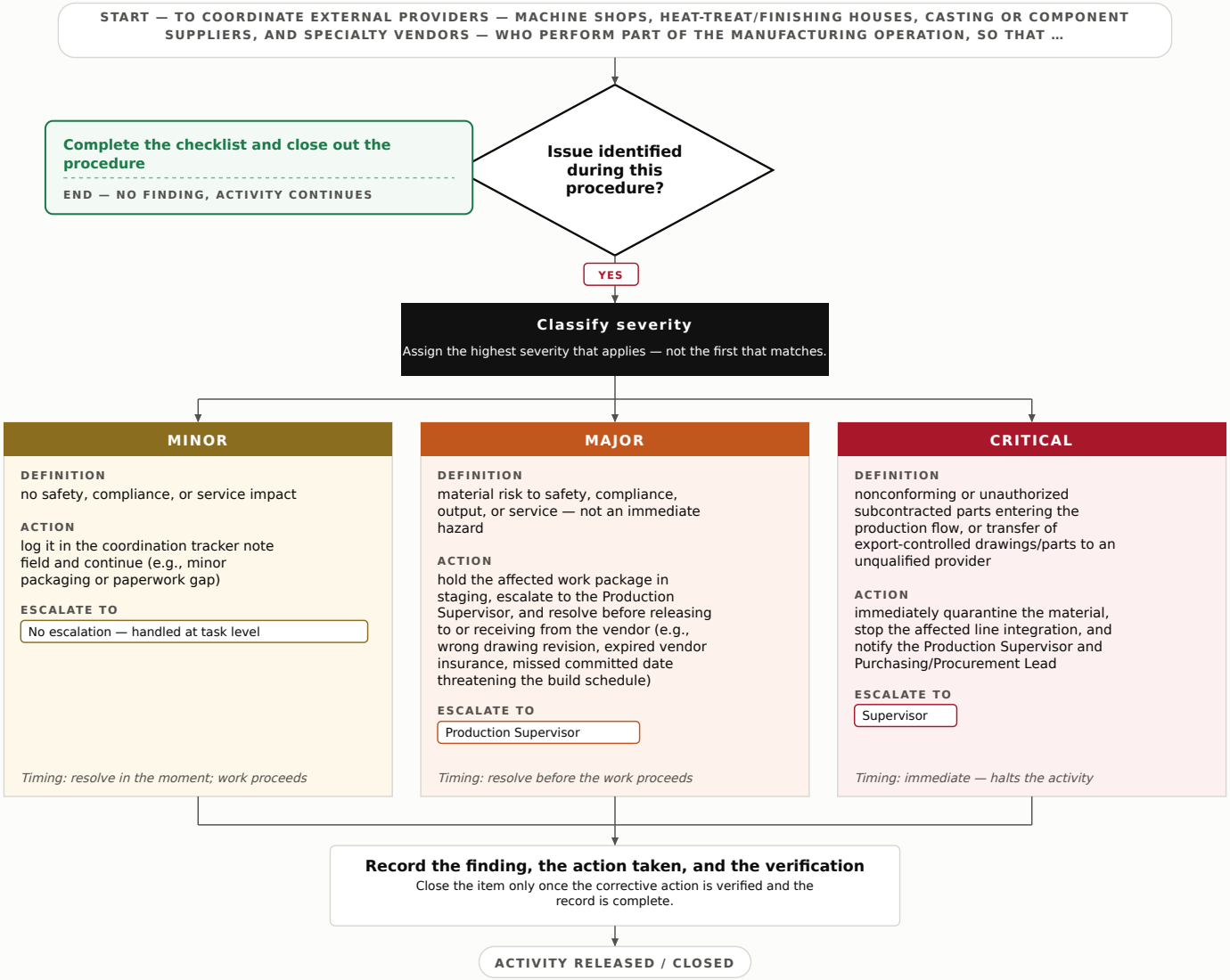
7. Step-by-Step Procedure

1. Confirm the outsourced scope with the Production Supervisor; identify the drawing revision, quantity, and required completion date against the shop floor plan.
2. Verify vendor qualification with the Purchasing/Procurement Lead — active PO, current insurance certificate, and any required capability certification on file.
3. Assemble the work package: current-revision drawings/specs, routing, quantity, and inbound raw material (bar/sheet/plate from steel or aluminum stock, castings, or purchased components) staged for hand-off.
4. Record the material transfer on the outbound log (lot/heat numbers, quantity, drawing revision) and transfer any applicable SDS for hazardous materials.
5. Obtain a committed ship-back or completion date from the provider and enter it into the coordination tracker; set follow-up checkpoints.
6. Track progress against committed dates; escalate slips to the Production Supervisor before they affect the downstream operation.
7. On return, check received work against the packing/traveler and drawing revision, and route material back into the production flow.
8. Complete the closeout record — dates, quantities received vs. ordered, any discrepancies — and file with the PO.

8. Decision Tree

OD-018 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Subcontractor & Vendor Coordination



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Correct drawing revision and quantity confirmed on the work package before hand-off.
- Vendor qualification, PO, and insurance/certification currency verified before release.
- Received quantity and lot/heat traceability reconciled against the outbound log at check-in.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Outsourced scope approved by Production Supervisor		
Vendor PO, insurance, and certifications current		
Drawing revision matches work package		
Outbound material logged with lot/heat traceability		
Committed completion date recorded in tracker		
Received work reconciled to packing/traveler		
Closeout record filed with PO		

11. KPIs

- On-time vendor completion vs. committed date ≥ 95%
- Coordination-caused line delays ≤ 2% of outsourced work packages
- Traceability completeness on inbound subcontract material = 100%

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-019 — Interdepartmental Coordination Review

Estimated completion time: 45–90 minutes per coordination cycle (weekly or per production-release event)

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

This procedure aligns Operations with Engineering, Quality, Materials/Procurement, and Shipping on the same in-process work so that build sequence, released drawing revisions, material readiness, and delivery commitments are reconciled before production proceeds. It prevents build errors, rework, and missed ship dates caused by departments working from mismatched information.

2. Scope

Covers the scheduled and event-driven cross-department coordination review conducted by Operations for machined and assembled product lines, including agenda, information reconciliation, action logging, and close-out. Excludes spec-conformance testing and disposition of nonconforming product, which are covered under QC-003; this procedure only confirms that such hand-offs have occurred, it does not author them.

3. Responsibilities

- Operations Supervisor (OD) — chairs the review, reconciles the build schedule against inputs from other departments, owns the action log, and authorizes work to proceed or hold.
- Production Planner / Scheduler — provides current work-order sequence, capacity, and material-need dates; updates the schedule from review outcomes.
- Department Liaisons (Engineering, Quality, Materials/Procurement, Shipping) — bring the current released revision, inspection status, inbound material status, and delivery commitments for their function and confirm alignment or flag conflicts.

4. Required PPE & Lockout/Tagout

- Standard facility PPE if the review moves to the shop floor (safety glasses, hearing protection, safety footwear as posted); none required for conference-room portions.
- Not applicable — no hazardous energy involved; this is a coordination/administrative task with no equipment operation.

5. Regulatory References

- None sector-specific governs the coordination activity itself; internal Operations planning and change-control policy applies. Where the review references quality-management commitments, ISO 9001 (Quality Management Systems) clauses on planning, communication, and control of externally provided processes provide the internal framework; where it references worker-facing schedule or floor changes, OSHA 29 CFR 1910 general-industry provisions apply to any resulting floor activity (e.g., machine-specific standards under 1910 Subpart O). Product- or member-

specific regimes (e.g., FDA 21 CFR 820 for dental-equipment lines, FCC Part 15 for communications-equipment lines, EPA emissions requirements for gasoline-engine lines) apply only to those members and are not the governing frame here. Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow

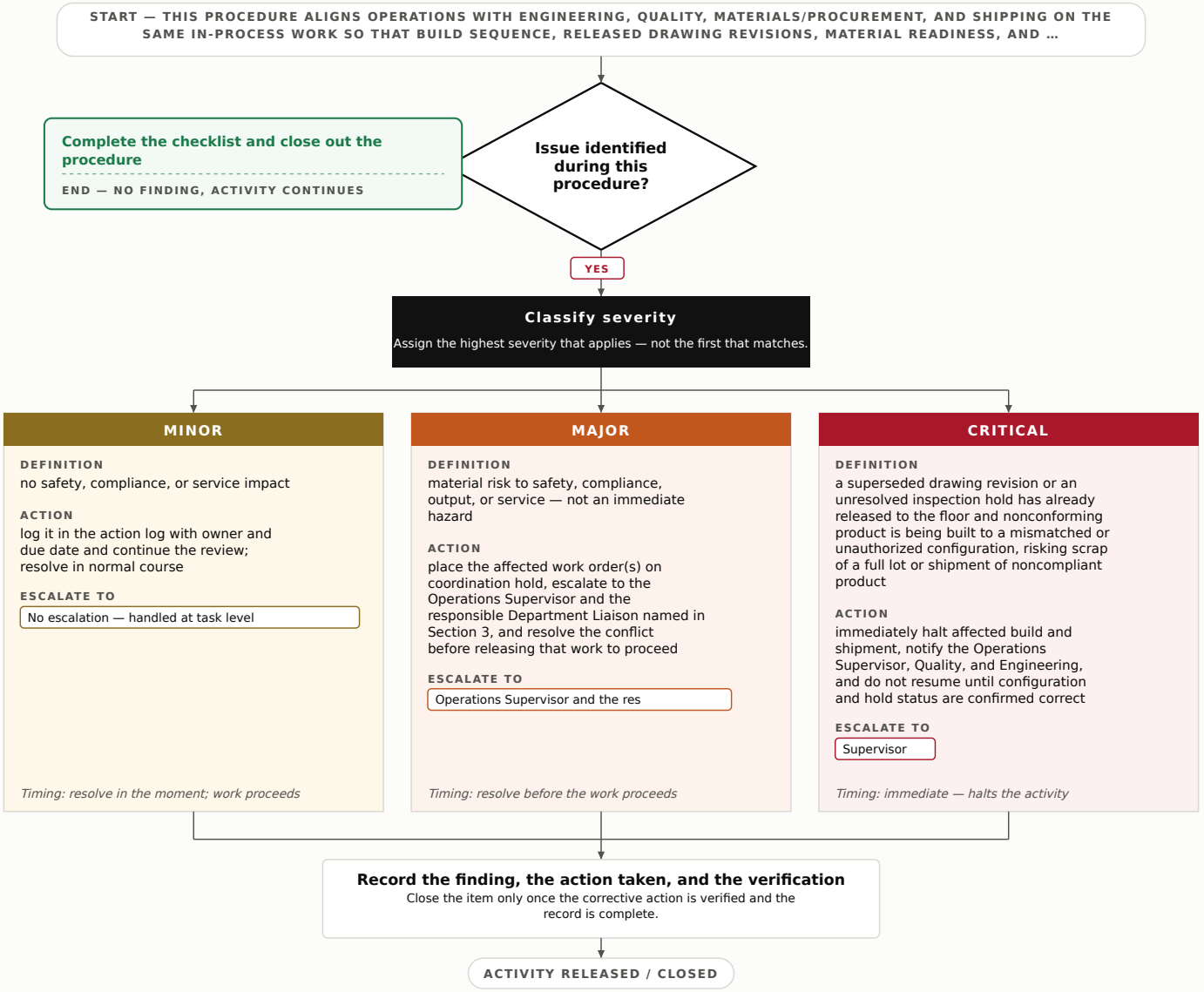
7. Step-by-Step Procedure

1. Distribute the agenda and pull current data 24 hours ahead: open work orders, released engineering revision levels, inspection/hold status per QC-003, inbound material status, and committed ship dates.
2. Confirm attendance of each Department Liaison (Engineering, Quality, Materials/Procurement, Shipping) or a delegate with authority to commit.
3. Walk the active build sequence work order by work order; each liaison confirms their function is aligned to the drawing revision and schedule Operations is holding.
4. Flag every mismatch — superseded revision on the floor, inbound steel/aluminum or purchased machined parts not yet received, open inspection hold, or an at-risk delivery commitment — and record it in the action log.
5. Classify each flagged item using the Decision Tree (Section 8) and assign an owner and due date.
6. Reconcile material-need dates with Procurement's inbound status from mill and machine-shop suppliers, and reconcile ship commitments with the wholesaler distribution channel.
7. Confirm which work orders may proceed and which are held pending action closure; the Operations Supervisor records the proceed/hold decision.
8. Publish the reconciled schedule and closed action log to all departments; retain the record per internal retention policy.

