CompetencyID	Category	Text	ReferenceCode	What this means	What it looks like	Why critical
G01	General Competencies	Working as an effective team member.	•Responsibilities of Apprentice to Sponsor | Saw Filer 1, 1-2-5 to 1-2-6 •Saw Filer Duties and Team Coordination | Saw Filer 1, 1-1-2 •Filing Room Role in Shift Continuity | Saw Filer 1, 1-2-4	A saw filer is part of a larger production team that includes supervisors, millwrights, operators, electricians, and fellow filers across different shifts. Being an effective team member means maintaining clear communication, supporting smooth shift transitions, working collaboratively, and upholding shared shop responsibilities. It also includes fulfilling your duties to your sponsor and actively participating in your apprenticeship obligations.	•You coordinate with the incoming and outgoing filer about the current condition of saws, changes in strain or alignment, upcoming saw changes, and any issues observed during operation. •You record all issues or unusual conditions (e.g., vibration, gullet cracks, premature dulling, etc.) in shift logs or communication books, if in use. •You follow site-specific communication protocols such as tagging saws, labeling saws as out-of-service, or notifying supervisors when a saw or guide is awaiting repair or setup. •You assist other trades, especially millwrights, when removing, installing, or aligning saws—providing details like direction of lead, prior setup details, or vibration concerns. •You fulfill your obligations to your sponsor by checking in regularly, reviewing progress, and ensuring your hours and logbook entries are up to date. •You are present during shift handovers, and you ensure continuity by briefing the next filer on incomplete work, saw setup status, or known troubleshooting.	Filing rooms operate continuously across shifts, and saws are only one component in a multi-step cutting system. If communication breaks down, saws may be installed incorrectly, worn tools may be reused, or safety procedures may be skipped. Miscommunication leads to downtime, unsafe conditions, lumber defects, and avoidable delays in production. Team-based awareness, accurate documentation, and proactive communication are core to the professional standards of a certified filer.
G02	General Competencies	Attention to detail and ability to focus.	•Importance of Saw Flatness, Tension Zones, and Inspection Accuracy Saw Filer 1, Section 3-2-1 to 3-2-3 •Crack Inspection and Tolerance Limits Saw Filer 1, Section 6-8-2 •Bench Work and Quality Inspection Expectations Saw Filer 1, Section 7-1-1 •Saw Flatness Maximum Deviation: 0.002” Saw Filer 1, Section 13-1-1	Precision is the cornerstone of all filing work. A journeyperson saw filer is expected to maintain microscopic accuracy during measurement, inspection, welding, grinding, and alignment procedures. This competency also requires sustained mental focus, even during repetitive or late-shift tasks. Attention to detail is not optional—it is a safety requirement. You must catch variations as small as 0.002" and respond with the correct technique and tool. Flatness tolerances under 0.002" are used when inspecting for saw dish. Even a dish of 0.002" must be corrected before tensioning. Saw Filer 1, Section 13-1-1	• When leveling a saw, you detect and correct a 0.002" dish using a certified straightedge and correct hammering technique. • During tensioning, you observe the symmetry and integrity of the tension ring using proper back gauge placement and drop test verification, ensuring uniformity before any saw is cleared for service. • When using a micrometer or dial indicator, you: o Double-check readings for consistency o Clean both the saw surface and the measuring tool o Confirm tool calibration or report immediately if suspect • During blade inspections, you maintain full focus—even when inspecting the third or fourth band of a shift—to ensure: o No gullet cracks, heat tint, or metal fatigue is missed o The saw body shows no signs of warping, twist, or abnormal wear • When regrinding a tooth, you: o Compare the result directly to a known-good profile o Use templates and cam settings to confirm accuracy rather than assuming angles are correct	The filing trade deals in thousandths of an inch. A misaligned saw, under-tensioned plate, or grind angle off by even 1° can cause: •Blade wobble, snaking, or cracking •Excess heat and gullet fatigue •Misaligned cuts or lumber defects •Damage to bearings, guides, or collars •Personal injury from ejected parts or unexpected failure Your vigilance prevents cascading errors that can cause downtime, reduce tool life, and compromise safety. A saw that “looks fine” may still fail at 10,000 FPM. You are the final line of defense.
G03	General Competencies	Active participation in learning process.	•Apprentice Responsibilities and Mentor Interaction Saw Filer 1, Sections 1-2-4 to 1-2-6 •Importance of Hands-on Learning and Self-tracking Saw Filer 1, Section 1-2-3	What this means: Apprenticeship in the saw trades is not passive—it requires full engagement in both hands-on and technical learning. You are expected to take ownership of your development by staying involved in every aspect of the training process. This means participating actively in shop tasks, seeking clarification when needed, and tracking your skill progression using the ETA 671 Work Process Schedule (Saw Filer Competency Log). Your mentor plays a critical role in shaping your training—but it is your responsibility to follow through, ask questions, and pursue improvement. Filing is learned by doing, and every task you complete should move you closer to becoming a safe, skilled tradesperson.	•You bring your ETA 671 Work Process Schedule (Saw Filer Competency Log) to evaluations and: oEnsure entries are up to date with clear descriptions of completed tasks oObtain proper sign-off from your mentor based on direct observation oUse the log to guide what skills you still need exposure to •You engage your mentor with relevant, job-specific questions, such as: o“What’s the best way to check for tight zones in this tension ring?” o“Should I swage before or after confirming kerf width with the gauge?” o“Is this crown profile correct for the feed rate we’re running?” •You request to repeat high-skill procedures or shadow others performing them, including: oCrack welding and annealing oTensioning with stretcher rolls oKnife balancing and babbitting oSwaging and shaping under species-specific tolerances •You take responsibility for your classroom learning by: oRegistering for technical training well in advance oCoordinating your schedule with your mentor and supervisor oBringing current shop experiences and questions into the classroom for discussion •You actively track your hours and performance, using your log to: oIdentify weak areas or incomplete competencies oMeasure progress toward certification goals oOrganize questions and tasks for review with your mentor	Saw filing cannot be learned by standing and watching. Many of the most important skills—tensioning, leveling, grinding geometry, safe handling—require hundreds of repetitions to master. Apprentices who do not ask questions or seek out new tasks tend to fall behind or develop unsafe habits. A passive approach delays your certification and places the burden on your mentor to chase your development. In contrast, a filer who participates actively builds: •Technical confidence •Reliable habits under pressure •A complete training record •Trust and credibility with their team If you don’t ask, you don’t learn.
G04	General Competencies	Shares ideas.	•Filing Room Collaboration and Process Improvement Saw Filer 1, Section 1-2-4 •Communication with Other Trades and Team Roles Saw Filer 1, Sections 1-2-5 to 1-2-6	A skilled filer is not only a technician but a problem solver and contributor to shop improvement. Sharing ideas means voicing observations that can prevent damage, reduce waste, improve workflow, or enhance safety. Whether it’s a small adjustment to a tagging system or a technical insight about guide pressure, your input helps optimize the operation. This is especially important during shift changes, saw troubleshooting, or when testing new setups. As a professional, your role includes offering constructive, evidence-based suggestions, regardless of your level of experience. Apprentices who speak up respectfully build trust and show a genuine commitment to the trade.	• You identify that a grinding wheel is wearing unevenly, and recommend replacement before it causes improper tooth geometry, excessive heat, or vibration. • You notice that the saw storage rack has bent hooks, and explain how it could warp saws, recommending realignment or replacement. • You suggest introducing a visual tagging system using magnets, flags, or color codes to clearly mark: o Saws that are tensioned and ready o Saws awaiting weld inspection o Saws tagged out due to damage or imbalance • You observe that increasing table travel speed during knife grinding reduced heat tint, and demonstrate the result to your mentor or crew. • You report a recurring issue on the edger, pointing out that guide bolts may be backing off or misaligned—prompting an adjustment that prevents further defects. • During a team install, you suggest reviewing back gauge measurements due to unexpected tracking on the previous shift—leading to correction of a strain offset. These are just a few examples.	Why this is critical: Filers are closest to the tools, the saws, and the real-time issues that impact performance and safety. No one sees everything, and a single overlooked issue—like a dull grinder, untagged saw, or guide slip—can lead to: •Unsafe equipment being reinstalled •Wasted lumber or machine damage •Excess vibration, bearing failure, or saw ejection •Loss of time and credibility across shifts Shops that welcome suggestions run smarter and safer. By sharing your ideas, you: •Build trust with your mentor and coworkers •Reinforce a culture of accountability •Help prevent breakdowns before they happen •Show leadership in your approach to filing

DSWP01	Demonstrate Safe Work Practices	Explain proper PPE.	•Personal Apparel & Safety Equipment Saw Filer 1, Sections 2-1-1 to 2-1-12 •Knife Safety & Glove Standards Saw Filer 1, Sections 8-1-1 to 8-1-2 •Hearing Protection Requirements Saw Filer 1, Section 2-1-7	Personal Protective Equipment (PPE) is not just a company policy—it's a legal requirement and a critical barrier between you and high-risk hazards in the filing room. Grinders, wheels, compressed air, heavy saws, and knife handling all expose you to sharp edges, fast-moving machinery, flying debris, and noise. Wearing the correct PPE at all times reduces the risk of permanent injury, even death. PPE is job-specific. You must know which PPE applies to which task and wear it every time—not just when reminded.	•You wear CSA-approved safety glasses or a full face shield: oWhen grinding saws, dressing wheels, or cleaning with compressed air oAny time you're exposed to sparks, debris, or flying grit •You wear grip-rated gloves (rubberized or cloth with friction surface): oWhen handling chipper knives, especially when oily or wet oYou avoid leather gloves for knives—they become slippery and dangerous when wet •You use hearing protection: oIn all zones rated over 85 dB, with a preference for NRR 25 or higher in chainsaw and grinder areas oYou keep extra pairs accessible and stored in clean cases •When working at height (e.g., lowering circular saws from an overhead rack), you: oUse a fall restraint system rated for 5,000 lbs oEnsure your lanyard and snap hooks are anchored properly before beginning the lift •You do not wear: oLoose clothing or untied coveralls oJewelry, chains, or rings oUnrestrained long hair around moving tools or shaft-driven machinery	Saw shops are high-risk environments. Grinders can explode, saws can spring back, knives can slip, and contact with rotating equipment can lead to: •Lacerations •Eye injuries or blindness •Crushed fingers or broken bones •Hearing loss •Fatal entanglement injuries PPE is your first line of defense, but only if used consistently and correctly. It must also be maintained, inspected, and fitted properly to be effective
