Root Cause Analysis 5 Whys Fishbone Template For Equipment Failure

1.0 Form Objective & Asset Scope

This Root Cause Analysis (RCA) template is designed to systematically investigate equipment failures using the 5 Whys technique and a fishbone (Ishikawa) diagram. It is critical for identifying underlying causes of recurring breakdowns, reducing downtime, and improving asset reliability in Canadian manufacturing and facility operations.

Use this form for any unplanned equipment failure that results in production loss, safety incident, or quality defect. The goal is to move beyond immediate fixes and implement permanent corrective actions.

2.0 Administrative & Asset Details

Date of Failure: _____

Technician Name: _____

Machine ID / Asset Tag: _____

Failure Description (Brief): _____

Downtime Duration (Hours): _____

Shift / Crew: _____

3.0 Inspection / Parameter Checklist

☐ Pass ☐ Fail - Identify the problem: Clearly state the equipment failure symptom (e.g., motor overheated, pump seized).

☐ Pass ☐ Fail - Gather evidence: Collect data from logs, alarms, operator reports, and physical inspection.

☐ Pass ☐ Fail - Fishbone categories: List potential causes under Man, Machine, Method, Material, Measurement, Environment.

☐ Pass ☐ Fail - First Why: Ask why the failure occurred and document the immediate cause.

☐ Pass ☐ Fail - Second Why: Ask why that immediate cause happened, drilling deeper.

☐ Pass ☐ Fail - Third Why: Continue asking why until reaching a systemic or root cause.

☐ Pass ☐ Fail - Fourth Why: Verify the chain of causality with evidence.

☐ Pass ☐ Fail - Fifth Why: Confirm the root cause (typically a process, training, or design issue).

☐ Pass ☐ Fail - Validate root cause: Cross-check with fishbone categories to ensure no other contributing factors are missed.

☐ Pass ☐ Fail - Develop corrective actions: Propose permanent fixes (e.g., update PM procedure, replace worn component, retrain operator).

☐ Pass ☐ Fail - Assign ownership and due date for each corrective action.

☐ Pass ☐ Fail - Review and approve RCA findings with reliability team.

4.0 Deficiencies & Work Order Generation

Root Cause (Final Why): _____

Fishbone Category (e.g., Man, Machine, Method): _____

Immediate Cause (First Why): _____

Contributing Factors: _____

Corrective Action Description: _____

Action Owner: _____

Due Date: _____

Work Order Number (if applicable): _____

5.0 Sign-off & Return to Operations

Maintenance Technician Signature: _____ Date: _____

Reliability Manager Review: _____ Date: _____

Operations Manager Approval: _____ Date: _____

Regulatory Disclaimer: This maintenance log is a generic template. The end-user assumes all liability for validating all inspection parameters, PM frequencies, and tolerances against specific OEM machinery manuals before active shop floor deployment.