8. Decision Tree

OD-019 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Interdepartmental Coordination Review



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Every active work order in the review is confirmed against a single agreed drawing revision level across all departments.
- All inbound material and purchased-part shortfalls have an owner, need date, and mitigation logged.
- Every proceed/hold decision is recorded with the authorizing Operations Supervisor.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Agenda and current data distributed ≥24 h ahead		
All required Department Liaisons (or authorized delegates) present		
Build sequence reconciled to a single released revision level		
Inbound material / purchased-part status reconciled to need dates		
Ship commitments reconciled with distribution channel		
All flagged items classified, owned, and dated		
Reconciled schedule and action log published and retained		

11. KPIs

- Cross-department alignment cycles completed on schedule ≥ 95%
- Work orders released with unreconciled revision/hold conflicts = 0
- Open coordination action items past due date ≤ 5% at next cycle

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

Phase 4 — Completion & customer handoff

OD-020 — Job / Order Completion Verification

Estimated completion time: 20–45 minutes per job/order (varies with build complexity and lot size)

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

To confirm that every operation on a work order or job traveler has been completed to the released engineering specification, drawing revision, and customer requirement before the job is handed to final inspection and release. This prevents incomplete or non-conforming assemblies from advancing and protects downstream commitments to industrial machinery distributors.

2. Scope

Covers verification that all routed operations, sub-assemblies, quantities, documentation, and revision-controlled requirements on a completed job/order are present and accounted for on the shop floor prior to hand-off. Excludes final inspection/spec-conformance testing (see QC-012) and formal release/disposition to the customer (see QC-013).

3. Responsibilities

- Production Supervisor (Operations) — owns the verification, confirms traveler completeness, authorizes hand-off to final inspection.
- Cell/Line Operator — physically stages the completed job, presents the traveler and all in-process records for review.
- Production Planner/Scheduler — reconciles ordered vs. built quantities and open operations in the work-order system.

4. Required PPE & Lockout/Tagout

- Standard facility PPE: safety glasses (ANSI Z87.1), hearing protection where posted, cut-resistant gloves when handling machined parts, blades, or sheet-metal edges, steel-toe footwear.
- LOTO: Not applicable to the verification activity itself — no hazardous energy is isolated. If a completed part must be re-run or cycled on equipment during verification, apply the machine-specific lockout/tagout procedure per that asset's SOP before intervention.

5. Regulatory References

- OSHA 29 CFR 1910.147 (Control of Hazardous Energy) — applicable where equipment is cycled during verification.
- OSHA 29 CFR 1910 Subpart O (Machinery and Machine Guarding) — general to all machined/assembled-product manufacturers in the span.
- ISO 9001:2015, Clauses 8.5 (Production control) and 8.6 (Release of products) — internal QMS basis for completion verification adopted across the archetype; where customers impose sector schemes (e.g., IATF 16949 for engine/vehicle-parts lines, ISO 13485 for dental equipment) they apply only to those members and are not the governing frame.
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow

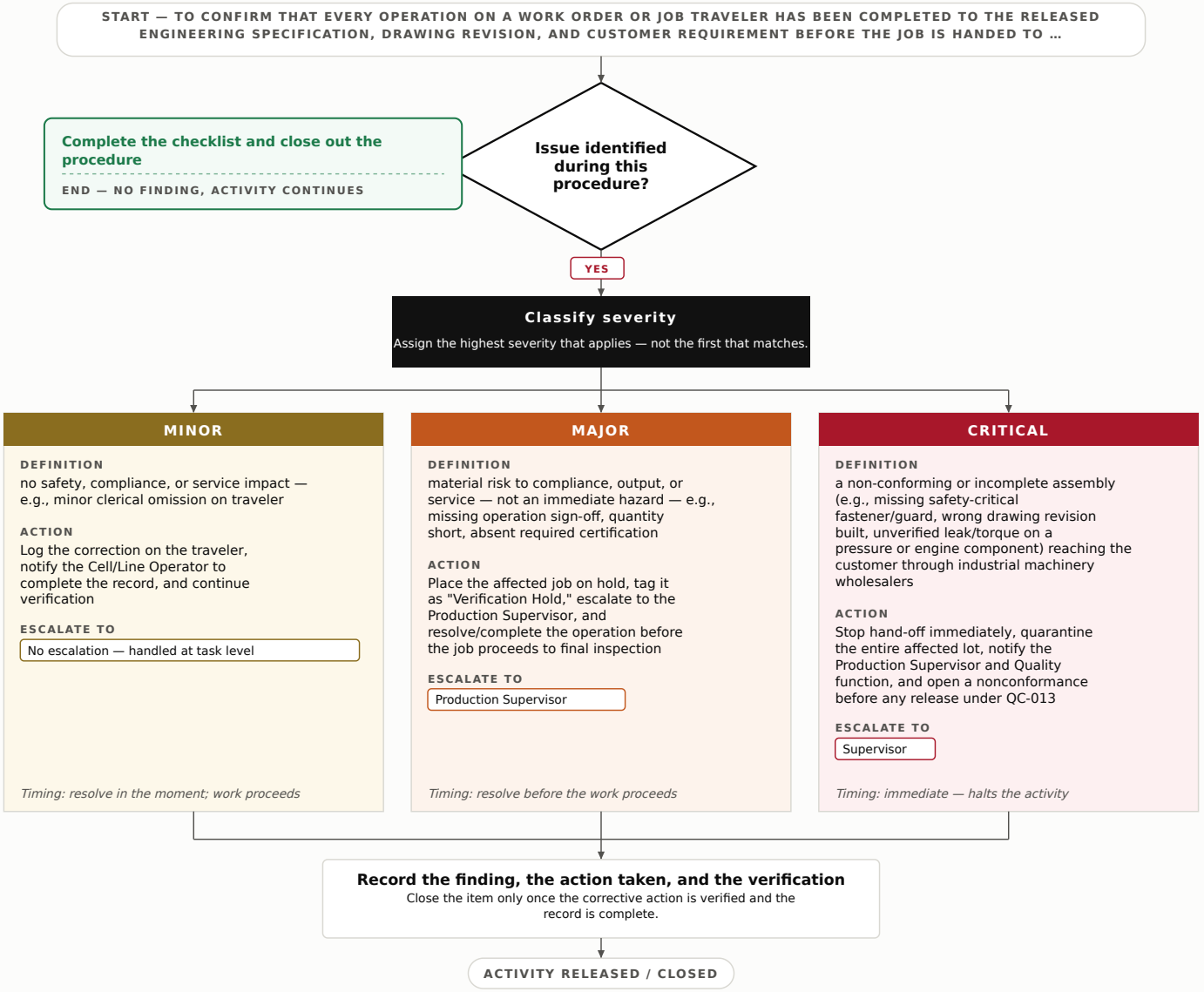
7. Step-by-Step Procedure

1. Retrieve the completed job/order and confirm the traveler, drawing, and bill of materials match the released revision in the work-order system.
2. Verify every routed operation is signed off (machining, forming, assembly, finishing, marking) with no open or skipped steps.
3. Confirm ordered quantity equals built quantity; account for scrap, rework, and any short/over conditions against the planned count.
4. Confirm all required sub-assemblies, purchased components, and supplier-provided items (e.g., machined parts, motors) are present and consumed per BOM.
5. Verify serialization, lot traceability, date/part marking, and heat/material certifications where the customer or spec requires them.
6. Confirm in-process records (first-article notes, torque/leak/functional logs, setup checks) are attached and legible.
7. Resolve any discrepancy per Section 8 before proceeding; do not advance an incomplete job.
8. Document verification outcome on the traveler, record disposition in the work-order system, and stage the job for final inspection per QC-012.

8. Decision Tree

OD-020 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Job / Order Completion Verification



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- All routed operations signed off; no open steps on the traveler.
- Built quantity reconciled to ordered quantity with scrap/rework accounted.
- Required certifications, serialization, and traceability records present and legible.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Traveler/drawing matches released revision		
All routed operations signed off		
Ordered qty = built qty (scrap/rework reconciled)		
All BOM components/sub-assemblies consumed		
Serialization / lot traceability recorded		
Required certs & in-process logs attached		
Job staged and dispositioned for final inspection		

11. KPIs

- Completion-verification accuracy (jobs passing final inspection with no returned completeness findings): ≥ 98%.
- Verification cycle time per job: ≤ 45 minutes average.
- Jobs advanced with an open/unsigned operation: 0 per month.

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-021 — Delivery / Service Turnover

Estimated completion time: 30–90 minutes per order (excluding staged loading)

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1. Purpose

This procedure governs the formal turnover of a finished machine, assembly, component lot, or field-service completion to the customer or downstream distribution channel, ensuring the unit is complete, conforming, and accompanied by required documentation before it leaves Operations control.

2. Scope

Covers the release/turnover event — verification of order completeness, documentation packet assembly, and formal transfer of custody to the customer or industrial machinery wholesaler. Excludes physical loading and dispatch handling, which is covered under SH-014, and proof-of-delivery capture, which is covered under SH-024.

3. Responsibilities

- Turnover Coordinator (Operations) — verifies order completeness against the work order, assembles the release packet, and authorizes custody transfer.
- Quality Technician — confirms final conformance sign-off is present and that no open nonconformance holds exist on the unit.
- Operations Supervisor — approves release for orders flagged as Major/Critical severity and signs final verification.

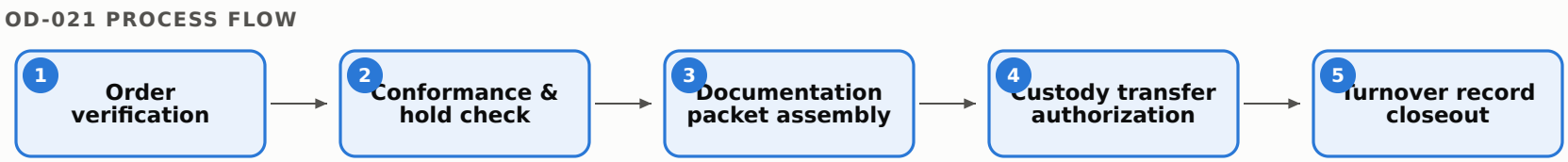
4. Required PPE & Lockout/Tagout

- Standard facility PPE for the staging/turnover area (safety glasses, closed-toe safety footwear; hearing protection where staging is adjacent to active production).
- Not applicable — no hazardous energy is introduced by this task. Where a powered unit is demonstrated at turnover, it must remain de-energized until handed off per its own commissioning instructions.

5. Regulatory References

- 29 CFR 1910.1200 (Hazard Communication) — safety data and warning labeling accompanying released product.
- 15 U.S.C. §2058 / applicable product-safety labeling and instruction requirements for consumer and industrial equipment.
- Internal Quality Management System release procedures (e.g., ISO 9001 clause 8.6 "Release of products and services," where the facility is certified).
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



7. Step-by-Step Procedure

1. Retrieve the work order/sales order and confirm the unit identification (serial/lot/model) matches the order line item.
2. Verify all ordered items, quantities, accessories, and spare/consumable kits are staged and physically present.
3. Confirm the final conformance sign-off (Quality Technician) is on file and no open nonconformance or quality hold flag is attached to the unit.
4. Assemble the release documentation packet: operating/maintenance manual, warranty terms, applicable SDS and hazard/warning labeling, certificate of conformance, and any required test/calibration records.
5. Verify serial numbers and traceability records are recorded against the outbound order for the distribution channel (industrial machinery wholesaler or direct customer).
6. Obtain custody-transfer authorization from the Turnover Coordinator; route to Operations Supervisor for Major/Critical-flagged orders.
7. Hand off the staged unit and packet to the loading/dispatch function (per SH-014); do not perform loading within this procedure.
8. Complete the turnover record — timestamp, releasing personnel, unit ID, packet contents — and file it in the order record.

8. Decision Tree

OD-021 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Delivery / Service Turnover

START — THIS PROCEDURE GOVERNS THE FORMAL TURNOVER OF A FINISHED MACHINE, ASSEMBLY, COMPONENT LOT, OR FIELD-SERVICE COMPLETION TO THE CUSTOMER OR DOWNSTREAM DISTRIBUTION CHANNEL, ENSURING THE UNIT IS …

Issue identified during this procedure?

Complete the checklist and close out the procedure

END — NO FINDING, ACTIVITY CONTINUES

YES

Classify severity

Assign the highest severity that applies — not the first that matches.

MINOR

DEFINITION

no safety, compliance, or service impact

ACTION

log the discrepancy on the turnover record (e.g., missing non-critical accessory), correct it, and continue

ESCALATE TO

No escalation — handled at task level

Timing: resolve in the moment; work proceeds

MAJOR

DEFINITION

material risk to safety, compliance, output, or service — not an immediate hazard

ACTION

place a turnover hold on the affected order, escalate to the Operations Supervisor, and resolve (missing conformance sign-off, incomplete documentation packet, serial mismatch) before releasing

ESCALATE TO

Operations Supervisor

Timing: resolve before the work proceeds

CRITICAL

DEFINITION

release of a non-conforming or safety-affecting unit (missing/incorrect hazard labeling, unresolved nonconformance, or wrong unit shipped to a customer)

ACTION

immediately quarantine the unit, block custody transfer, and notify the Operations Supervisor and Quality Technician for disposition before any turnover proceeds

ESCALATE TO

Supervisor

Timing: immediate — halts the activity

Record the finding, the action taken, and the verification

Close the item only once the corrective action is verified and the record is complete.