DSWP02	Demonstrate Safe Work Practices	Demonstrate safe handling of knives and saws.	•Knife Handling & Cart Use Saw Filer 1, Sections 8-1-1 to 8-1-2 •Circular Saw Handling Procedures Saw Filer 2, Section 9-1-2 •Saw Disposal Rules Saw Filer 1, Section 2-2-13	Saws and knives are sharp, heavy, and under mechanical stress. Improper handling—even for a few seconds—can result in serious lacerations, back injuries, or permanent disability. Safe handling includes lifting, transporting, flipping, and disposing of all blades according to your site's safety policies and the instructions outlined in the Saw Filer 1 training guide. This competency ensures you handle every blade with respect, using proper technique, safe tools, and full awareness of your surroundings. There are no shortcuts when it comes to moving sharp steel.	• You handle one chipper knife at a time, always using: o Approved knife carts or knife boxes in good condition o Secure lids and handles when transporting between stations • When flipping a bandsaw, you: o Stand on the non-tooth (back) side o Use both hands with clear communication if working with a partner o Ensure there's adequate room—no flips near grinders, walls, or machinery • You never carry multiple saws by hand: o You use a cart or hoist system for bandsaws and circular saws o You ensure the weight is balanced and the path is clear • When handling large circular saws (250+ lbs): o You inspect all hoisting gear first (hooks, slings, chains, anchors) o You follow a Job Safety Analysis (JSA) if your site requires one for overhead or crane lifts • For disposal of worn saws: o You do not coil bandsaws for disposal due to spring hazard oInstead, cut them into short segments and place them in designated steel disposal bins	Why this is critical: Saws and knives are designed to cut wood at thousands of feet per minute—and they don't know the difference between wood and skin. Injuries from saw handling include: •Deep cuts or amputations from sharp edges •Strained backs or shoulders from improper lifting •Crushed toes from dropped circulars or racks •Head and eye injuries from springing or coiling saws Improper handling also leads to damaged saws—a bent band or dropped plate may become unusable or dangerous in operation. This creates costly downtime, poor cutting performance, and serious safety concerns for others on the team.
DSWP03	Demonstrate Safe Work Practices	Demonstrate proper utilization of equipment.	•Grinder and Tool Safety Saw Filer 1, Sections 2-1-10 to 2-1-12 •Lockout & Energy Isolation Procedures Saw Filer 1, Section 2-1-8	Proper use of saw shop equipment is about more than just knowing how to turn on a grinder—it's about respecting safety systems, following lockout protocols, and operating each machine within its safe parameters. Every piece of equipment in the filing room—from grinders to welders to chipper heads—comes with mechanical risks. Misuse can result in injury, equipment damage, or incorrect saw geometry that leads to catastrophic saw failure in the mill. This competency demands that you never bypass safeguards, always verify machine readiness, and match your tools to the job and material type.	•You never bypass or disable: oGrinder guards, hoods, or shields oEmergency stop buttons oInterlocks or limit switches on filing room machines •You always follow lockout/tagout procedures before servicing equipment: oApply your personal lock on both electrical and mechanical isolation points oTest for zero energy before beginning service oEnsure no other personnel can accidentally re-energize the system •Before operating a grinder, you: oInspect the grinding wheel for cracks, glazing, or uneven wear oConfirm that the wheel speed rating (RPM) matches or exceeds the grinder's rated speed oCheck that the wheel is mounted with correct flange pressure and without overtightening •You confirm safe operation of power and pneumatic tools by: oChecking cords and hoses for splits, kinks, or leaks oTesting switches and emergency shutoffs oVerifying that tool mounts, clamps, and guards are secure •When using a drill press, grinder, or machining tool: oYou never hold parts by hand oYou always use vises, clamps, or fixtures rated for the task oYou wear appropriate PPE and secure long sleeves or hair to prevent entanglement	The vast majority of shop injuries and equipment failures occur when: •Safety guards are removed •Lockout procedures are skipped •Untrained users operate high-speed equipment without inspection Improper tool usage can: •Send grinding wheels flying apart at 9,000+ RPM •Crack saw plate due to overheating or incorrect tension •Cause fires from overheated motors or coolant leaks •Result in cuts, crushes, or amputations from entanglement or tool recoil Respecting every piece of equipment in the shop—and its built-in safety systems—is non-negotiable. A moment's inattention can lead to permanent injury or a damaged saw that fails in the mill under load.
DSWP04	Demonstrate Safe Work Practices	Properly store and maintain equipment and tools.	•Tool Storage and Handling Saw Filer 1, Sections 2-1-9 to 2-1-11 •Knife & Saw Storage Practices Saw Filer 1, Section 2-2-13	What this means: Filing tools are high-precision instruments that require proper care, storage, and routine maintenance to remain accurate and safe to use. When tools like micrometers, tension gauges, files, and saw dressing tools are mishandled or stored incorrectly, they lose calibration, become contaminated, or fail without warning. Tool storage and care is not just about tidiness—it's about maintaining filing accuracy, protecting your safety, and extending the life of both hand tools and heavy equipment. You're responsible for ensuring every tool you use is: •Clean •Accurate •Stored in the correct location •Free from damage	•You return all hand tools to labeled drawers, foam-lined cases, or shadow boards after use: oYou never leave files, hammers, or measuring tools on benches, saw carts, or grinder housings •You store measuring instruments (micrometers, dial indicators, back gauges) in: oFoam-lined or cushioned containers oDry and sealed locations free from dust and temperature extremes •You maintain cutting tools (e.g., chisels, files, stones) by: oKeeping them oiled, dressed, and stored with edge protection oReporting and tagging any cracked handles, burrs, or mushroomed heads •You use tool-specific storage systems, including: oCardboard or leather file sleeves oKnife trays with individual slots oDivider bins for swaging dies and shaping cams •You do not mix layout and striking tools in drawers with precision equipment •You ensure coolant systems, grinders, and tensioning tools are: oCleaned at the end of each shift oLogged for maintenance if vibration, play, or imbalance is detected oLubricated and calibrated on the schedule set by your shop or mentor	A damaged tool makes damaged saws. When filing tools are left dirty, dented, or out of alignment: •You lose measurement accuracy •Your tension or leveling work is flawed •Grinders run unbalanced, producing heat damage or incorrect tooth geometry •Sharp edges left exposed can cut you or your co-workers during routine shop movement Proper tool storage and care ensures: •Faster, safer workflows •Better communication between shifts •Maximum tool life •Consistency in saw performance and safety inspections It also shows professionalism and pride in your work—two traits expected of every certified saw filer.

DSWP05	Demonstrate Safe Work Practices	Understands and exhibits proper housekeeping.	•Filing Room Housekeeping Rules Saw Filer 1, Section 2-1-1 •Cleaning Protocols & Safe Surfaces Saw Filer 1, Sections 2-1-9 to 2-1-12	A clean and organized filing room is not just a sign of professionalism—it's a critical component of shop safety, workflow efficiency, and tool accountability. Saw filing environments involve metal shavings, grinding dust, oils, solvents, and sharp tools. Without proper housekeeping, these materials create slip hazards, fire risks, tool damage, and lost time. This competency involves understanding how and when to clean, what to clean with, and maintaining shared areas to prevent hazards before they occur. Filing is a trade of precision—your bench and work habits should reflect that precision.	•You sweep or vacuum your workstation, grinder area, and babbitting station after each task—not just at the end of shift oYou remove filings, gullet dust, and coolant residue that can interfere with measurement and inspection •You dispose of rags used with oil, solvent, or flammable material in fire-rated bins with self-closing lids oYou report spills immediately—whether it's oil, coolant, or grinding slurry—and use absorbent pads or spill kits •You keep all walkways, platforms, and saw carts free of debris: oNo hoses, tools, or personal items are left in traffic zones oYou tuck cords away or secure them overhead where applicable •You store sharp tools with guards or in trays—not on benches or carts where others can contact them unexpectedly oThis includes files, tooth gauges, swaging dies, and scrap saws •You regularly clean: oBench surfaces and toolboxes oTensioning equipment and measurement stations oCoolant tanks, filter screens, and waste trays •You reset shared work areas after use: oTools are returned oLabels are clear oBlades are either tagged or ready for service	Filing rooms contain flammable materials, sharp objects, hot metals, and high-speed tools. Poor housekeeping creates: •Slips, trips, and falls from coolant, rags, or grinding dust •Cuts or punctures from exposed sharp tools •Fire hazards from oil-soaked rags left on benches •Tool loss and miscommunication across shifts •Time wasted locating tools or cleaning up after others Proper housekeeping ensures that your safety, saw quality, and work efficiency remain intact. It also shows professionalism and respect for your crew—two qualities that define the top filers in the trade
DSWP06	Demonstrate Safe Work Practices	Babbitt safety.	•Babbitt Safety Procedures and PPE Saw Filer 1, Sections 2-1-1, 2-1-9 •Lead Handling and Molten Metal Pouring Saw Filer 1, Section 9-6-3	Babbitting involves pouring molten metal at temperatures often exceeding 600°F (315°C) to create bearing surfaces. This is one of the most hazardous tasks in saw maintenance due to the risks of splash burns, inhalation of lead fumes, and explosive reactions with moisture. Safe babbitting requires full PPE, properly maintained equipment, and strict control over temperature, ventilation, and cleanliness. The goal is to produce precise, defect-free babbitt surfaces—without exposing yourself or others to unnecessary danger.	•You inspect the pouring area for: oDry surfaces (no moisture on molds or equipment) oClean workspace with no rags, sawdust, or oil nearby oProperly secured ladles and holders •You wear all required PPE: oFace shield over safety glasses oHeat-resistant gloves rated for molten metal oFlame-resistant coveralls or apron oRespirator when using lead-based or zinc-based babbitt in poorly ventilated areas •You preheat molds and parts to avoid steam explosions: oUse a torch or oven to bring molds to safe casting temperature oYou never pour molten babbitt into cold or wet parts •You control pouring temperature using a thermometer: oTarget range is 475°F–625°F, depending on alloy oYou skim off dross (oxidized impurities) before pouring •After pouring: oYou allow parts to cool under supervision oYou clean up any spills using proper disposal methods oYou never quench hot babbitt in water or oil	Improper babbitting causes: •Burns and flash injuries from molten metal splash •Toxic fume inhalation, especially from lead- or cadmium-containing alloys •Explosive reactions if poured into moist surfaces •Cracked, porous, or delaminated bearings that fail under load Good babbitt work produces safe, clean bearing fits and guide pads. Unsafe babbitt handling endangers you, your crew, and the shop.