ACTIVITY RELEASED / CLOSED

READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Unit identification and order line item verified as a match.
- Final conformance sign-off present and no open holds on the unit.
- Documentation packet complete (manual, warranty, SDS/labeling, certificate of conformance).
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Unit serial/lot/model matches work order		
All ordered items, accessories, and kits present		
Final conformance sign-off on file; no open holds		
Hazard/warning labels and SDS included and correct		
Operating/maintenance manual and warranty enclosed		
Certificate of conformance / test records enclosed		
Turnover record completed and filed		

11. KPIs

- Turnover accuracy (correct unit + complete packet) ≥ 99%.
- Documentation packet completeness at turnover = 100%.
- Turnover holds resolved before scheduled dispatch ≥ 98%.

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-022 — Customer Communication & Status Notification

Estimated completion time: 15–30 minutes per customer touchpoint; ongoing across the order lifecycle.

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

To keep the customer and distribution channel informed of order status, schedule changes, and completion across the manufacturing lifecycle — from order acknowledgment through ship notification — so that industrial machinery buyers can plan receiving and downstream fulfillment against reliable dates.

2. Scope

Covers proactive and reactive customer-facing communication of order status, production milestones, schedule/date changes, and completion/shipment notification for machinery, engines, tools, peripherals, and equipment orders. Excludes complaint intake, which is covered under OD-023, and quality complaint investigation, which is covered under QC-021.

3. Responsibilities

- Customer Service Coordinator — issues acknowledgments, status updates, and change/completion notices; maintains the communication log per order.
- Production Scheduler — supplies current build stage, expected completion, and any schedule slip; approves revised promise dates before release to customer.
- Operations Supervisor — approves communications involving Major/Critical schedule impacts and authorizes escalation to the account.

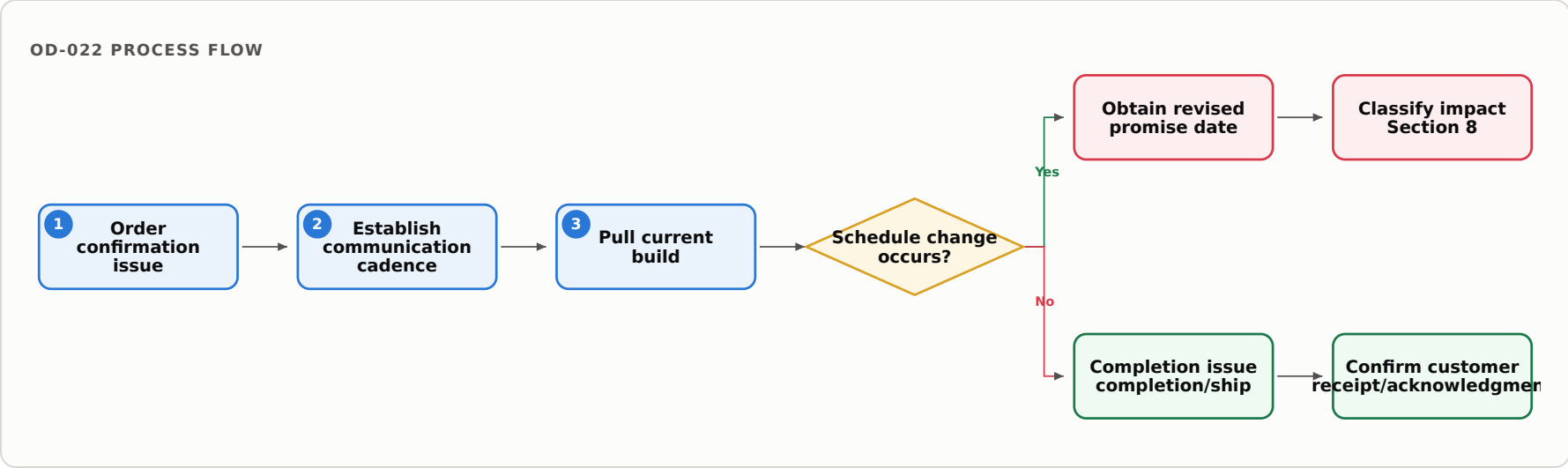
4. Required PPE & Lockout/Tagout

- Standard facility PPE if visiting the shop floor to verify build status (safety glasses, closed-toe footwear); none required for office-based communication tasks.
- Not applicable — no hazardous energy involved in this administrative task.

5. Regulatory References

- None sector-specific govern customer status notification across all members; internal contract-administration and records-retention policy applies. Applicable general frames include FTC 16 CFR Part 435 (Mail, Internet, or Telephone Order Merchandise Rule) for shipment-timing representations, and Uniform Commercial Code Article 2 provisions on delivery and notice as adopted by the applicable state (e.g., export-controlled communications under EAR 15 CFR Part 730 where the equipment is export-listed). Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



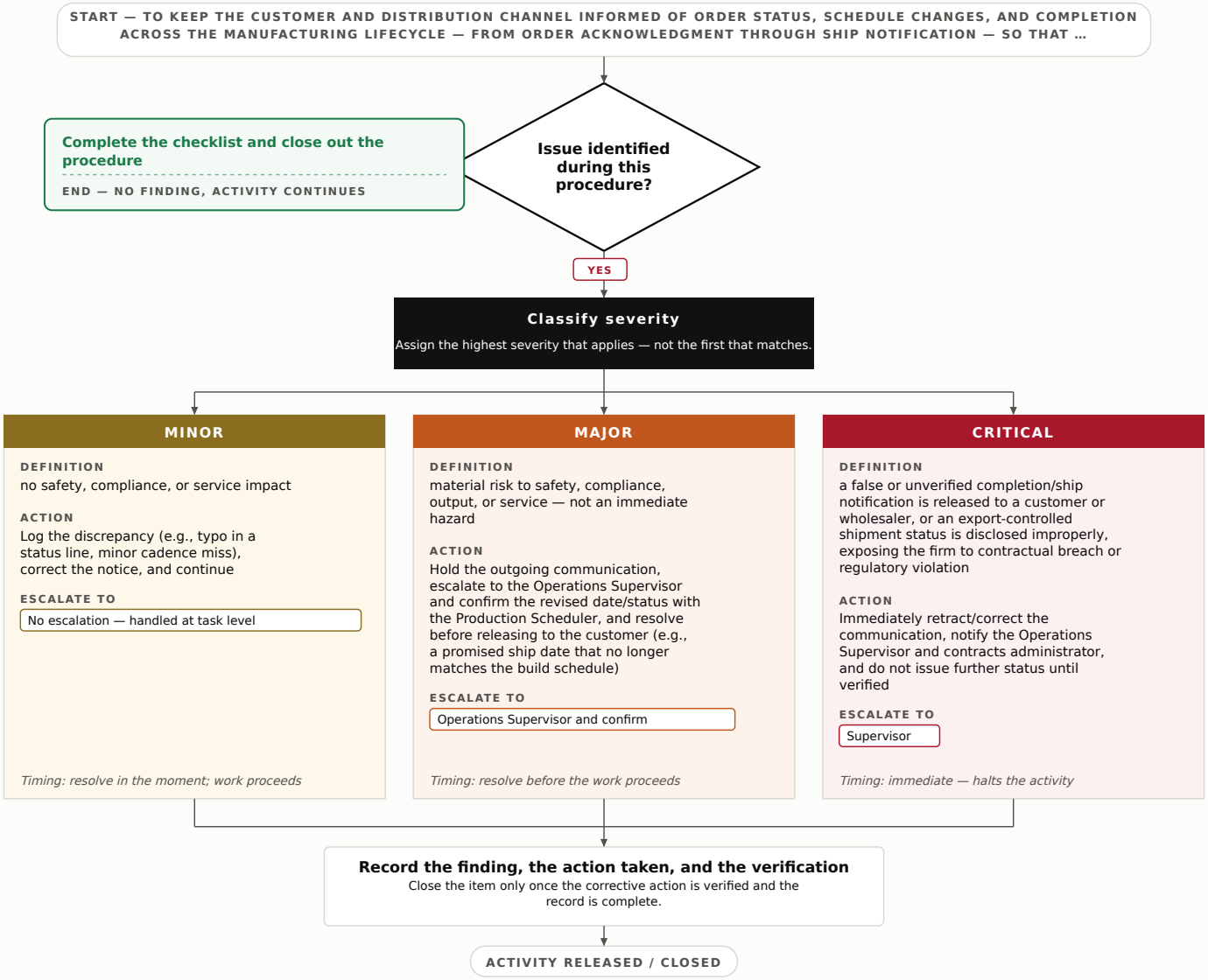
7. Step-by-Step Procedure

1. On order confirmation, issue a written acknowledgment stating order number, line items, quantity, and initial promise/ship date to the customer or Industrial Machinery Wholesaler account.
2. Establish the communication cadence with the customer (e.g., milestone-based or fixed-interval) and record it in the order file.
3. Pull current build stage and expected completion from the Production Scheduler at each milestone; verify against the shop-floor status before communicating.
4. Send milestone updates (e.g., materials staged, in machining, in assembly, in test) using approved templates; state facts only, no unconfirmed dates.
5. When a schedule change occurs, obtain the revised promise date from the Production Scheduler, classify the impact per Section 8, and notify the customer with the new date and reason.
6. On completion, issue a completion/ship notification with carrier, tracking, packing detail, and any handling instructions to the customer and distribution channel.
7. Confirm customer receipt/acknowledgment of the completion notice; capture any customer reply (route true complaints to OD-023).
8. Record every communication — date, channel, recipient, content summary, and approver — in the order communication log and close out.

8. Decision Tree

OD-022 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Customer Communication & Status Notification



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Every promise/ship date communicated is confirmed against current scheduling data before release.
- Approved templates and current order data used for all customer-facing notices.
- Completion notices include carrier, tracking, and handling detail and are acknowledged by the customer.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Order acknowledgment issued with confirmed promise date		
Communication cadence recorded in order file		
Milestone updates match verified shop-floor status		
Schedule changes communicated with revised date and reason		
Completion/ship notice includes carrier and tracking detail		
Customer receipt/acknowledgment captured		
Communication log complete with approver names		

11. KPIs

- On-time status notification (within agreed cadence): ≥ 95%
- Schedule-change notices issued within 1 business day of confirmed slip: ≥ 98%
- Ship/completion notifications with accurate tracking on first issue: ≥ 99%

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-023 — Customer Feedback & Complaint Intake

Estimated completion time: 15–30 minutes per intake event

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

To establish a consistent method for receiving, logging, and routing customer feedback and complaints on machinery, components, and equipment shipped through distribution, so that every input is captured, categorized, and directed to the correct owner without loss or delay.

2. Scope

Covers intake of all customer feedback and complaints — performance, fit, function, packaging, documentation, and field-safety reports — received by any channel (phone, email, web portal, distributor relay) for products manufactured at this facility. Excludes quality complaint investigation, which is covered under QC-021, and corrective action, which is covered under QC-019.

3. Responsibilities

- Customer Service Coordinator — receives the contact, opens the intake record, confirms customer and product/serial identifiers, and performs initial severity screening.
- Operations Lead — reviews logged complaints daily, validates severity classification, and routes to the responsible internal owner.
- Quality Records Custodian — maintains the complaint log, controls record retention, and confirms hand-offs to QC-021/QC-019 are acknowledged.

4. Required PPE & Lockout/Tagout

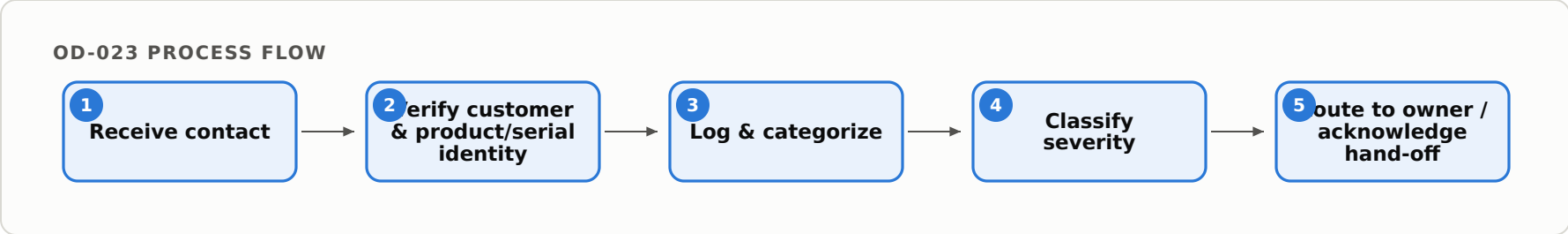
- Standard facility PPE if the intake requires walking a production or staging area to inspect a returned unit; none required for desk-based intake.
- Not applicable — no hazardous energy involved in the intake procedure itself.

5. Regulatory References

- 15 U.S.C. §2064 / 16 CFR Part 1115 — reporting of substantial product hazards (applies to any consumer-usable machinery member).
- 49 CFR Part 573 — defect and noncompliance reporting (applicability clause: where the product line includes motor-vehicle or on/off-road equipment components).
- 21 CFR Part 803 — medical device reporting (applicability clause: where the product line includes dental or medical equipment).
- Uniform Commercial Code Article 2 (state-adopted) — warranty and remedy obligations governing all members.
- Internal policy OD-POL-04 governs any feedback not falling under a sector-specific regime.

- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



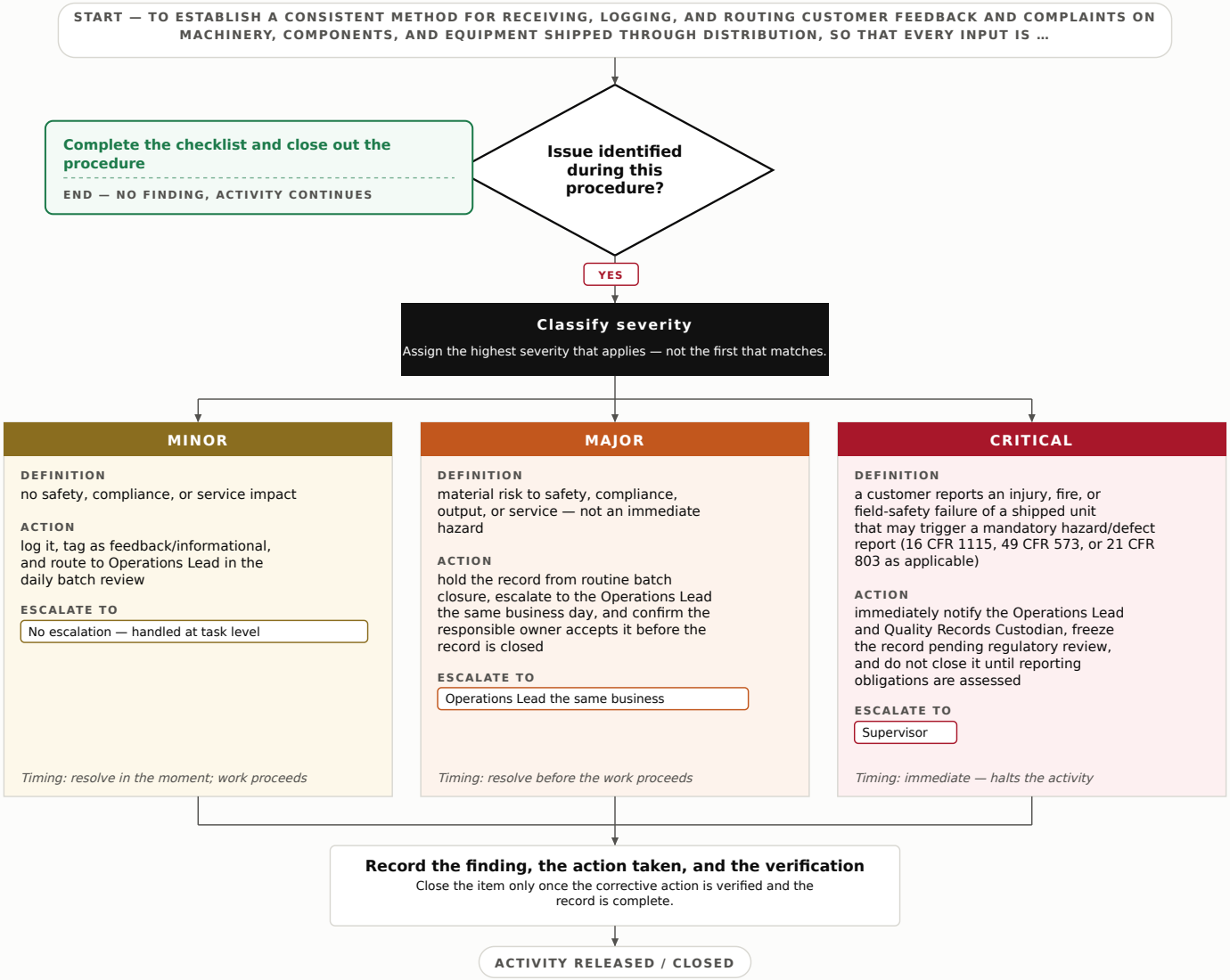
7. Step-by-Step Procedure

1. Receive the customer contact through any channel and record the date, time, channel, and contact name.
2. Confirm the customer of record and, where relayed via an Industrial Machinery Wholesaler (NAICS 423830), capture the distributor reference and end-user identity.
3. Identify the affected product: model, serial/lot number, ship date, and — where applicable — the upstream component source (e.g., 332710 machined part, 331110 steel stock) if the customer cites a material or part concern.
4. Record the customer's description verbatim; do not paraphrase or pre-judge cause.
5. Categorize the input (feedback, warranty claim, performance complaint, safety report, documentation/packaging issue).
6. Screen for severity using the Section 8 ladder and assign a provisional classification.
7. Route the record to the responsible owner — Operations Lead for triage; for quality-cause complaints acknowledge hand-off to QC-021 and, where corrective action is indicated, QC-019.
8. Log the closed intake record with unique ID, classification, and routing destination in the complaint log; confirm entry with the Quality Records Custodian.

8. Decision Tree

OD-023 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Customer Feedback & Complaint Intake



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Every intake record has a verified customer and product/serial identifier before routing.
- Customer description is captured verbatim and category assigned.
- Severity classification validated by the Operations Lead.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Contact date, time, and channel recorded		
Customer / distributor identity confirmed		
Product model and serial/lot captured		
Description logged verbatim		
Category and severity assigned		
Routed to correct owner (incl. QC-021/QC-019 hand-off if applicable)		
Record logged with unique ID and custodian confirmation		

11. KPIs

- Intake records with complete customer + serial identifiers: ≥ 98%
- Complaints logged and routed within one business day: ≥ 95%
- Critical intakes escalated same business day: 100%

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

Phase 5 — Oversight & continuity

OD-024 — Operational Incident Reporting & Response

Estimated completion time: 30–60 minutes per incident (initial report and classification); follow-up resolution varies by severity

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

To provide a consistent method for reporting, classifying, and responding to operational incidents and near-misses on the production floor — such as material flow stoppages, mis-routed work-in-process, throughput disruptions, and process deviations — so that root causes are captured, corrective action is tracked, and operational continuity is preserved across machinery manufacturing lines.

2. Scope

Covers operational incidents and near-misses affecting production flow, material handling, work-in-process integrity, and process execution within Operations, from detection through logging, classification, response, and close-out. Excludes personal-injury and safety incident reporting, which is covered under SD-018, and equipment breakdown/mechanical failure response, which is covered under MD-009.

3. Responsibilities

- Production Operator / Line Associate — detects and reports the incident or near-miss at first observation; contains affected material or work-in-process pending disposition.
- Shift Supervisor (Operations) — classifies severity, initiates immediate response, assigns corrective action, and authorizes resumption of the affected line or cell.
- Operations Manager — reviews all Major and Critical incidents, approves root-cause findings and corrective actions, and owns the incident log and trend review.

4. Required PPE & Lockout/Tagout

- Standard facility PPE for the production area (safety glasses, hearing protection where posted, protective footwear, and gloves appropriate to the material being handled, e.g., cut-resistant gloves near edged or sheet-metal stock).
- Not applicable for the reporting/response procedure itself — no hazardous energy is controlled by this task. Any equipment de-energization or LOTO is handled under MD-009; do not initiate mechanical repair actions here.

5. Regulatory References

- OSHA 29 CFR 1904 — Recording and Reporting Occupational Injuries and Illnesses (governs which operational events cross into recordable/reportable status; the classification handoff to SD-018).

- OSHA 29 CFR 1910.147 — The Control of Hazardous Energy (referenced only for the boundary condition when an operational incident reveals an energy-isolation need routed to MD-009).
- Internal Operations policy — Incident Log and Corrective/Preventive Action (CAPA) procedure; ISO 9001:2015 Clause 10.2 (Nonconformity and Corrective Action) where the facility maintains a certified quality system.
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow

7. Step-by-Step Procedure

1. On observing an operational incident or near-miss (material stoppage, mis-fed or mis-routed WIP, out-of-sequence process step, missing/incorrect component from an upstream feed), stop the affected task and contain the involved material or work-in-process to prevent it advancing down the line.
2. Notify the Shift Supervisor immediately and provide the location, time, line/cell ID, and a brief factual description of what occurred.
3. Shift Supervisor records the initial entry in the Operational Incident Log (date, time, reporter, area, description, incident vs. near-miss).
4. Shift Supervisor classifies severity per Section 8 and initiates the corresponding response; segregate and tag affected WIP with a nonconformance hold if disposition is uncertain.
5. Determine immediate cause and preserve any evidence (affected parts, traveler/routing records, batch or lot identifiers tied to incoming stock from machine shops or mill/extrusion suppliers).
6. Assign corrective action and owner; for Major/Critical, the Operations Manager approves the root-cause finding and action plan.
7. Verify the affected work is corrected or properly dispositioned and confirm authorization to resume the line or cell.
8. Complete the incident record with root cause, action taken, verification, and close-out date; file per the retention period defined in internal policy.

8. Decision Tree

OD-024 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Operational Incident Reporting & Response

START — TO PROVIDE A CONSISTENT METHOD FOR REPORTING, CLASSIFYING, AND RESPONDING TO OPERATIONAL INCIDENTS AND NEAR-MISSES ON THE PRODUCTION FLOOR — SUCH AS MATERIAL FLOW STOPPAGES, MIS-ROUTED WORK-IN-PROCESS …

Issue identified during this procedure?

Complete the checklist and close out the procedure

END — NO FINDING, ACTIVITY CONTINUES

YES

Classify severity

Assign the highest severity that applies — not the first that matches.

MINOR

DEFINITION

no safety, compliance, or service impact

ACTION

Log the incident/near-miss in the Operational Incident Log, note immediate correction, and continue production

ESCALATE TO

No escalation — handled at task level

Timing: resolve in the moment; work proceeds

MAJOR

DEFINITION

material risk to safety, compliance, output, or service — not an immediate hazard

ACTION

Place the affected work-in-process on nonconformance hold, escalate to the Shift Supervisor (and Operations Manager for review), complete root-cause and corrective action, and resolve before that work proceeds

ESCALATE TO

Shift Supervisor

Timing: resolve before the work proceeds

CRITICAL

DEFINITION

a systemic production-flow failure or process deviation that would ship nonconforming machinery/parts to Industrial Machinery Wholesalers, contaminate multiple lots, or halt a primary line facility-wide

ACTION

Halt the affected line immediately, notify the Operations Manager without delay, quarantine all suspect WIP and finished output, and route any safety-injury element to SD-018 or any equipment-failure element to MD-009 before restart

ESCALATE TO

Supervisor

Timing: immediate — halts the activity

Record the finding, the action taken, and the verification

Close the item only once the corrective action is verified and the record is complete.

ACTIVITY RELEASED / CLOSED

READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Every incident and near-miss is logged with time, area, and reporter before the shift ends.
- Affected work-in-process is contained/tagged and not advanced until disposition is confirmed.
- Root cause and corrective action are recorded and owner-assigned for all Major and Critical events.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Incident logged with date, time, area, and reporter		
Incident vs. near-miss correctly designated		
Severity classified per Section 8		
Affected WIP contained/tagged where required		
Root cause and corrective action recorded (Major/Critical)		
Line/cell resumption authorized by Supervisor		
Record closed out and filed per retention policy		

11. KPIs

- Percentage of incidents/near-misses logged same shift as occurrence — target ≥ 98%.
- Average time from report to severity classification — target ≤ 30 minutes.
- Major/Critical incidents closed within corrective-action target window — target ≥ 90% within 5 business days.

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-025 — Emergency & Business Continuity Readiness Check

Estimated completion time: 3–5 hours (single facility review cycle)

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

This procedure confirms that the manufacturing operation can respond to a disruption (loss of a key input, facility outage, IT/system failure, or supplier interruption) and resume production and shipment within defined recovery targets. It verifies readiness — it does not conduct drills or manage backup power.