DSWP07	Demonstrate Safe Work Practices	Knife and chipper safety (access and replacement of components).				
QC01	Quality Control	Explain proper tools to use for saw measurement	• Measuring Tool Use and Selection BC Saw Filer Level 1, Section 3-2-1 • Precision Tool Care and Inspection BC Saw Filer Level 1, Sections 3-2-2 to 3-2-3	Precision measurement is foundational to every step of the saw filing process. You are expected to understand which tool to use for each type of measurement—whether checking plate thickness, saw flatness, tension ring placement, or gullet geometry. Each tool must be suited to the job, properly maintained, and handled with care to produce consistent, reliable readings. The ability to select the correct measuring tool—and know its limitations—ensures accuracy in leveling, tensioning, grinding, and inspection.	• You select and use the following tools for specific saw measurements: •Straightedge: to detect saw dish or twist during benching • Tension gauge: to measure drop inside and outside of tension ring •Back gauge: to evaluate tension shape and concentricity along the back •Feeler gauges: to assess side clearance or knife-to-anvil spacing •Micrometer or calipers: to verify plate thickness and saw body consistency •Dial indicator: to measure runout, collar wobble, or arbor alignment • You inspect your tools before use: •Ensure tools are clean and dry •Confirm zero setting on gauges and micrometers •Check for bent edges, cracked faces, or debris in tool joints • You handle tools properly: •Place precision instruments only on clean, stable surfaces •Store them in protective cases after each use •Never mix layout or impact tools (e.g., files or hammers) with precision gauges	Incorrect or poorly chosen measurement tools lead to: • Misaligned saw tension zones • Improper lead or dish corrections • Cracked saws caused by hidden stress or deformation • Out-of-spec lumber and unplanned downtime Saw filers are judged not just by their hammer work—but by the accuracy of their setup and inspections. If your measuring tools aren't correct, every adjustment you make could be wrong.
QC02	Quality Control	Demonstrate correct measuring techniques	• Measuring and Inspection Technique BC Saw Filer Level 1, Section 3-2-2 • Tool Handling Best Practices BC Saw Filer Level 1, Section 3-2-3	What this means: Knowing which tool to use is only part of the job—a saw filer must also demonstrate precise technique when using any measuring instrument. This includes proper hand positioning, consistent pressure, correct angle of application, and an understanding of when environmental conditions (like heat, oil, or light) might skew results. Measuring technique is about repeatability and accuracy. Every cut, grind, or tensioning step that follows a measurement is only as good as the technique used to obtain it.	• You take time to ensure surfaces are clean and free of oil, pitch, or burrs before measuring. • You use a straightedge by: •Holding it perpendicular to the saw plate •Backlighting with proper angle and contrast to detect rise or dish •Confirming against a calibrated reference before use • When using a micrometer or caliper, you: •Set zero against a known reference block •Apply consistent, light pressure to avoid deforming thin saw steel •Measure multiple points on the saw (e.g., near collar line, mid-body, and tension ring) • When using a dial indicator or tension gauge, you: •Ensure proper tool seating and no side loading •Zero the dial before starting •Record readings methodically across the plate to assess symmetry • You log or report all measurements clearly and accurately: •No rounding of tension drop values •Dish readings (e.g., "0.002" concave") must reflect maximum observed variation • You maintain focus, especially when repeating a task multiple times (e.g., checking the third bandsaw of the shift): •You inspect each tooth, gullet, or zone individually—without assumptions	Improper measuring technique leads to improper saw performance. Even if the tool is accurate, poor technique results in: • Incorrect tension or leveling corrections • Faulty grind angles that damage tooth strength • Misaligned saws leading to gullet cracking or vibration • Untraceable dimensional errors in the lumber Saw shops that maintain high standards of measurement: •Prevent injuries from cracked or failed saws •Deliver higher lumber recovery rates •Build confidence across shift teams and mill supervisors You are expected to treat each reading as a precision action, not a guess.

QC03	Quality Control	Demonstrate proper utilization of equipment	• Grinder and Tool Safety BC Saw Filer Level 1, Sections 2-1-10 to 2-1-12 • Lockout and Equipment Inspection BC Saw Filer Level 1, Section 2-1-8 • Measuring and Testing Setup BC Saw Filer Level 1, Sections 3-2-1 to 3-2-3	Utilizing shop equipment correctly is a core part of your responsibility as a saw filer. It's not enough to simply operate a grinder, tension gauge, or measuring stand—you must demonstrate that you understand machine compatibility, setup requirements, and safety limitations. Proper utilization means using machines within their specifications, performing routine checks before use, and following lockout procedures when necessary. This applies to all measuring, tensioning, and grinding equipment used in saw inspection and setup.	• You confirm that all equipment is clean, functional, and calibrated before use: •Grinder wheels are trued, balanced, and suitable for material (e.g., vitrified vs. CBN) •Dial indicators and gauges are zeroed and seated properly •Straightedges are free from warping or nicks • Before using powered tools or grinders, you: •Verify the RPM rating on grinding wheels matches the machine (e.g., max wheel speed < grinder speed) •Confirm guards, shields, and splash hoods are in place and secure •Conduct a visual and tactile inspection for: oVibration or bearing play oLoose mounts or shifting guides oCracks in wheels, arbors, or safety shields • You follow proper lockout/tagout when servicing or adjusting equipment: •Use your personal lock •Test for zero energy before beginning •Confirm all moving components are secured before resuming operation • You ensure precision tools are used with compatible fixtures: •Back gauges sit flush and square on the plate •Indicators are mounted to stable bases, not handheld or makeshift jigs • You report or tag out any machine that: •Vibrates excessively •Produces irregular finishes •Shows signs of mechanical wear or electrical failure	Incorrect use of shop equipment can result in: • Grinder explosions or wheel fragmentation • Undetected tension or runout due to unstable measuring setups • Collapsed bearings or arbor failures in circular saws • Cuts, burns, or caught-hand injuries from bypassed guards Proper machine utilization is non-negotiable. It ensures: •Repeatable tension and leveling results •Accurate tooth and plate geometry •A safe working environment for you and your crew
QC04	Quality Control	Properly store and maintain equipment and tools	• Tool Storage and Handling BC Saw Filer Level 1, Sections 2-1-9 to 2-1-11 • Precision Tool Maintenance BC Saw Filer Level 1, Section 3-2-2	Precision tools must be protected from contamination, mechanical shock, and moisture. Proper storage and maintenance ensures your instruments remain accurate and safe, and helps prevent accidental injuries or calibration drift. As a filer, you're expected to store and maintain everything from micrometers and back gauges to grinding wheels, hammers, and dial indicators in a clean, organized, and well-documented manner.	• You return all tools to their assigned storage after each task: •Micrometers and calipers go in foam-lined, sealed cases •Files are stored in sleeves or dividers—never mixed with hammers or layout tools •Knives are stored with edges protected, using trays or guards • You perform routine maintenance: •Lightly oil exposed steel surfaces on back gauges, indicators, and feeler blades •Clean threads on micrometers and dial stems using a soft brush •Dress and balance grinding wheels regularly and inspect for cracks or glazing • You never drop, force, or jam tools into drawers or bins • You inspect tool condition before and after each use: •Straightedges checked for dents or edge burrs •Calipers verified for zero reset •Handles, tool heads, and dials confirmed secure and intact • You tag out any tool that gives inconsistent readings, won't zero, or shows mechanical damage	Why this is critical: Improper tool care leads to: • Inaccurate saw setup and failed inspections • Tool failure or unsafe operation (e.g., wheel shatter, micrometer jamming) • Increased wear on saw blades from misread tolerances • Injuries caused by exposed sharp edges or dropped heavy tools Clean, well-maintained tools = clean, high-performing saws. Your habits with tool care directly reflect your commitment to safety, accuracy, and professionalism.