2. Scope

Covers the periodic readiness verification of business-continuity elements owned by Operations: continuity plan currency, critical-supplier and single-source risk, safety-stock coverage of primary inputs, restart sequencing for machining/assembly/test lines, and recovery-time objectives for order and shipping systems. Excludes emergency drills and incident response (see SD-015, SD-016) and backup power systems (see ED-027).

3. Responsibilities

- Operations Manager — owns the continuity readiness check, approves findings, and authorizes corrective actions.
- Production Supervisor — verifies line restart sequences, work-in-process staging, and workforce recall assumptions for machining, assembly, and final-test areas.
- Supply Chain / Materials Coordinator — verifies critical-input safety stock, single-source exposure, and inbound/outbound continuity arrangements.

4. Required PPE & Lockout/Tagout

- Standard facility PPE (safety glasses, hearing protection, safety footwear) when the review requires walking the production floor.
- Not applicable — this is a documentation and readiness review; no hazardous energy is controlled. Any physical equipment isolation is governed by the applicable LOTO procedure, not this module.

5. Regulatory References

- 29 CFR 1910.38 (OSHA Emergency Action Plans) — requires a documented plan; this check verifies continuity elements are consistent with it.
- 29 CFR 1910.157 / 1910.165 (fire protection and employee alarm systems) — applicable to the general-industry manufacturing footprint shared by all members.
- Internal Business Continuity Policy and Recovery-Time-Objective register (primary governing basis; no single sector-specific continuity standard governs every member — member-specific regimes, e.g. medical-device establishment requirements for dental equipment producers, apply

only to those members).

- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow

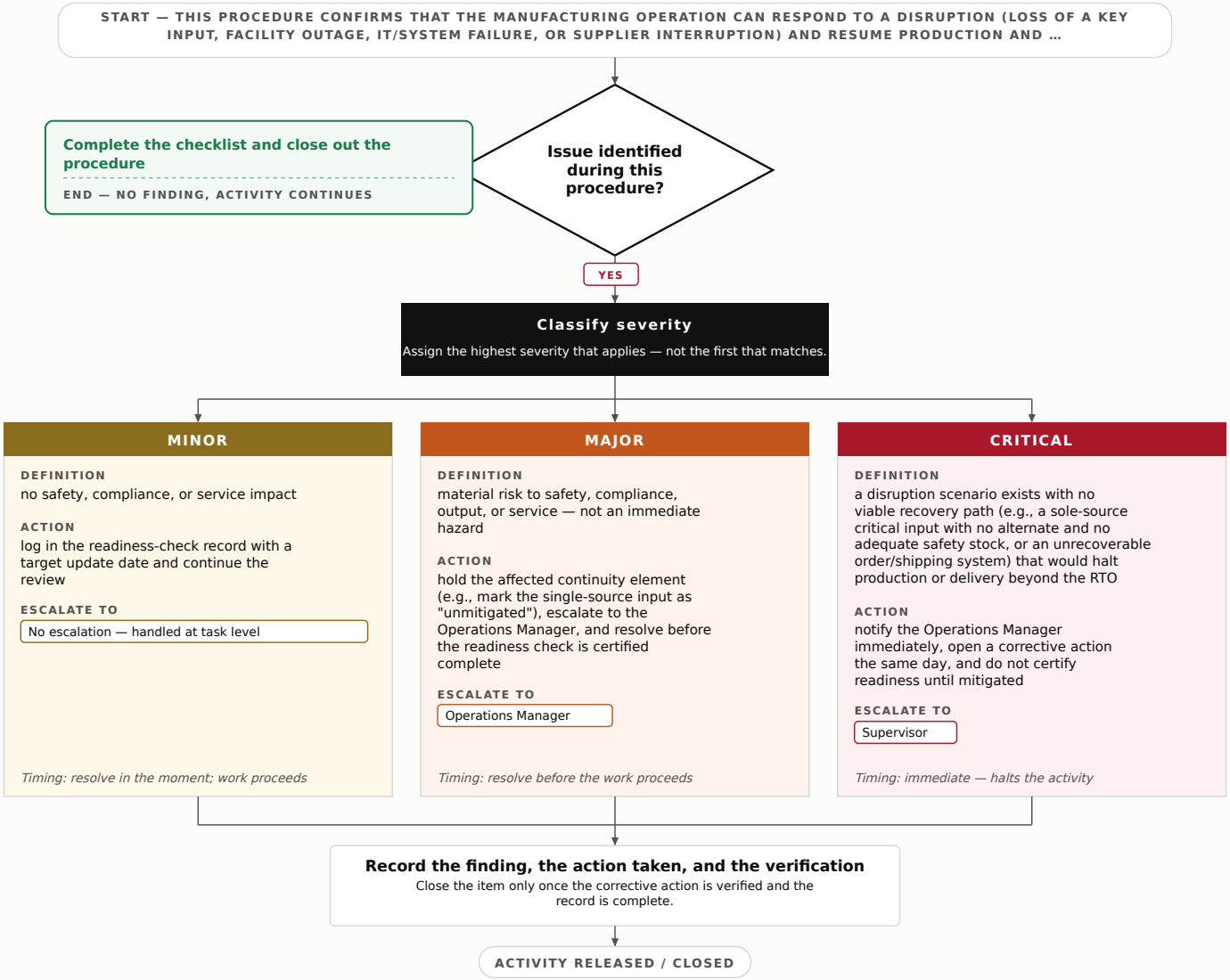
7. Step-by-Step Procedure

1. Retrieve the current Business Continuity Plan, single-source list, RTO register, and last readiness-check record; confirm all reflect the current product mix and line layout.
2. Verify critical-input coverage: confirm safety-stock levels for primary inputs (steel bar/plate from iron and steel mills, aluminum extrusions, machined components, and purchased motors/generators) meet the documented disruption buffer.
3. Assess single-source exposure: for each critical input, confirm an identified alternate supplier or approved substitute exists, with contact and qualification status current.
4. Verify production restart sequencing with the Production Supervisor: confirm the documented order to bring machining, assembly, and final-test lines back online, including any calibration/first-piece requirements before resuming output.
5. Confirm workforce recall assumptions: verify contact rosters, minimum crew for a safe restart, and cross-training coverage for critical stations are current.
6. Verify order and shipping continuity: confirm order-management and shipment records can be recovered within RTO and that outbound arrangements with industrial machinery wholesalers can be re-established.
7. Cross-check hand-offs: confirm drill/response scheduling (SD-015, SD-016) and backup power readiness (ED-027) are referenced and current — do not re-verify their internal steps here.
8. Record all findings, ratings, and corrective actions in the readiness-check record; route open items per the Decision Tree.

8. Decision Tree

OD-025 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Emergency & Business Continuity Readiness Check



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Continuity documentation matches current product mix, line layout, and supplier list.
- Every critical input has a documented buffer and an identified alternate or substitute.
- Restart sequence and workforce recall assumptions confirmed by the Production Supervisor.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Business Continuity Plan current and reflects present operation		
Safety-stock coverage verified for all primary critical inputs		
Single-source exposures have identified alternates/substitutes		
Line restart sequence documented and supervisor-confirmed		
Workforce recall roster and minimum-crew coverage current		
Order/shipping recovery within documented RTO		
Hand-offs to SD-015/SD-016 and ED-027 referenced and current		

11. KPIs

- Critical inputs with a qualified alternate source: ≥ 95%.
- Readiness check completed on schedule: 100% of planned cycles (at least quarterly).
- Unresolved Critical findings at certification: 0.

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-026 — Regulatory, License & Permit Currency Verification

Estimated completion time: 3–5 hours per quarterly cycle (plus follow-up on any lapsed item)

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

This procedure establishes how the Operations team confirms that all operating licenses, environmental and facility permits, and business/tax registrations required to run this machinery manufacturing plant remain current, valid, and on file — preventing production stoppages, fines, or shipment holds caused by an expired or lapsed authorization.

2. Scope

Covers the identification, tracking, and currency verification of facility operating licenses, environmental permits (air, stormwater, waste), business and tax registrations, and any product- or import/export registrations that authorize the plant to manufacture and distribute. Excludes safety regulatory compliance, which is covered under SD-028, and permit-to-work authorizations, which are covered under MD-007.

3. Responsibilities

- Operations Manager — owns the license/permit register, approves renewal actions, and signs off on the quarterly verification.
- Compliance Coordinator — maintains the register, monitors expiration dates, initiates renewals, and files evidence of currency.
- Facility Operations Lead — confirms which permits are triggered by current equipment, emissions sources, and process changes on the floor.

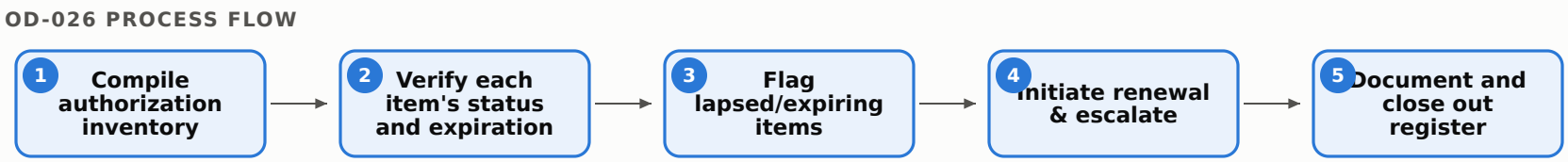
4. Required PPE & Lockout/Tagout

- Standard facility PPE if the verification requires walking production or emissions-source areas (safety glasses, hearing protection, closed-toe footwear); none required for records-based review.
- Not applicable — no hazardous energy involved. This is an administrative verification task.

5. Regulatory References

- 26 U.S.C. / state revenue codes — Employer Identification Number and state business/sales-and-use tax registration currency.
- Clean Air Act (42 U.S.C. §7401 et seq.) and Clean Water Act (33 U.S.C. §1251 et seq.) — federal/state air-permit and stormwater (NPDES) permit currency applicable to manufacturing facilities operating emissions and discharge sources.
- 42 U.S.C. §6901 et seq. (RCRA) — hazardous-waste generator registration/EPA ID currency for facilities generating regulated waste.
- State and local business operating licenses and certificates of occupancy applicable to industrial/manufacturing sites.
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



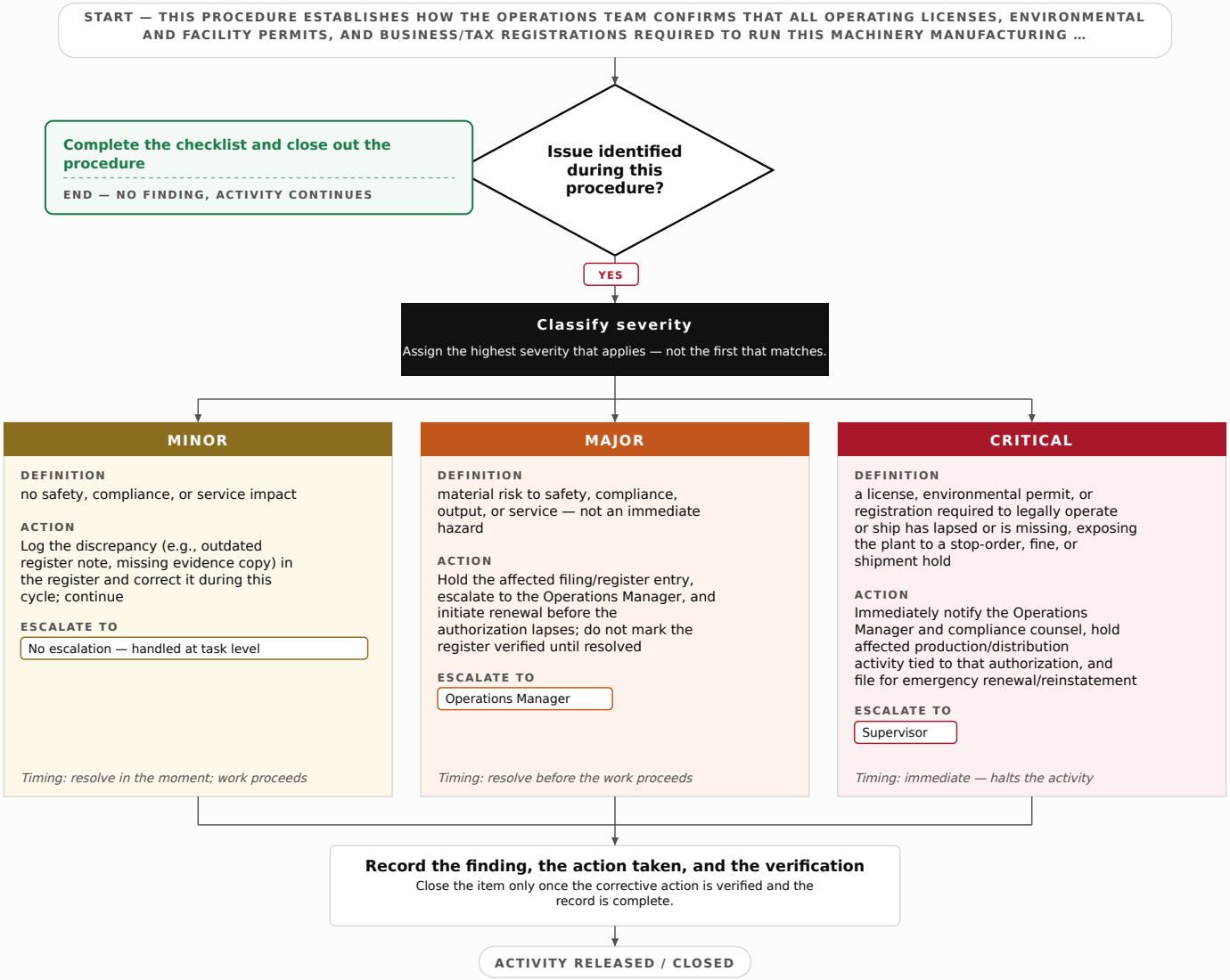
7. Step-by-Step Procedure

1. Retrieve the master license/permit register and confirm it lists every federal, state, and local authorization the facility relies on to operate and ship (operating licenses, air/water/waste permits, business/tax registrations, product or export registrations).
2. With the Facility Operations Lead, confirm no equipment additions, emissions-source changes, or process changes since the last cycle have triggered a new permit requirement not yet on the register.
3. For each register entry, verify the current status against the issuing authority's official record (portal, printed certificate, or written confirmation) — not an internal note — and record the verified expiration/renewal date.
4. Classify each item: Current, Expiring within 90 days, or Lapsed/Missing.
5. For items expiring within 90 days, initiate the renewal filing with the issuing authority and record the submission reference and target completion date.
6. For any Lapsed or Missing authorization, immediately notify the Operations Manager and determine whether affected production or shipments must be held (see Section 8).
7. Attach evidence of currency (certificate copy, portal screenshot, or confirmation letter) to each register entry and update the next-verification date.
8. Complete the Inspection Checklist, record findings, and route the signed register to the Operations Manager for verification.

8. Decision Tree

OD-026 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Regulatory, License & Permit Currency Verification



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Every authorization on the register is matched to an issuing-authority record, not an internal note.
- All items expiring within 90 days have a renewal action initiated and referenced.
- Evidence of currency is attached and legible for each entry.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Master register lists all required federal/state/local authorizations		
No new permit triggered by equipment/process change is unrecorded		
Each item's status verified against issuing-authority record		
Items expiring within 90 days have renewal initiated		
No Lapsed or Missing authorization outstanding		
Evidence of currency attached to each entry		
Next-verification dates updated in register		

11. KPIs

- License/permit currency rate: 100% of required authorizations current at all times.
- Renewal lead time: renewals initiated ≥60 days before expiration for ≥95% of items.
- Verification cycle adherence: quarterly verification completed on schedule 100% of cycles.

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-027 — Operational Risk Review

Estimated completion time: 3–5 hours per review cycle (quarterly)

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

This procedure establishes the periodic review of operational risks and their mitigating controls across machining, assembly, material handling, and production-scheduling functions, so that emerging threats to on-time output, machine availability, and continuity of supply are identified and re-scored before they cause disruption.

2. Scope

Covers the scheduled review of the operational risk register — process, equipment-reliability, supply-continuity, and throughput risks — and the effectiveness of documented controls within Operations. Excludes safety hazard/risk assessment, which is covered under SD-004, and quality preventive action, which is covered under QC-020.

3. Responsibilities

- Operations Manager — owns the risk register, chairs the review, approves risk re-scoring and control changes.
- Production Supervisor — supplies floor-level data on machine downtime, scrap trends, and staffing constraints; validates control status for their lines.
- Maintenance Lead — reports equipment-reliability risks (spindle, hydraulic/pneumatic, motor-driven systems) and preventive-control adherence.

4. Required PPE & Lockout/Tagout

- Standard facility PPE (safety glasses, hearing protection) when the review includes walk-down verification of controls on the production floor; office attire otherwise.
- Not applicable — no hazardous energy is controlled by this task itself. Any equipment inspection performed during a walk-down follows the facility LOTO program under its own procedure.

5. Regulatory References

- 29 CFR 1910 (OSHA General Industry — general-duty and machinery/machine-guarding provisions applicable to all fixed manufacturing operations)
- ISO 9001:2015 Clause 6.1 (Actions to address risks and opportunities) — where a certified quality management system is maintained
- Internal policy: Operations Risk Management Standard (facility-level basis where no sector-specific mandate governs risk-register cadence)
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow

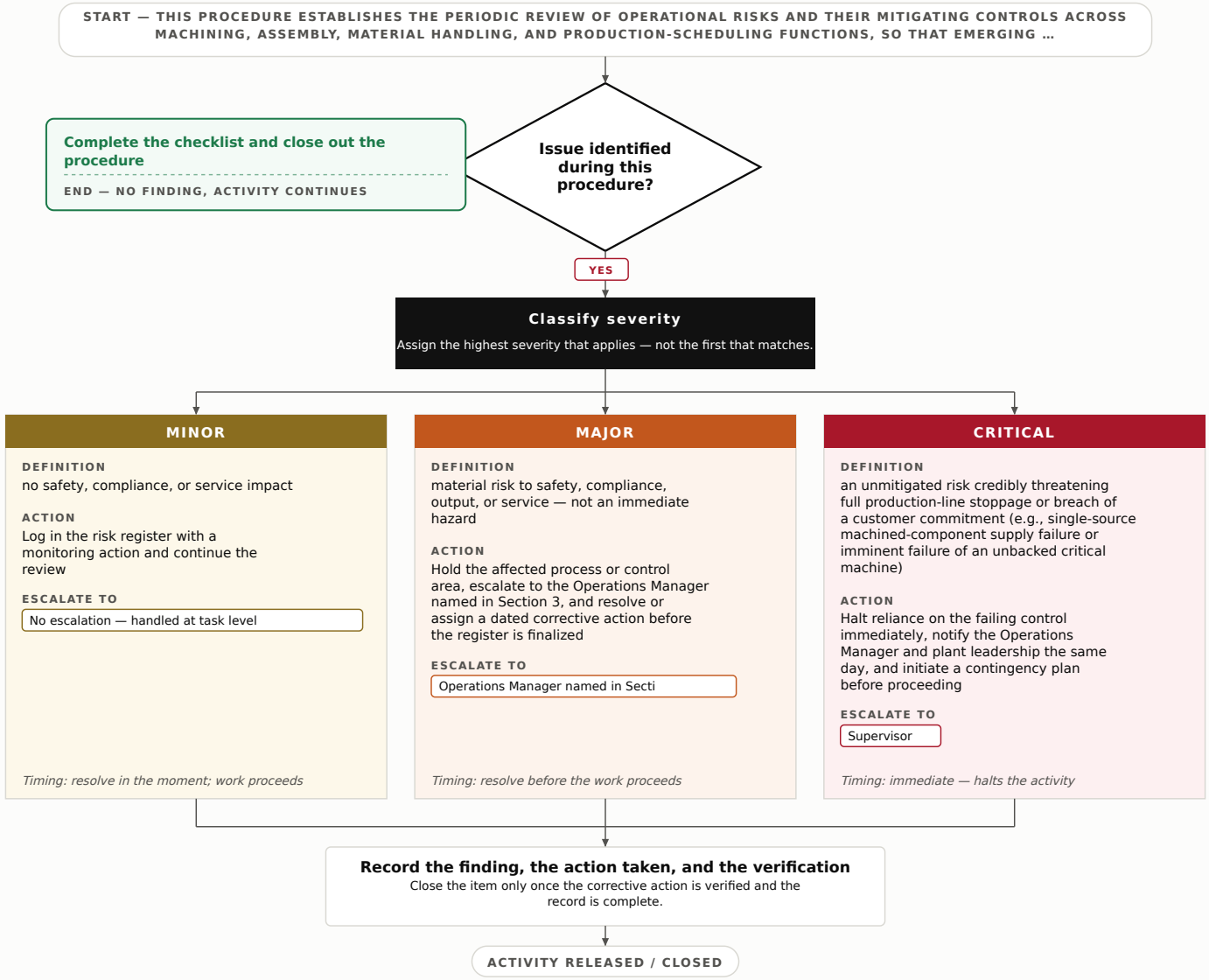
7. Step-by-Step Procedure

1. Convene the review at the scheduled cadence (quarterly minimum) with the Operations Manager, Production Supervisor, and Maintenance Lead; confirm the prior register version and open actions.
2. Gather input data: machine-downtime logs, scrap/rework rates, missed-schedule incidents, supplier delivery performance from primary inputs (steel/aluminum stock, machined components, motors), and any near-miss operational events since the last review.
3. Walk down high-priority controls on the floor where feasible — verify that documented mitigations (PM schedules, buffer-stock levels, redundant tooling, cross-training) are actually in place and functioning.
4. Re-score each existing risk on likelihood × consequence; open new entries for emerging risks (e.g., single-source dependency on a machine shop, aging spindle motor, sole-qualified operator).
5. Test control effectiveness: for each mitigating control, confirm it is assigned, current, and demonstrably reducing the risk; flag controls that are absent, expired, or ineffective.
6. Assign corrective actions with a named owner and due date for any risk above the acceptance threshold or any failed control.
7. Route quality-related findings to QC-020 and safety hazard findings to SD-004; do not action them here.
8. Document the updated register, capture approvals, record the next review date, and retain the signed record per facility retention policy.

8. Decision Tree

OD-027 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Operational Risk Review



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Every open action from the prior review is closed or carried with justification.
- All risks scored above threshold have a named control owner and due date.
- Control walk-down evidence is attached for each high-priority entry.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Prior register reviewed and open actions accounted for		
Downtime, scrap, and supplier-performance data gathered		
Each existing risk re-scored (likelihood × consequence)		
Control effectiveness tested and evidenced		
New/emerging risks captured with owners		
Quality and safety findings routed to QC-020 / SD-004		
Updated register approved and next review scheduled		

11. KPIs

- Reviews completed on schedule ≥ 95% of planned cadence
- Corrective actions closed by due date ≥ 90%
- Open Critical risks at review close = 0

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

Phase 6 — Performance, records & close

OD-028 — Operational KPI Review

Estimated completion time: 60–90 minutes per review cycle (weekly or monthly)

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

This procedure establishes a consistent method for reviewing plant operating performance — throughput, on-time build completion, unplanned downtime, and labor/material efficiency — against defined targets so that the Operations team can identify shortfalls early and drive corrective action on the machining, assembly, and finishing lines.

2. Scope

Covers the periodic review of operations-level performance metrics for the production floor, including line output, schedule adherence, downtime, scrap-to-plan, and OEE roll-up across cells. Excludes department-specific KPI reviews — maintenance KPIs (MD-030), quality/conformance KPIs (QC-030), and shipping/fulfillment KPIs (SD-030); this module addresses operations measures only.

3. Responsibilities

- Operations Manager — owns the review, sets/approves targets, chairs the session, and authorizes corrective actions.
- Production Supervisor — compiles line data, presents actual-vs-target by cell, and executes assigned corrective actions.
- Operations Data Analyst / Coordinator — extracts metrics from the MES/ERP, validates data integrity, and maintains the KPI record.

4. Required PPE & Lockout/Tagout

- Standard facility PPE if the review includes a floor walk (safety glasses, hearing protection where posted, closed-toe footwear); none required for the conference-room data review portion.
- Not applicable — no hazardous energy involved in the review itself; do not interact with or adjust equipment during the walk.