QC05	Quality Control	Understand, explain and set clearances	• Knife-to-Anvil Clearance & Adjustments BC Saw Filer Level 1, Sections 8-1-7 to 8-1-9 • Saw Side Clearance and Setup BC Saw Filer Level 1, Section 4-8-1 • Kerf and Clearance Calculations BC Saw Filer Level 1, Section 4-8-2	Clearance refers to the precise space between the cutting tooth or knife and surrounding elements such as the workpiece, anvil, or guide. Setting the correct clearance ensures: • Free chip flow • Reduced heat and friction • Accurate cutting performance • Saw longevity and safety As a filer, you must understand clearance standards across band saws, circular saws, and chippers—and be able to explain how clearance values change with species, saw gauge, and cutting conditions (e.g., frozen vs. green wood).	• For chipper knives: •You measure knife-to-anvil clearance using a feeler gauge •The target range is typically 0.030"–0.060", depending on machine and wood species •You adjust knife projection by changing shim thickness or backing screws, ensuring consistency across all knives • For saws: •You calculate total kerf (cut width) using the formula: Kerf = plate thickness + (2 × side clearance) •You verify side clearance with a micrometer or feeler gauge at the tooth tip •You confirm that clearance is symmetrical (left and right) and within spec for the saw's design • During saw service or reshaping: •You apply swaging or tipping to restore proper kerf and clearance •You shape teeth to maintain radial and tangential clearance, especially in swaged bands • You consult mill specifications or species-specific guidelines to select correct clearance values based on: •Wood density (e.g., hardwood vs. softwood) •Moisture content (e.g., frozen or kiln-dried stock) •Desired lumber finish	Improper clearance is one of the most common causes of: • Overheating and saw wander • Gullet cracking or plate distortion • Jammed chippers and miscut lumber • Guide wear and excessive strain on bearings Too little clearance causes burning, stalling, and guide damage. Too much causes poor tracking, vibration, and reduced tooth life. Mastery of clearance principles prevents these failures and supports smooth mill operation.
QC06	Quality Control	Perform calculations to achieve targeted lumber sizes	• Kerf, Bite, and Rim Speed Calculations BC Saw Filer Level 1, Section 4-8-1 to 4-8-2 • Application of Feed and Speed Data BC Saw Filer Level 1, Section 3-1-18	Filers play a key role in ensuring that saws produce accurate lumber sizes. This involves understanding and applying formulas related to tooth bite, rim speed, kerf, and feed speed. You must be able to calculate values that affect chip formation, saw loading, and final lumber dimensions—and verify that these are within acceptable production tolerances. Your calculations inform machine setup and help identify performance issues during operation.	• You use key formulas such as: Tooth Bite = Feed Speed (FPM) ÷ (RPM × Number of Teeth) •Used to determine feed per tooth (ideal chip size) Tooth Pitch = (Saw Diameter × π) ÷ Number of Teeth •Used to calculate spacing and support gullets Rim Speed = (Saw Diameter × π × RPM) ÷ 12 •Used to ensure correct cutting speed for material type • You verify calculations by: •Matching feed rate to wood species and chipper spec •Adjusting RPM or number of teeth to maintain correct bite •Tracking chip formation and comparing it to target dimensions • You interpret the results: •If tooth bite is too small → saw overloads or rubs •If too large → poor finish, broken teeth, or gullet cracking •If kerf does not match machine feed → off-size lumber or tracking problems • You input these values into your mill documentation, setup forms, or shift logs to guide adjustments and maintain traceability	Failure to calculate feed and bite properly results in: • Undersized or oversize lumber • Reduced recovery and mill yield • Excessive strain on saws, motors, and chip systems • Incorrect troubleshooting when performance issues arise By performing accurate calculations, you help maintain: •Optimal feed rates •Accurate lumber sizes •Efficient saw loading and chip removal •Long-lasting saw performance and safety

QC07	Quality Control	Explain and demonstrate understanding and application of torque	• Torque Application in Saw Setup BC Saw Filer Level 1, Section 9-1-2 • Fastening Techniques and Safety BC Saw Filer Level 1, Section 2-1-10	Torque refers to the amount of rotational force applied to bolts, nuts, and fasteners—especially critical when securing saws to arbors, collars, or chipper components. Applying the correct torque ensures tight, even clamping pressure without over-stressing components. You are expected to know: •What torque values are required for each fastening task •How to apply torque using appropriate tools (e.g., torque wrench or beam-style driver) •How torque interacts with component materials, lubricants, and thermal cycling	• You determine the required torque for a specific application by referencing: •Manufacturer's spec sheets for arbors, collars, or insert teeth •Mill-standard torque charts based on thread size and grade • You use a calibrated torque wrench with the appropriate drive size and socket • You follow correct torqueing sequence: •For circular saw collars, apply torque in a crisscross pattern to prevent warping •For insert tooth saws, torque each insert or fastener to its recommended ft-lbs • You inspect all threads and contact surfaces before torqueing: •Remove debris and oil unless lubrication is required •Ensure seating surfaces are flat and burr-free • You re-check torque after thermal cycling (for example, after the saw runs hot then cools) • You never estimate by hand or guess at torque—especially for structural fasteners	Over-torquing causes: • Cracked collars or warped saw plates • Bolt stretch, fatigue, and eventual failure Under-torquing causes: • Collar slippage • Misaligned saws • Tooth ejection in insert systems • Unsafe saw installations that can fail under RPM Understanding torque ensures mechanical integrity, safety, and precise performance from every saw you install.
QC08	Quality Control	Understand saw standards and specifications	• Saw Inspection Standards BC Saw Filer Level 1, Sections 9-1-1 to 9-1-2 • Crack Limits and Rejection Criteria BC Saw Filer Level 1, Section 2-2-1 • Tension and Back Specifications BC Saw Filer Level 1, Section 3-2-1	Every saw must meet defined standards for dimensions, tolerances, materials, and safety criteria. You are expected to: •Interpret spec sheets •Verify saw condition against known tolerances •Explain why certain specifications (e.g. runout, tension ring diameter, side clearance) matter This applies to bandsaws, circular saws, and chipper knives. Before any saw is placed into service, it must be confirmed to meet or exceed its specification for safe, accurate operation.	• When receiving a saw (new or resharpened), you verify: •Plate thickness and kerf match required size for the cut line •Tooth geometry is consistent and suitable for the wood type •Tension ring is located correctly for saw diameter and RPM range •Back straightness is within 0.002" over 36", using certified straightedge •Runout at eye and rim is within allowable tolerance (typically <0.006") • You reference industry or mill-standard specs for: •Side clearance values •Lead and tension values •Minimum radius for cracks or weld locations • You reject or tag out any saw that: •Exceeds crack limits (e.g., 1.5" in collar zone on 24–36" saws) •Has eye elongation that prevents secure arbor fit •Fails dish or back straightness tests • You document specs in service logs, tagging sheets, or shift reports	A saw that does not meet spec can: • Fail under speed due to incorrect tension or collar fit • Produce off-size or warped lumber • Introduce dangerous vibration or breakage • Waste time, damage mill equipment, or cause injury Your understanding of saw specs ensures every blade put into production is safe, stable, and fit for purpose—a key responsibility of every qualified filer.
SG01	Saw Guides	Dress and rebuild bandsaw guides		This competency covers the ability to rebuild worn or damaged saw guides—particularly babbitted guides—by removing old metal, repouring or reshaping, and finishing to correct clearance. A well-dressed guide maintains consistent blade support and prevents deflection or heat buildup during operation.	You strip the old babbitt from a guide block and re-pour fresh babbitt using a ladle, torch, and mold fixture. You shape the guide face using a guide dresser or file until it matches specified tolerances. You verify that the contact surfaces are flat and have correct top and side clearance to the blade.	Worn or uneven guides allow the saw to flex, wander, or dish during cuts. A properly rebuilt guide ensures the saw remains true to its path, reducing vibration, heating, and lumber defects. Rebuilding instead of replacing also supports cost-effective maintenance and longer equipment life.
SG02	Saw Guides	*Properly maintain guides and guide dresser*				
SG03	Saw Guides	Rebuild gang and edger saw guides				
SG04	Saw Guides	Measure and test guide thickness and evenness				
SG05	Saw Guides	Safe and proper handling of guides to maintain quality				
SG06	Saw Guides	Properly remove, pour and replace babbitt				
KC01	Knives and Chippers	Demonstrate proper knife grinding and honing	• Grinding Setup and Angles BC Saw Filer Level 1, Sections 8-2-6 to 8-2-8 • Honing Procedure and Edge Inspection BC Saw Filer Level 1, Section 8-2-7 • Grinding Defects and Damage BC Saw Filer Level 1, Sections 8-2-8 to 8-2-11	Knife grinding and honing are precision processes that directly affect chip quality, knife life, and chipper safety. Knives must be ground to the correct bevel angle, using the correct feed rate, coolant flow, and grinding wheel speed. Honing refines the cutting edge, removes wire burrs, and ensures clean shearing action. Both steps are essential. Grinding without honing leads to premature edge failure. Honing without proper grinding produces weak, short-lived edges.	• You inspect and clean the knife before grinding: •Remove pitch or buildup with a fine oilstone •Check for cracks, wear, or bowing • You secure the knife to the grinder: •Clamp knives 10–11" apart using uniform pressure •Tilt the knife bar to the required bevel angle using a calibrated protractor •Even ½° of bevel error can reduce chip quality and overload the machine BC Saw Filer Level 1, Section 8-2-6 • You grind in light passes: •No more than 0.002" per pass •Table feed speed: 60–80 FPM •Use constant coolant flow to avoid overheating •Monitor the knife face—blue tint or shiny finish = warning of heat damage • You hone the knife after grinding: •Use medium then fine honing stones, lightly oiled •Apply a circular or figure-8 motion along the bevel •Remove all wire edges and check under light for a clean, straight edge • You inspect and compare finished knives: •Verify the edge matches a known reference •Ensure no burrs, pits, or overheating marks are present	Incorrect knife grinding causes: • Burned edges that lose temper • Bowed or chipped knives that vibrate or eject • Uneven chip thickness and poor product quality • Overload on motors and chipper disks Skipping or rushing honing results in: • Wire edges that break off mid-cut • Irregular chipping • Damage to knife holders or anvils Knife grinding is not just about sharpness—it's about safety, uniformity, and chipper performance.