5. Regulatory References

- None sector-specific govern KPI review as a management activity; internal operations policy applies. General workplace obligations remain in force during any floor walk (e.g., OSHA 29 CFR 1910 general industry standards). Recordkeeping practices should align with the organization's documented data-retention policy.
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow

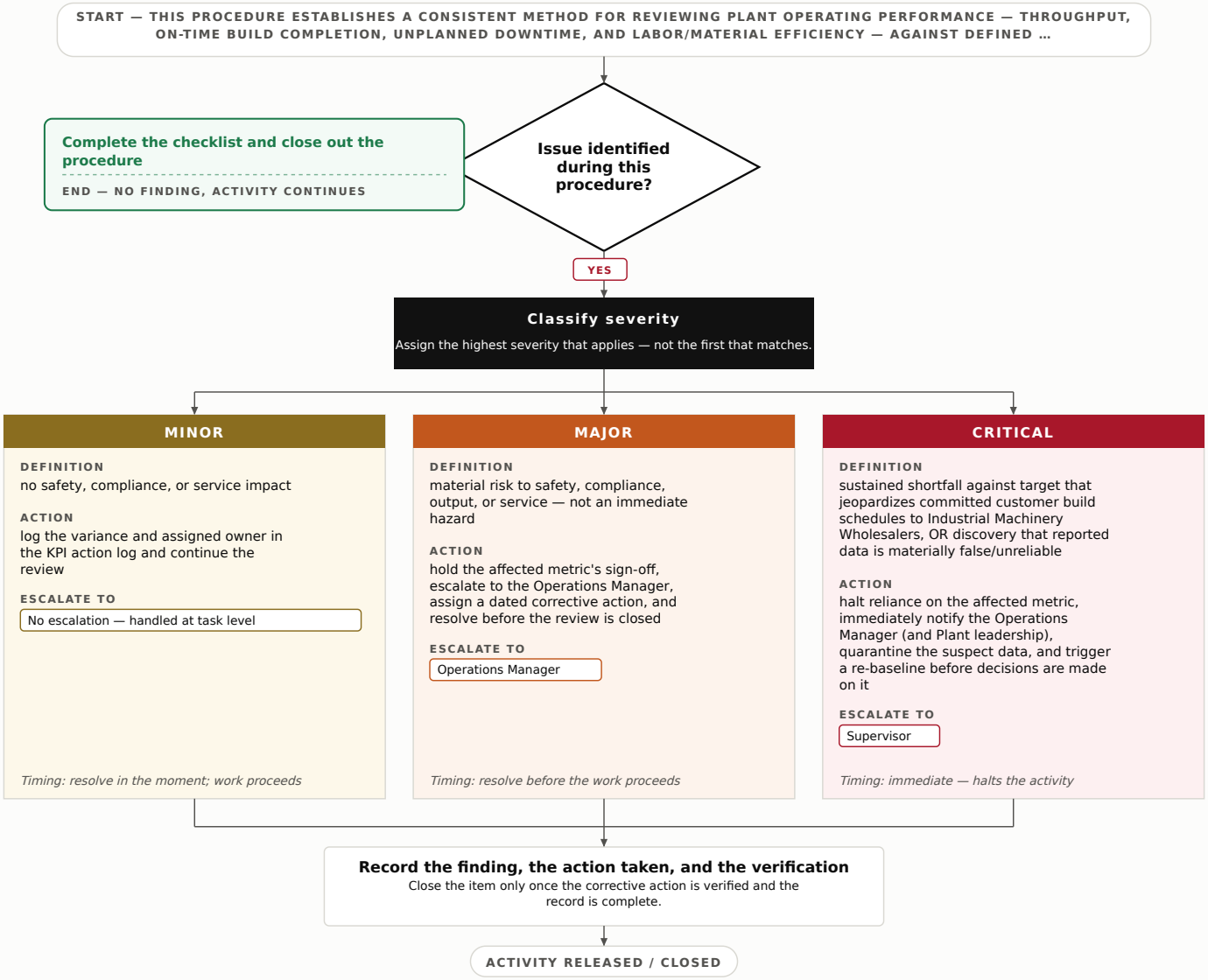
7. Step-by-Step Procedure

1. Confirm the current review period and the approved target set for each operations KPI; flag any target changes for Operations Manager sign-off before proceeding.
2. Extract actuals from the MES/ERP for line output, schedule adherence, unplanned downtime hours, scrap-to-plan, and OEE roll-up across machining, assembly, and finishing cells.
3. Validate data integrity: reconcile record counts against work-order completions, check for missing or duplicate downtime entries, and confirm units of measure are consistent across cells.
4. Populate the KPI worksheet with actual-vs-target and period-over-period trend for each metric; highlight any KPI outside its control band.
5. Conduct the review session with the Operations Manager and Production Supervisors; walk the floor where a variance requires visual confirmation (do not adjust equipment).
6. Identify root-cause candidates for each variance; distinguish operations-owned causes from those owned by maintenance, quality, or shipping and hand those off by module ID.
7. Assign corrective actions with owner and due date; classify any finding per Section 8 and record it.
8. Document the completed review, decisions, and action log; distribute to stakeholders and archive per the retention policy.

8. Decision Tree

OD-028 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Operational KPI Review



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Target set for the period is the approved, signed-off version.
- Extracted actuals reconcile to work-order completions within tolerance.
- Every variance outside its control band has a documented root-cause candidate and assigned owner.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Approved targets confirmed for the period		
All operations KPIs extracted from MES/ERP		
Data reconciled; no missing/duplicate entries		
Actual-vs-target worksheet complete with trend		
Variances have root cause and assigned owner		
Cross-department items handed off by module ID		
Review documented and distributed/archived		

11. KPIs

- Schedule adherence (on-time build completion) ≥ 95% of scheduled work orders per period.
- Unplanned downtime ≤ 5% of scheduled run time across cells.
- Review timeliness — KPI review completed and distributed within 3 business days of period close, 100% of periods.

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-029 — Operational Records Retention & Documentation Audit

Estimated completion time: 3–5 hours per audit cycle (quarterly), scaling with record volume

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

To confirm that operational records — production run logs, work orders, traveler/router sheets, material lot-traceability records, equipment PM logs, and shipment documentation — are complete, accurate, legible, and retained for the required period, so the facility can demonstrate operational continuity and traceability on demand.

2. Scope

Covers the identification, indexing, completeness check, accuracy verification, and retention/disposal control of operational (production, material-flow, and logistics) records generated within the Operations department. Excludes quality-conformance records (see QC-029), safety and incident records (see SD-029), and personnel/HR records (see HR-029), which are audited under their respective modules.

3. Responsibilities

- Operations Records Coordinator — executes the audit, maintains the record index, verifies completeness and retention dates, and logs findings.
- Operations Supervisor — reviews findings, authorizes corrective holds on incomplete record sets, and signs off on disposal per the retention schedule.
- Operations Manager — owns the retention schedule, resolves escalated (Major/Critical) findings, and approves any record reconstruction or regulator-facing disclosure.

4. Required PPE & Lockout/Tagout

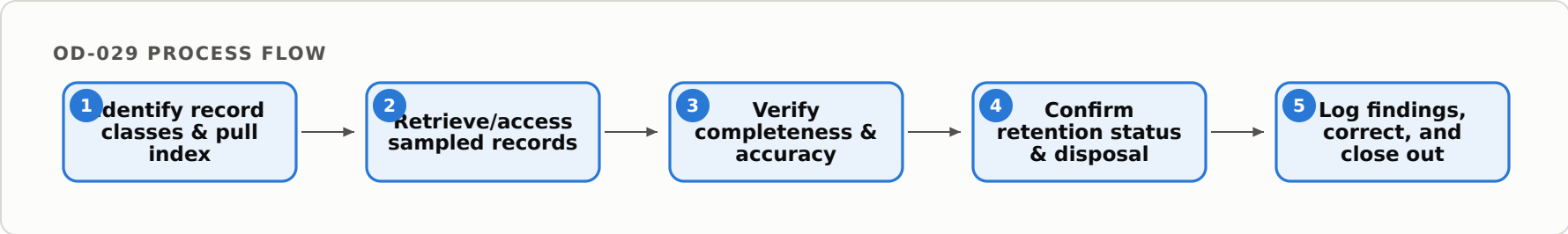
- Standard facility PPE if entering production or warehouse areas to retrieve physical records (safety glasses, closed-toe footwear); none required for records-room or digital-system review.
- Not applicable — no hazardous energy involved.

5. Regulatory References

- 29 CFR 1904 — retention of records related to work-related activity where applicable to operational logs (recordkeeping durations).
- IRS 26 CFR / general business-records retention obligations applicable to all commercial manufacturers.
- Contractual and customer-flowdown retention clauses common to industrial-equipment supply agreements (e.g., lot-traceability retention for engine, compressor, or handtool components).

- Internal policy applies as the governing frame where no single sector-specific federal retention regime binds all members; the internal Operations Records Retention Schedule is the controlling document.
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



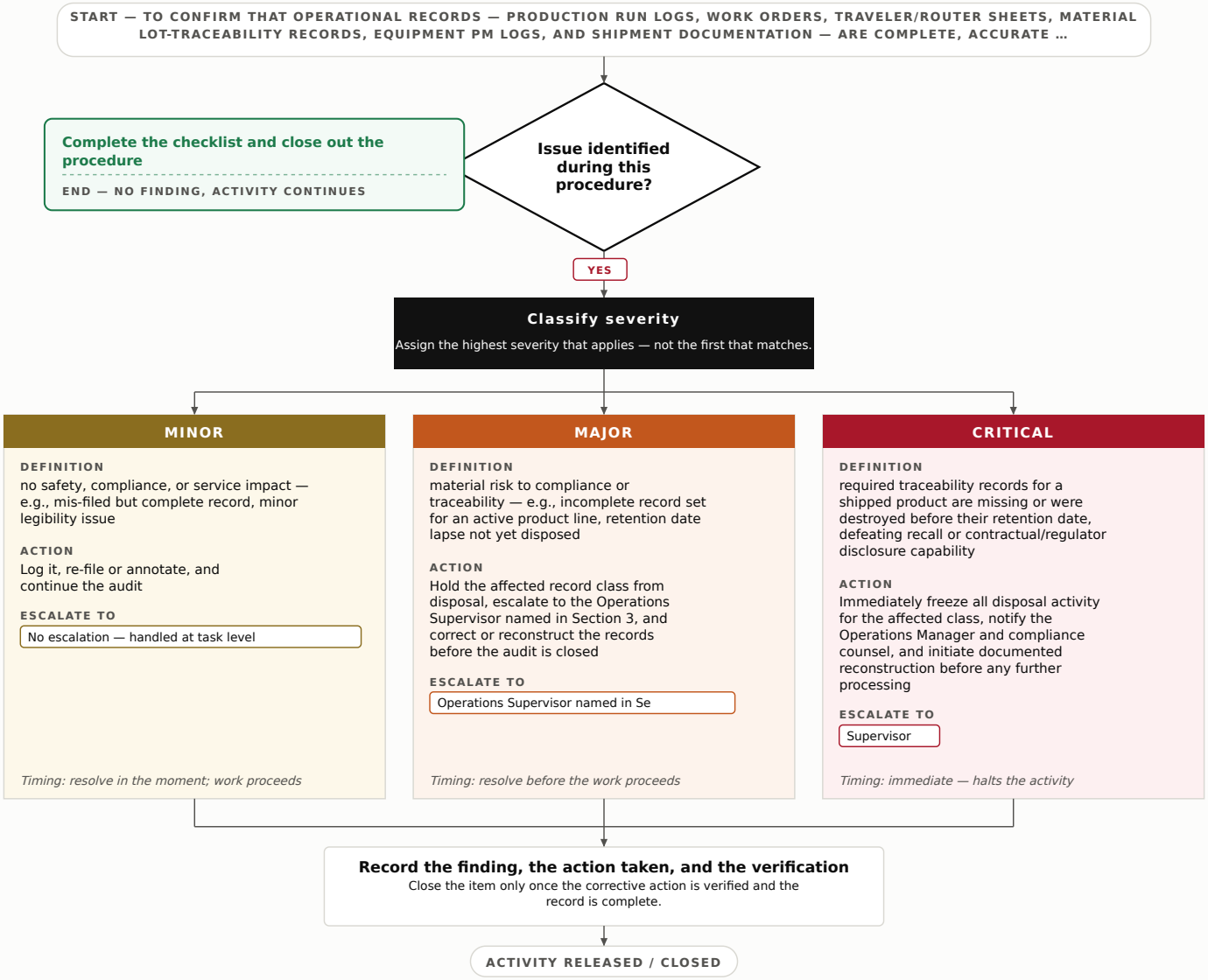
7. Step-by-Step Procedure

1. Open the Operations Records Retention Schedule and confirm the record classes in scope: production run logs, work orders, traveler/router sheets, material lot-traceability records, equipment PM logs, and outbound shipment documentation.
2. Pull the master record index and select a representative sample per class (minimum 10% or 20 records per class, whichever is greater) spanning the audit period.
3. Retrieve each sampled record from its physical location or digital system; confirm it exists, is stored in the designated repository, and is legible.
4. Verify completeness — required fields populated (run date, work-order number, operator/station ID, material lot, quantity, disposition, and sign-off).
5. Verify accuracy — cross-check record values against a linked source (e.g., work-order quantity against shipment doc, material lot against receiving record from upstream mills or machine shops) to confirm no transcription or reconciliation gaps.
6. Confirm retention status — check each record's creation date against the retention schedule; flag records past their retention date as disposal-eligible and records missing/prematurely destroyed as findings.
7. Log all findings (missing, incomplete, inaccurate, mis-filed, or improperly disposed) with record ID, class, and severity in the audit log.
8. Complete the Inspection Checklist, route findings for correction, and obtain Supervisor verification to close out the audit cycle.

8. Decision Tree

OD-029 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — Operational Records Retention & Documentation Audit



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- Every record class in the retention schedule is represented in the audit sample.
- Sampled records reconcile against at least one independent source document.
- All disposal-eligible records are verified against the retention schedule before any destruction is authorized.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
Record index current and matches designated repositories		
Sampled records exist and are legible		
Required fields complete on all sampled records		
Record values reconcile to linked source documents		
Retention dates verified against schedule		
No records disposed of before retention expiry		
Findings logged with ID, class, and severity		

11. KPIs

- Record completeness rate ≥ 98% of sampled records.
- Retention-schedule compliance (no premature disposals) = 100%.
- Audit findings closed within 15 business days ≥ 95%.

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team

OD-030 — End-of-Shift / End-of-Day Operations Closeout

Estimated completion time: 30–60 minutes per shift close

> Provided for general informational and operational purposes as part of the Machinery Manufacturing archetype library. Does not constitute a certified safety program. Verify all regulatory references and equipment-specific tolerances with a qualified engineer or safety professional before implementation.

1. Purpose

To bring the operating period to a controlled stop: safely power down and secure production machinery, reconcile output and material counts, document the period's results, and leave the area and records ready for the next shift or next business day. This protects personnel, work-in-process, and finished machinery/components from unmanaged energy, loss, or undocumented status.

2. Scope

Covers end-of-shift and end-of-day closeout activities across production cells, assembly, and staging areas of a Machinery Manufacturing facility — securing equipment, reconciling counts, closing records, and physical area lockup. Excludes the structured verbal/written handover of active work to the incoming crew (see OD-002) and start-of-period readiness checks (see OD-001).

3. Responsibilities

- Shift Operator / Cell Operator — executes machine shutdown sequences, records final counts, cleans and secures the workstation.
- Operations Supervisor — verifies closeout completeness, reconciles production and material variances, authorizes area lockup.
- Maintenance Lead — receives any equipment fault tags raised during closeout and confirms lockout/tagout status on machinery removed from service.

4. Required PPE & Lockout/Tagout

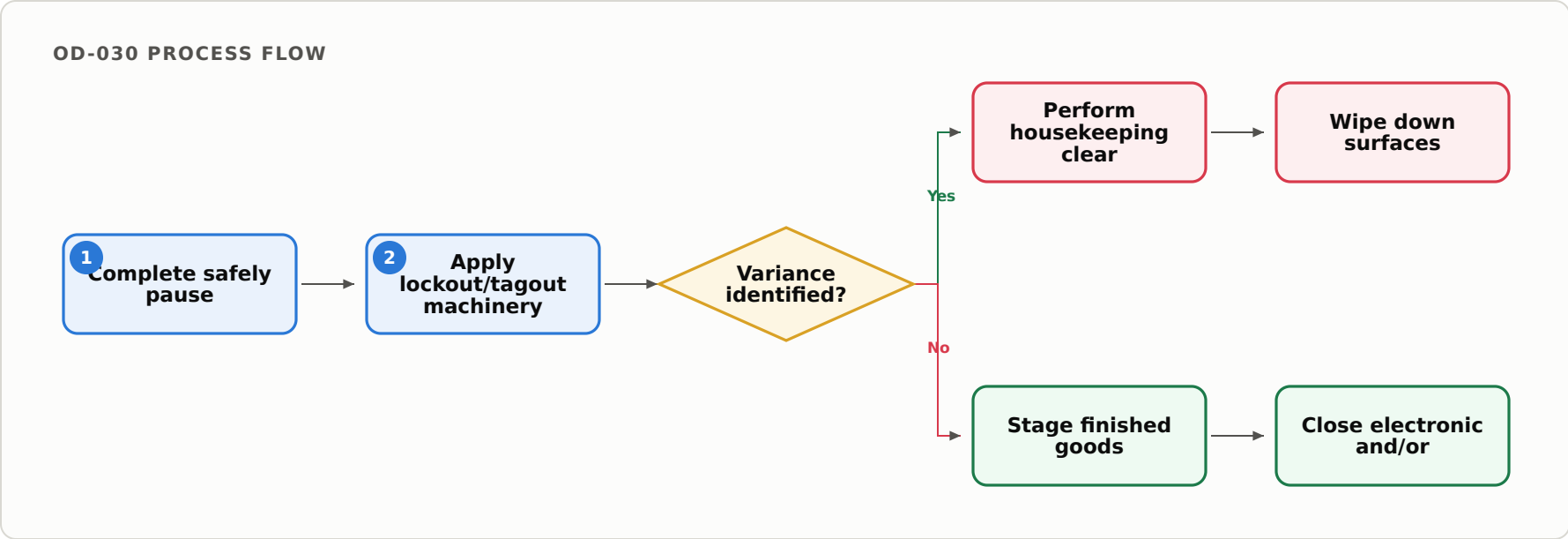
- Standard facility PPE: safety glasses, hearing protection where posted, cut-resistant gloves when handling blades/sharp stock or edged components, safety footwear.
- Lockout/Tagout REQUIRED for any powered machinery being shut down for the period or removed from service (presses, CNC/machining centers, grinders, test stands, compressors, coating/wash lines). Verify zero-energy state — electrical, pneumatic, hydraulic, stored spring/gravity — per the machine-specific LOTO procedure before leaving equipment unattended.

5. Regulatory References

- 29 CFR 1910.147 — The Control of Hazardous Energy (Lockout/Tagout)
- 29 CFR 1910.212 — General Requirements for All Machines (guarding at shutdown)
- 29 CFR 1910.22 — Walking-Working Surfaces (housekeeping, clear egress at close)
- 29 CFR 1910.1200 — Hazard Communication (securing/labeling of coolants, oils, solvents at period end)

- 29 CFR 1910.157 — Portable Fire Extinguishers (unobstructed access verified at lockup)
- Note: confirm applicability of sector-specific standards and any state-plan equivalents for this facility before customer-facing release.

6. Process Flow



7. Step-by-Step Procedure

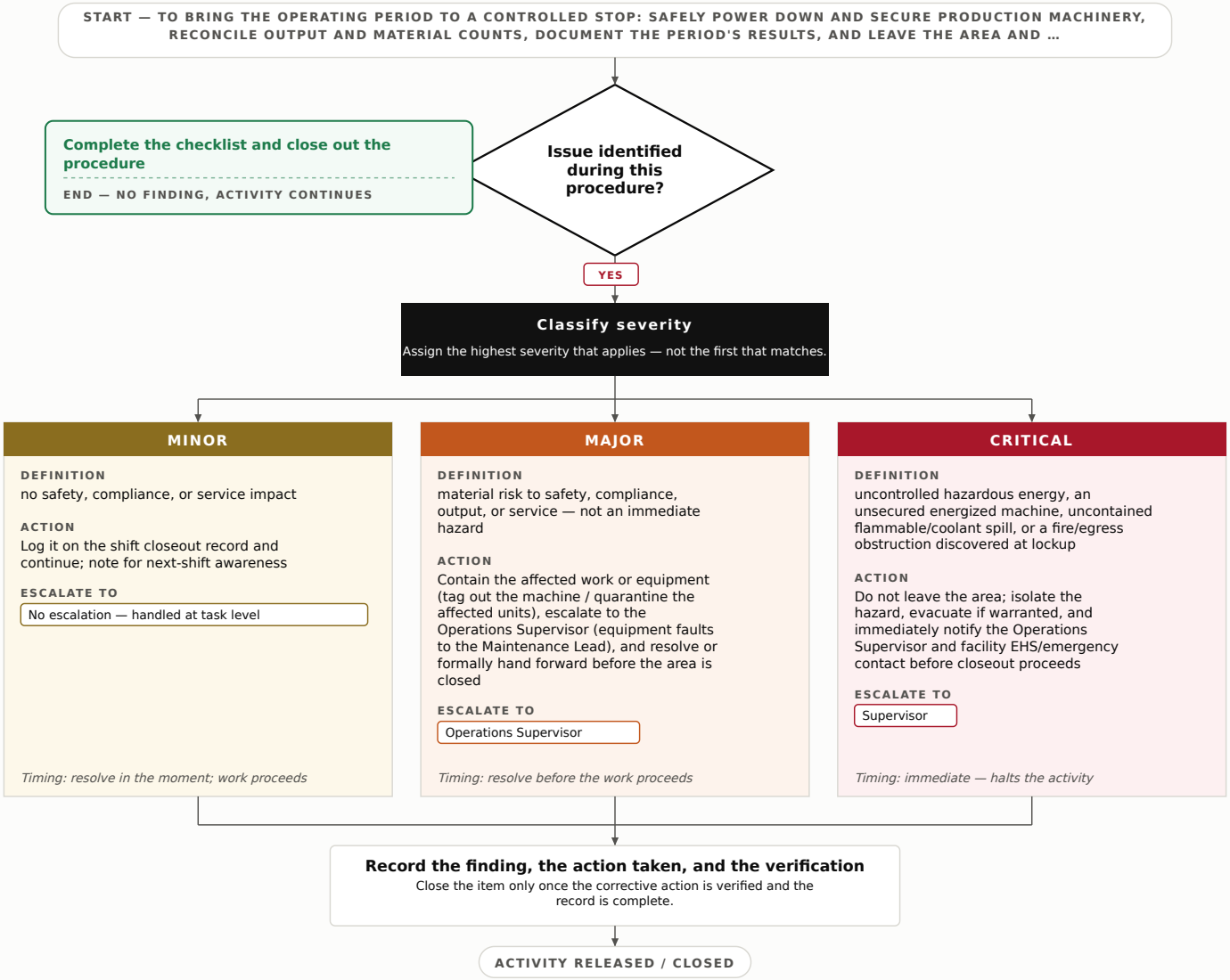
1. Complete or safely pause work-in-process; bring each machine to a controlled stop following its documented shutdown sequence (spindle/feed stop, coolant off, hydraulics/pneumatics bled, guards closed).
2. Apply lockout/tagout to any machinery being left de-energized for the period or removed from service; verify zero-energy state and tag equipment faults for the Maintenance Lead.
3. Reconcile final production counts against the shift's work order / traveler quantities — good units, scrap, and rework — and record any variance.
4. Reconcile issued raw material and component consumption (bar/plate stock from mills, extrusions, machined parts, purchased motors/subassemblies) against output; return unused controlled or serialized items to secure storage.
5. Perform housekeeping: clear chips/swarf, wipe down surfaces, secure and label coolants, cutting oils, and solvents; confirm aisles, exits, and fire equipment are unobstructed.
6. Stage finished goods and completed subassemblies in the designated outbound/QC area with identification intact for downstream distribution (Industrial Machinery Wholesalers, 423830).

7. Close electronic and/or paper production records for the period — counts, downtime, scrap codes, fault tags — and flag open items for the incoming crew per OD-002.
8. Document closeout completion, obtain Supervisor verification, and secure the area (power to non-essential circuits off, doors/cabinets locked).

8. Decision Tree

OD-030 · OPERATIONS · MACHINERY MANUFACTURING

Decision Tree — End-of-Shift / End-of-Day Operations Closeout



READING THIS TREE

- **No finding** — Activity stands. Complete the checklist and continue.
- **Minor** — Handled in place at task level; no escalation.
- **Major** — Supervisory decision required before the next stage.
- **Critical** — Activity halts on the spot; escalation is immediate.

9. Quality Checkpoints

- All machinery confirmed at controlled stop with LOTO verified on de-energized/out-of-service units.
- Production, scrap, and material counts reconciled with variances documented and explained.
- Hazardous materials secured/labeled and egress, aisles, and fire equipment unobstructed.
- Zero unresolved Critical findings.

10. Inspection Checklist

ITEM	PASS / FAIL	NOTES
All production machinery at controlled stop; guards closed		
LOTO verified on de-energized / out-of-service equipment		
Production, scrap, and rework counts reconciled to travelers		
Raw stock / component consumption reconciled; controlled items secured		
Coolants, oils, solvents secured and labeled; spills cleaned		
Aisles, exits, and fire extinguishers unobstructed		
Period records closed; open items flagged for handforward		

11. KPIs

- Closeout completion within scheduled window: ≥ 95% of shifts
- Count reconciliation variance (good units vs. traveler): ≤ 1.0%
- Unresolved Critical findings at lockup: 0

12. Supervisor Verification

Printed Name: _____ Signature: _____ Date: _____

13. Revision History

VERSION	DATE	DESCRIPTION	AUTHOR
1.0	2026-07-27	Generated to the locked 3-page Free/$99 Standard standard for MACHINERY_MANUFACTURING.	Archetype Content Team