KC02	Knives and Chippers	Maintain knife grinding equipment	• Grinder Maintenance and Setup BC Saw Filer Level 1, Sections 8-2-2 to 8-2-5 • Coolant System and Safety BC Saw Filer Level 1, Section 8-2-2 • Wheel Dressing and Truing BC Saw Filer Level 1, Sections 8-2-3 to 8-2-4	Grinders must be properly maintained to ensure even, accurate bevels and safe operation. Dull wheels, clogged coolant lines, or misaligned knife bars will damage knives—and can lead to serious injuries or equipment failure. You are responsible for the daily inspection, cleaning, and function testing of all knife grinding equipment.	• Before using the grinder: •You inspect wheel condition for cracks, glazing, or uneven wear •Perform a ring test on vitrified wheels to confirm integrity •Check that the wheel is trued and balanced •Confirm arbor flange tightness without overtorquing BC Saw Filer Level 1, Section 8-2-4 • You verify coolant system operation: •Flow is consistent and coolant level is adequate •Nozzles are aimed properly to cool the grinding zone •Coolant is mixed per manufacturer spec (usually 5–8% oil in water) • You dress grinding wheels regularly: •Use a diamond dresser or abrasive stick to expose new grit •Watch for signs of glazing, loading, or grooving • You inspect spindle and drive components: •Confirm no axial play or bearing vibration •Listen for motor strain or pulley misalignment • You clean grinder tables, guards, and magnetic bars after each session: •Remove filings and dust •Wipe surfaces and covers •Oil components as needed for smooth movement	Grinders in poor condition cause: • Uneven bevels or overheating • Chatter marks and knife cracks • Incorrect clearance and knife projection • Inconsistent chip thickness and overload on chipper motors Improper wheel maintenance also risks: • Explosive failure of vitrified wheels • Blade edge glazing • Machine downtime and unsafe working conditions Routine grinder maintenance = consistent, safe, and efficient knife performance.

KC03	Knives and Chippers	Set clearances and other required measurements	• Knife-to-Anvil Clearance and Adjustments BC Saw Filer Level 1, Sections 8-1-8 to 8-1-9 • Knife Length and Projection BC Saw Filer Level 1, Section 8-1-7 • Chipper Setup Checks BC Saw Filer Level 1, Section 8-2-14	Clearances in chipper systems—especially between the knife edge and chipper anvil—must be set with precision to ensure clean shearing action, avoid overloading the disk, and maintain chip uniformity. Setting clearances also involves verifying knife projection, knife-to-knife length, and other critical measurements that affect chipper balance and performance. This task demands proficiency with gauges, indicators, and manufacturer tolerances—applied consistently across every knife in the disk.	• You measure knife-to-anvil clearance using a feeler gauge or dial indicator: •For most machines, acceptable clearance ranges from 0.030"–0.060" •You rotate the disk slowly and check clearance at each knife position BC Saw Filer Level 1, Sections 8-1-8 to 8-1-9 • You measure knife projection (stick-out) using a projection gauge: •All knives in the disk must project equally •You adjust shims or backing screws to correct any offset • You confirm knife length uniformity: •Use a micrometer or caliper to ensure length differences are <0.005" •Unequal lengths create imbalance, vibration, and poor chip quality • You clean and inspect all knife pockets, holders, and chipper faces before measurement: •No debris, pitch, or corrosion can interfere with fit or reading accuracy • You document and compare results against machine or mill specification sheets	Incorrect clearances and mismatched projection cause: • Imbalanced disk rotation and excessive wear on bearings • Poor chip formation (oversize, slivers, or fines) • Anvil and disk damage due to knife contact • Higher vibration, noise, and safety risk from knife ejection or fracture Chipper clearances are directly tied to mill chip uniformity, machine longevity, and personnel safety. They must be checked and set with the same discipline as any saw setup.
KC04	Knives and Chippers	Measure and set anvil clearances	• Anvil and Knife Setup Principles BC Saw Filer Level 1, Sections 8-1-8 and 8-2-14 • Clearance Tools and Indicators BC Saw Filer Level 1, Section 8-1-9	Anvil clearance refers to the distance between the cutting edge of the chipper knife and the face of the chipper anvil. This clearance must be measured precisely and adjusted using shims or set bolts. Inconsistent or incorrect anvil clearance affects chip size, causes knife fatigue, and can result in dangerous collisions between components. This task ensures the chipper shears wood cleanly and efficiently, without overloading or damaging knives.	• You access the chipper with all lockout procedures applied • You clean the anvil face and surrounding surfaces: •Remove all pitch, dust, or metal fragments •Verify the anvil face is flat and undamaged • You rotate the disk slowly by hand and use a feeler gauge or dial indicator to measure the gap between the knife edge and the anvil: •Measure at several points across the knife edge •Record clearance values to check for taper or uneven spacing • If adjustments are needed, you: •Add or remove shims behind the knife •Turn set screws to bring the knife into the correct plane •Repeat the measurement process to confirm consistency • You verify that: •All knives have uniform clearance •The anvil face shows no scoring or wear lines that would affect future readings	Too little clearance causes: • Knife-to-anvil collisions • Chipped knives and damaged anvils • Catastrophic failure of knife holders Too much clearance causes: • Inconsistent chip size (thick/fines mix) • Overload on the cutting edge • Vibration and strain on chipper drive systems Proper anvil clearance is essential to chipper safety and chip quality—and must be maintained on every knife installation.
KC05	Knives and Chippers	Demonstrate understanding of runout	• Knife Runout Inspection BC Saw Filer Level 1, Section 8-2-14 • Disk Condition and Balancing BC Saw Filer Level 1, Section 8-1-9	Runout refers to the lateral (side-to-side) or axial (in-and-out) movement of a rotating part—in this case, the chipper disk or knife path. Excessive runout creates vibration, noise, uneven chip formation, and dangerous stress on knife mounts and machine bearings. As a saw filer, you must understand how to detect, measure, and diagnose both types of runout using precision tools, and how runout affects knife clearance, projection, and chip quality.	• You lock out the chipper and rotate the disk slowly by hand • You set up a dial indicator mounted to a fixed reference point (such as the chipper frame or mounting face): • For axial runout, place the indicator on the knife face or clamp • For lateral runout, place the indicator on the side of the disk or knife body BC Saw Filer Level 1, Section 8-2-14 • You record runout values by: • Zeroing the gauge • Rotating the disk one full revolution • Reading the total indicator movement (TIR – Total Indicator Reading) • You compare values to acceptable tolerances (typically <0.005" axial, <0.002" lateral, unless otherwise specified by manufacturer) • You inspect mounting surfaces: • Disk faces must be clean, smooth, and free of corrosion or warping • Knife holders must be seated evenly—no burrs, metal shavings, or missing hardware • If runout exceeds tolerances, you: • Remove and re-seat knives or holders • Inspect and clean the disk hub, face, and mount bolts • Tag the machine for further service if structural issues (e.g., warped disk) are suspected Other examples can be shafts, sharpener arbor, etc.	Unchecked runout causes: • Knife-to-anvil misalignment • Uneven chip thickness and poor product recovery • Vibration that damages knife bolts, clamps, or disk faces • Knife cracking and potential ejection during operation • Long-term damage to chipper bearings and housings Runout affects everything from knife safety to chip uniformity. Every filer must treat runout as a critical inspection point—not a minor defect.
CS01	Circular Saws	Evaluate saws for repairability	• Crack and Damage Limits BC Saw Filer Level 1, Sections 9-1-1 to 9-1-2 • Saw Retirement and Collar Zone Inspection BC Saw Filer Level 1, Section 2-2-1	Every circular saw must be evaluated before service to determine if it can be safely repaired or if it must be permanently removed. This evaluation includes inspecting the plate, teeth, gullets, collar line, eye, and tension ring. Saw repairability depends on meeting strict visual and dimensional tolerances—especially for crack length, plate damage, and eye elongation. You are expected to perform this inspection independently and decide based on objective criteria—not just “appearance.”	• You inspect the saw visually and with proper lighting: •Use backlighting or a flashlight under the plate to reveal dish, warp, or hairline cracks •Focus inspection around: oGullets (stress points) oCollar line (common failure zone) oEye and bolt holes (look for elongation or ovaling) • You use dye penetrant or marking fluid if needed to locate fine cracks • You check for: •Cracks exceeding allowable lengths oFor example: in a 24–36" saw, a crack longer than 1½" in the collar zone requires removal from service •Warping or twist exceeding flatness spec (e.g. >0.006" runout is usually unacceptable) •Tension ring failure, missing drop, or visible tension imbalance •Eye elongation that prevents secure arbor fit • You reference WorkSafeBC Table 27-1 or shop-specific repairability criteria • You record your findings in the shop log or tag the saw accordingly: •"Serviceable" •"Send for weld and rebench" •"Scrap—exceeds safe limit"	A damaged circular saw running at high RPM can: • Explode due to plate failure • Throw a tooth, clamp, or gullet segment • Cause severe personal injury or death • Lead to equipment damage, lumber defects, and unexpected downtime This inspection is the first line of defense. If a saw goes back into service with hidden damage, it can fail catastrophically.

CS02	Circular Saws	Replace teeth as needed	• ITCO Tooth Removal and Insertion BC Saw Filer Level 2, Section 4-2-3 • Bit and Shank Replacement BC Saw Filer Level 2, Sections 4-1-9 to 4-1-11	What this means: Circular saw teeth wear over time from heat, abrasion, and impact. Depending on saw design, teeth may be bit-and-shank, inserted tooth (ITCO), or welded solid tip. Replacing worn or broken teeth involves safely removing the damaged part, cleaning the seating surface, and securing the new component with the correct tools and technique. Tooth replacement requires careful alignment, correct seating, and the proper fit. Misaligned teeth can crack saw plates or fly off during operation.	• For Inserted Tooth (ITCO) saws: •Use a brass punch to drive out the old tooth •Clean the V-slot with a wire brush •Insert the correct left-hand or right-hand replacement tooth •Secure the new tooth with pins, rivets, or drive wedges, as required BC Saw Filer Level 2, Section 4-2-3 • For Bit and Shank saws: •Use a removal wrench to back out the worn shank •Clean debris and carbon from the bore •Insert the replacement bit and shank, ensuring light friction fit •Final-seat using a hammer and dolly, with care to avoid over-tightening • During replacement: •You inspect tooth seating for gaps, twist, or over-insertion •Use a template or gauge to verify tooth height and projection match across the saw •You replace only with OEM or approved replacement teeth • After all replacements: •You rotate the saw to check for interference, runout, or seating error •You mark and log which teeth were changed and the reason	Poor tooth replacement causes: • Tooth ejection under RPM • Vibration, imbalance, and tracking failure • Misalignment that damages the plate, gullets, or collar Teeth are not just cutting edges—they are part of the saw's balance system. Precision in installation is essential for safe, long-running saws.
CS03	Circular Saws	Properly weld and repair cracks	• Crack Welding and Annealing BC Saw Filer Level 1, Sections 9-7-3 to 9-7-6 • Filler Metal and Torch Technique BC Saw Filer Level 1, Section 9-5-4 to 9-5-5	When a saw develops cracks within allowable limits, it may be weld-repaired instead of being scrapped. You are expected to follow strict procedures for crack preparation, welding technique, filler selection, and post-weld treatment (annealing and peening) to ensure structural integrity is restored without introducing new stress. Crack welding is not just a fabrication task—it's a precision repair process that affects the saw's strength, tension, and safety at full speed.	• You inspect the saw and identify all cracks: •Most cracks are located in gullets, collar zones, or plate edge •Cracks are marked, and any longer than spec (e.g. 1½" in collar zone) disqualify the saw from repair BC Saw Filer Level 1, Section 2-2-1 • You prepare the crack: •Drill a stress relief hole (1/8"–3/16") at the end of the crack to stop propagation •Bevel the crack edges using a small grinder or file (torch prep if required) • You select the correct welding method: •Use MIG, TIG, or oxy-acetylene, depending on saw thickness and shop standard •Choose correct filler: e.g., ER 70S-6 for MIG; high-carbon rod for oxy-acetylene •Maintain a neutral flame or low-voltage arc to avoid over-hardening • You control heat during the weld: •Use short weld segments to reduce heat input •Preheat saw to 300–400°F if required to reduce hardening risk •After welding, perform annealing: oBring the welded area to straw-to-blue color (~850–1200°F) twice oUse temperature crayons or a color chart to confirm • After cooling: •Grind the weld flush with the saw plate •Inspect for porosity, shrinkage, or distortion •Peen the weld lightly on an anvil to relieve internal stress •Check for restored flatness and balance during benching	Improper crack repair can lead to: • Rapid crack propagation and catastrophic failure • Welds that are too brittle or too soft • Loss of saw tension and tracking • Safety hazards from undetected heat zones or hard spots Proper welding restores the saw's structure while preserving critical characteristics like tension, balance, and gullet spacing. It must be done with maximum precision and post-weld verification.
CS04	Circular Saws	Operate topper, facer and side dresser	• Top and Side Grinding Procedures BC Saw Filer Level 2, Section 6-4-2 • Tooth Geometry and Angle Setup BC Saw Filer Level 2, Section 4-1-11 • Profile Inspection and Grinding Defects BC Saw Filer Level 2, Section 6-4-3	These three machines are used to grind and shape the geometry of circular saw teeth: •The topper grinds the top (bevel) of the tooth •The facer shapes the front (hook) face •The side dresser adjusts tooth width and side clearance Correct operation ensures the saw cuts straight, maintains proper kerf, and runs safely under full load. Misuse or poor setup leads to premature wear, vibration, and cutting defects.	• You mount the saw to the grinder: •Secure saw on correct arbor with flat and concentric mounting •Remove any wobble before grinding •Use proper spacers and clamps to align the saw perfectly • On the topper, you: •Set the correct rake and bevel angles based on saw type and species •Use factory cam or adjustable cam profiles to match original tooth shape •Monitor wheel feed to remove consistent material (avoid under- or over-grind) • On the facer, you: •Grind the tooth face at the correct hook angle, usually 0° to 15° •Ensure the wheel tracks square to the tooth body •Avoid creating notches or back grinding errors • On the side dresser, you: •Dress both left and right flanks of the tooth, removing 0.002"–0.004" per side •Maintain original tooth width and clearance •Use templates or micrometers to confirm uniformity • During the process: •You ensure coolant flow is constant, and the wheels are dressed and balanced •You inspect teeth regularly with a magnifier and reference template •After sharpening, you check for: oConsistent profile oSmooth finish (no grinder burns) oEqual tooth height and projection	Incorrect grinding causes: • Irregular kerf and poor tracking • Heat cracks or burned cutting edges • Uneven cutting pressure, leading to blade wobble • Shortened saw life and unsafe operation Top, face, and side grinding define the saw's performance. Accurate grinding preserves geometry, prevents saw failure, and ensures clean, efficient cutting under production conditions.
CS05	Circular Saws	Bench circular saws (level and tension)	• Leveling and Tensioning Principles BC Saw Filer Level 1, Sections 6-3-1 to 6-4-2 • Drop Test and Tension Ring Evaluation BC Saw Filer Level 1, Section 6-5-1 • Saw Plate Straightening BC Saw Filer Level 3, Section 11-2-1	What this means: Benching is the process of removing distortion (leveling) and introducing a controlled internal stress pattern (tensioning) to ensure the saw runs straight and stable at full operating speed. This is one of the most critical and skill-intensive tasks a filer performs. You must be able to: •Identify and correct dish, humps, and ridges •Apply correct tension radius using hammers or stretcher rolls •Verify tension using proper gauges and techniques •Restore the saw's ability to run flat at rest and true under RPM	• Leveling: •Place the saw on a certified leveling slab or plate •Use a straightedge and backlighting to detect bumps, humps, and dishing •Use a crowned leveling hammer and work in small overlapping strikes •Support the saw with the correct anvil radius and rotate between strikes to ensure uniformity •Check your progress frequently—stop when the plate is flat within 0.002" or less BC Saw Filer Level 1, Section 6-3-1 to 6-4-2 • Tensioning: •Identify the correct tension radius, which depends on saw diameter, speed, and application •Apply tension using: oTensioning hammer (for fine adjustment) oStretcher roll (for large-scale tensioning) •Use a drop test or tension gauge to confirm proper stress pattern: oTension ring should "drop" at the expected radius when lightly pressed with a back gauge oThe ring must be concentric, not egg-shaped or offset • Final checks: •Flex the saw manually and verify it returns to shape •Inspect for uncorrected dish or signs of overworked areas •Confirm saw is balanced and tensioned for speed and load	Improper benching leads to: • Wobbling and snaking saws • Kerf collapse and tracking failure • Premature saw failure or crack propagation • Excessive heat buildup and vibration • Dangerous saw instability at speed A properly benched saw is safe, straight, and stable. This task defines the skill of a journeyperson filer and must be done with full attention to detail, patience, and precision.

CS06	Circular Saws	Operate and maintain saw shop equipment required for circular saw maintenance	• Saw Shop Equipment Operation and Maintenance BC Saw Filer Level 1, Sections 6-1-1 to 6-1-4 • Grinder Setup and Coolant Use BC Saw Filer Level 2, Section 4-1-11 • Welding and Torch Safety BC Saw Filer Level 1, Section 9-5-4 to 9-5-5	Filing room equipment must be accurately calibrated, safely operated, and routinely maintained to ensure safe and consistent circular saw servicing. This includes: •Grinders (top, face, side) •Welders and torches •Hammers and anvils •Tension gauges, drop testers, and straightedges •Collaring tools and cleaning systems You are responsible for operating and caring for all of these tools according to manufacturer instructions and shop SOPs.	• Before use: •Inspect power tools for proper guards, switches, and RPM compatibility •Check grinding wheel condition (ring test, face condition, and dressing) •Confirm coolant flow, mixture, and nozzle direction • During use: •Use the correct flanges, mounts, and spacers for each saw and machine •Monitor for vibration, overheating, or chatter •Keep safety guards in place at all times—never bypass interlocks or covers • After use: •Clean grinding stations and tension tools •Drain or refill coolant systems as needed •Store tools properly (e.g., hammers on hooks, gauges in foam-lined drawers) • Regular maintenance includes: •Replacing worn belts, bearings, or grinding wheels •Lubricating sliding parts and adjusting set screws •Testing electrical systems and tagging out unsafe gear •Calibrating tension and drop gauges against known standards • You record maintenance tasks in a shop log or checklist	Poorly maintained equipment leads to: • Inaccurate tensioning or grinding • Safety hazards from electrical faults or mechanical failures • Downtime due to tool unavailability or contamination • Inconsistent saw quality across shifts Your equipment is your responsibility. The quality of your saw work is directly tied to the condition of the tools you use.
BS01	Band Saws	Properly swage teeth or replace Stellite inserts	• Swaging and Shaping Procedures BC Saw Filer Level 1, Sections 7-3-1 to 7-3-27 • Stellite Tip Removal and Welding BC Saw Filer Level 2, Sections 6-2-3 to 6-4-1	Band saw teeth must be prepared with the correct cutting width and clearance to ensure straight cuts, stable tracking, and efficient chip removal. This is achieved by either swaging (cold-forming the tooth tip) or replacing Stellite inserts (hard-surfaced tips brazed to the saw). Each method demands careful setup, accurate geometry, and clean finishing—done without overstressing the tooth or deforming the saw body.	For Swaged Teeth: • You identify the correct saw gauge and tooth spacing before setup • Use a manual hand swage, air swage, or automatic swage/shaper depending on shop equipment • Set the side die spacing based on species and saw gauge (refer to mill guidelines) • Apply steady pressure (air swage set to 60–80 psi) to cold-form the tip outward • Use the shaper to: •Restore radial clearance •Create tangential back taper •Refine kerf to specification (±0.002") For Stellite Inserts: • Inspect tip for wear: if it's worn past 50% of height or chipped, it must be replaced • Remove worn tip using a light oxy-acetylene torch: •Apply neutral flame •Use brass brush to sweep away silver solder • Clean tip seat and prepare the surface for new insert • Align insert to correct projection, square to gullet and saw back • Re-weld using silver solder and neutral flame • Inspect for alignment, overhang, and complete bond	• Improper swaging causes: •Overworked saws •Irregular kerf and tracking problems •Increased vibration and heat cracks • Improper tipping causes: •Tooth ejection under load •Uneven side clearance and saw snaking •Burned tips that prematurely dull Correctly prepared cutting teeth = safe sawing, efficient feed rates, and long saw life.
BS02	Band Saws	Check and maintain tooth alignment	• Tooth Alignment Procedures BC Saw Filer Level 1, Section 7-2-6	Tooth alignment refers to the position, height, and angular accuracy of each tooth on the saw. Poor alignment results in: •Irregular cutting load •Saw vibration •Premature wear and uneven tooth grinding As a filer, you must inspect, correct, and confirm alignment using gauges and hand tools—especially before tensioning or grinding.	• You use a tooth alignment gauge (with or without a dial indicator): •Place the gauge on the saw and advance tooth by tooth •Identify teeth that are bent, tipped forward/backward, or twisted • For minor misalignment: •Use a set wrench to bend the tooth carefully back to neutral •Apply pressure slowly and deliberately—don't overstress the root • For major misalignment or spring-back: •Bend slightly past center to relieve stress •Re-check after a few teeth to ensure correction holds • You inspect again after grinding or saw flipping: •Ensure no teeth shifted due to wheel pressure or saw stress • Alignment must be done after leveling and before tensioning	• Misaligned teeth cause: •Vibration and snaking cuts •Uneven wear and gullet cracking •Poor tracking and reduced tension performance • Ignoring this step can ruin all other setup work Tooth alignment directly impacts saw performance, noise, feed rate, and safety. Precision here prevents cascading issues downstream.
BS03	Band Saws	Grind teeth to proper geometry and regrind gullets as required	• Tooth and Gullet Grinding BC Saw Filer Level 1, Sections 7-4-15 to 7-4-18 • Sliver Tooth Grinding Techniques BC Saw Filer Level 1, Sections 13-3-3 to 13-3-4	Band saw tooth geometry directly affects chip removal, feed rate, saw tracking, and cut quality. You are expected to restore worn or swaged teeth to their correct hook angle, gullet depth, and clearance geometry using the proper grinding wheels and techniques. This task also includes regrinding gullets, which must be maintained to the correct shape and depth to prevent fatigue and cracking.	• You determine tooth form (e.g., straight, sliver, hooked) and select the correct: •Grinding cam profile •Tooth template or sample •Grinding wheel (CBN for Stellite; vitrified for swaged steel) • You perform profile grinding or top-and-face grinding: •Profile grinding replicates the full tooth shape using a cam •Top-and-face grinding targets wear zones only • You set angles according to saw design: •Hook angle, typically between 0° and 30° •Back clearance and face clearance verified with a protractor or template • You maintain correct gullet shape: •Avoid flat-bottom gullets or undercutting the root •Use a gullet radius suitable for tooth pitch and species (larger gullets for frozen or knotty wood) • You use light feeds and inspect for: •Burns or blue tint on tooth faces •Tooth length uniformity •Gullet symmetry across the saw • You inspect after grinding using: •Magnifier or template overlay •Dial indicator if checking height consistency	Improper grinding leads to: • Uneven cutting pressure and saw drift • Excessive gullet stress → cracks • Loss of kerf or burn lines in lumber • Shortened saw life due to chipped or deformed teeth Correct geometry ensures: •Balanced cutting •Efficient chip flow •Safer operation under tension and feed pressure
BS04	Band Saws	Repair weld teeth and cracks	• Crack Detection and Weld Procedure BC Saw Filer Level 1, Sections 9-7-3 to 9-7-6 • Peening and Strain Relief BC Saw Filer Level 3, Section 5-4-7 • Crack Inspection Tolerances BC Saw Filer Level 1, Section 6-8-2	Tooth breakage and cracks in bandsaws must be repaired using proper welding, crack stop drilling, and post-weld stress relief. These repairs restore tooth integrity and prevent cracks from spreading across the plate. You must know how to identify weldable vs. scrap damage, prepare and weld properly, and peen or grind the area to restore balance and safety.	• You inspect damaged areas using: •Backlighting or flashlight •Magnifier for surface fractures •Dye penetrant for hairline cracks • For minor cracks: •Drill a stress relief hole at the end of the crack •Bevel crack edges slightly for weld penetration •Weld using: oMIG or TIG for steel oOxy-acetylene for fine control on thin plates • For tooth repairs: •Remove fractured or deformed tooth material •Weld a build-up that matches the original tooth profile •Regrind to match tooth geometry • After welding: •Peen the repair using a small crowned hammer to relieve stress •Grind flush to plate or tooth face •Inspect for porosity, pits, or incomplete fusion •Level and tension the area before saw goes back into service	Unrepaired or poorly welded cracks: • Spread quickly under feed strain and heat • Lead to catastrophic failure (snapping or exploding blades) • Cause inconsistent tension and poor cut quality Weld repairs extend saw life, reduce replacement costs, and prevent safety incidents—but only when done with precision and stress control.

BS05	Band Saws	Explain and demonstrate proper leveling of band saw	• Leveling Techniques and Inspection BC Saw Filer Level 1, Section 13-1-1 • Back Maintenance and Plate Prep BC Saw Filer Level 1, Section 13-1-2	Leveling is the process of removing twist, humps, dish, and other distortions from a bandsaw plate to restore flatness. This is a foundational benching skill and must be performed before any tensioning. A perfectly leveled saw ensures that the blade runs quietly, tracks properly, and doesn't develop cracks or heat stress under speed. Leveling requires the ability to detect surface irregularities under 0.002" and correct them using proper hammer technique and anvil setup.	• You place the saw on a certified leveling slab: •Plate must be clean and free of oil, chips, or pitch •You verify that slab surface is dead-flat using a calibrated straightedge • You use a bright inspection light and a straightedge to: •Detect high spots, ridges, twist, and dish •Sweep multiple zones: edge, gullet line, mid-body, and back BC Saw Filer Level 1, Section 13-1-1 • You select the correct crowned leveling hammer: •Light hammer for fine work •Heavier hammer for severe dish or warp • While leveling: •You always strike across the long axis of the bump or ridge •Support the saw with the appropriate anvil crown radius •Work in small overlapping zones, rotating the saw as needed •You frequently re-check with straightedge to prevent overworking • You avoid hammering: •In the gullet area •Near welds or stress-relieved zones •On saws not yet back side aligned or with cracked teeth • Once flatness is restored: •You confirm the plate is within 0.002" total deviation across all regions •You do not proceed to tensioning until leveling is verified	Unleveled saws: • Wander during the cut • Generate heat at guides • Fail tension tests and lead to gullet cracking • Produce poor lumber quality and cause guide wear Leveling is the foundation of all saw performance. Even the best-tensioned saw will fail if it hasn't been leveled correctly first.
BS06	Band Saws	Explain and demonstrate proper tensioning of band saws	• Tension Gauge Technique and Tension Location BC Saw Filer Level 1, Sections 13-4-1 to 13-4-3 • Tire Line Identification and Strain Compensation BC Saw Filer Level 3, Section 5-4-1 • Tensioning Faults and Roll Patterns BC Saw Filer Level 3, Sections 5-4-6 to 5-4-12	Tensioning is the introduction of a controlled internal stress pattern in the saw plate to help the blade resist deflection, heat, and strain during high-speed cutting. Tensioning creates a tension ring—a stress-relieved zone typically located between the gullet and the back. This skill is essential for band saw stability, tracking, and cut accuracy. A tensioned saw should open slightly under flex and return to its natural shape without dishing.	• Before beginning: •The saw must be fully leveled •You mark the tension radius and tire line using a back gauge and layout tool oTire line = typically 1–1½" below gullet and above back edge • You assess existing tension using: •A tension gauge with light source and straightedge •Identify tight (convex) and open (concave) areas •Mark these zones for correction BC Saw Filer Level 1, Section 13-4-1 • You apply tension using: •A stretcher roll for uniform stress application oRoll direction and overlap carefully controlled •Or a tensioning hammer for local adjustments oWork inside tension ring radius only oAvoid hammering near welds or at the back • Adjustments are made based on saw condition: •Tight spot: apply roll directly on the bump •Open spot: roll adjacent to allow metal to draw in • You verify: •The tension ring is uniform and concentric •Tension is neither too deep nor shallow •The saw returns to shape when flexed and does not show ripples or bias •Final ring position aligns with wheel crown and strain system	Improper tensioning causes: • Flutter, snaking, and poor cut control • Overheating, vibration, and gullet cracking • Loss of kerf and dangerous saw failures Correct tension gives the saw its strength, flexibility, and resistance to thermal distortion. It's the signature of a skilled filer.
BS07	Band Saws	Operate and maintain saw shop equipment required for band saw maintenance	• Stretcher Roll Setup and Maintenance BC Saw Filer Level 1, Section 5-3-5 • Leveling Slab and Hammer Bench Maintenance BC Saw Filer Level 3, Section 5-2-8 • Tool Storage and Organization BC Saw Filer Level 1, Section 5-1-6	Band saw maintenance depends on a wide range of specialized equipment including leveling anvils, stretcher rolls, tension gauges, grinders, lighting systems, and inspection slabs. Filers must not only know how to use this equipment—but how to inspect, clean, calibrate, and troubleshoot it. If the tools are off, the saws will be off. This task is about ensuring precision, reliability, and safety across all shop equipment.	• Stretcher Roll: •Inspect crown radius (typically 10" radius, or 6" for thin-gauge saws) •Adjust table height and roll contact so the saw feeds flat, without side deflection •Check that rollers are concentric and lubricated •Clean swarf and oil build-up from guides and feed rollers • Leveling Slab and Hammer Bench: •Confirm surface is nick-free and dead-flat •Use straightedge and flashlight to check for high spots •Clean after each use and avoid dropping tools on the surface BC Saw Filer Level 3, Section 5-2-8 • Inspection Tools (back gauge, drop tester, micrometers): •Clean lenses and measuring surfaces before and after use •Store in foam-lined cases •Verify calibration by testing against known reference saws BC Saw Filer Level 1, Section 5-2-1 • Lighting and Lift Systems: •Ensure band saw bench has proper overhead inspection lighting •Replace flickering or dim bulbs •Inspect lift assist systems (if used) for travel range, locking, and alignment • Maintenance Tasks: •Check for worn belts, cracked grinding wheels, or loose guards •Lubricate all moving parts using recommended shop oils •Document findings and tag out any unsafe or out-of-spec equipment	Poorly maintained equipment causes: • Inaccurate tensioning and leveling • Grinder chatter and out-of-round wheels • Dropped or warped saws • Lost time due to faulty tools or misdiagnosed issues Well-maintained equipment produces consistent, high-performance saws—and ensures your safety and precision as a filer.
BS08	Band Saws	Display proper technique for flipping a band saw	• Flipping and Hand Change Instructions BC Saw Filer Level 1, Sections 7-1-2 to 7-1-3 • Band Saw Handling Hazards BC Saw Filer Level 1, Section 2-1-10	Flipping a band saw (changing its "hand") is necessary to prepare it for left- or right-hand cuts, depending on mill configuration. Due to the size, tension, and stored energy in band saws, flipping is a high-risk task that requires physical coordination, situational awareness, and teamwork. Incorrect flipping can cause severe injury or deform the saw.	• You inspect the saw: •Confirm whether it's a right-hand or left-hand saw based on tooth direction •Plan the flip direction and clear space on all sides • You follow saw size rules: •For saws up to 8" wide: flip can be done solo •For 9"–12" saws: two people required •For over 12": four-person team minimum, plus overhead clearance • You grip from the back side (opposite the teeth): •Stand square, knees slightly bent •Begin twisting the saw slowly away from your body •Maintain control of both arms and walk backward as you complete the rotation • During the flip: •Watch that the saw doesn't spring out or twist suddenly •Ensure teeth don't strike the floor, bench, or nearby tools •Never attempt flip near grinders, racks, or walkways • After flipping: •Inspect for bent teeth or twist •Place saw flat on the slab and confirm no back curve or tension distortion occurred	Improper flipping can result in: • Lacerations or impact injuries from uncontrolled movement • Cracked or distorted saw plates • Lost time from damaged saws or injured filers Correct flipping technique prevents injuries and protects the saw's alignment and structural integrity.

BS09	Band Saws	Proper disposal of band saws	• Band Saw Disposal and Handling Rules BC Saw Filer Level 1, Section 2-2-13 • Red Tag and Defect Removal Protocol BC Saw Filer Level 1, Section 7-1-4	Band saws that are cracked, twisted, or worn beyond repair must be safely and permanently removed from service. Coiling saws for disposal is strictly prohibited due to the stored spring energy in the back. Proper disposal involves cutting the saw into short sections and depositing them in a designated metal scrap bin. This procedure is essential for eliminating workplace hazards and preventing damaged saws from being mistakenly reused.	• You inspect the saw to confirm it's beyond service: •Multiple gullet cracks •Loss of back (overground or fractured) •Tension or leveling failure •Exceeded crack or twist limits based on mill policy or manufacturer tolerance BC Saw Filer Level 1, Section 2-2-1 • You mark the saw clearly: •Use a red tag or "SCRAP" label •Ensure it's placed where all staff can see it •Log reason for disposal in shift record or defect log • You cut the saw into safe segments: •Use cutting torch, shear, or abrasive wheel •Cut into sections no longer than 3–4 feet •Segments must be fully detached—no loops or coiled ends • You place segments in: •A steel scrap bin labeled for metal disposal •Never in garbage or storage areas •Never attempt to bundle or wire saws together for disposal	• Coiled saws can uncoil violently, causing: •Severe lacerations •Impact injuries •Fatal incidents if ejected or dropped • Reintroduction of damaged saws into service causes: •Saw failure under speed •Production stoppage •Serious safety violations Proper disposal ensures that unsafe tools are removed from circulation permanently, keeping the shop and your team safe.
BS10	Band Saws	Recognize and safely address hurt or wrecked band saws	• Wrecked Saw Identification BC Saw Filer Level 1, Section 7-2-3 • Crack and Damage Removal from Service BC Saw Filer Level 1, Sections 2-2-1 and 2-2-13	You are responsible for identifying saws that are no longer fit for service due to cracks, twist, gullet deformation, loss of back, or tracking damage. Hurt or wrecked saws must be immediately removed from rotation, tagged, and either repaired or scrapped based on defined safety limits. This competency is about keeping unsafe blades off the machine line before they fail.	• You inspect band saws using: •Straightedge, backlighting, and flashlight •Visual and tactile inspection along gullets, back, and welds •Dye penetrant if fine cracks are suspected • You look for: •Cracks > ½" in 5–12" saws (usually beyond safe limit) •Twist that exceeds leveling ability •Loss of back (excessive grinding, cracks, or thinning) •Back stress lines or tension failure that cannot be reworked • When a saw is identified as hurt: •You tag it out immediately •Use a red tag, "OUT OF SERVICE" label, or electronic system •Remove it from work area to prevent mix-up • You notify your lead or mentor and record: •Type of damage •Location on saw •Proposed action: repair, bench and test, or scrap • If repairable: •You follow welding, leveling, or tensioning steps before retesting •You only return saws to service after full inspection	Running a damaged saw causes: • Catastrophic blade failure under tension and heat • Injury to operators or bystanders • Collateral damage to guides, wheels, and feed components • Wasted material and downtime Early identification protects people, tools, and machines—and reinforces safety as a non-negotiable part of the filing trade.
BS11	Band Saws	Checking and maintaining straight edges and other tools	• Tool Maintenance and Cleaning BC Saw Filer Level 1, Section 3-2-2 • Filing Room Procedures and Bench Care BC Saw Filer Level 1, Section 2-1-10 • Tool Organization and Storage BC Saw Filer Level 1, Section 5-1-6	Straightedges, micrometers, back gauges, and dial indicators are precision measurement tools used during leveling, tensioning, and inspection. Their reliability is critical. If a straightedge is warped, dirty, or damaged, every measurement you take will be flawed. You are responsible for keeping all precision tools clean, damage-free, calibrated, and properly stored.	• Before and after every use: •Wipe down tools with a soft lint-free cloth •Remove all pitch, filings, or oil •Inspect edges for nicks, dents, or burrs •Never drag a straightedge across a saw plate or hard surface • For micrometers, back gauges, and dial indicators: •Check zero reading before use •Avoid using if the tool has been dropped or exposed to heat •Lightly oil the spindle or pivot points (where applicable) • Storage: •Place tools in foam-lined drawers or protective sleeves •Never store measuring tools with hammers or striking tools •Return tools to proper location after each task—not just end-of-shift • Report and tag out any: •Tool that gives inconsistent readings •Tool with visible edge damage •Tool that is suspected to be out of spec	Precision tools that are dirty, damaged, or misused lead to: • False tension or leveling results • Inaccurate gullet measurements • Unnecessary rework or rejected saws • Saw performance issues that originate from faulty measurements Tool care is part of saw care—precision tools are the foundation of all filing work.
BS12	Band Saws	Calibration of back gage	• Back Gage Use and Maintenance BC Saw Filer Level 1, Section 5-2-1 • Precision Tool Care BC Saw Filer Level 1, Section 3-2-2 • Filing Room Tool Organization BC Saw Filer Level 1, Section 5-1-6	The back gauge (also called back gage) is a specialized inspection tool used to detect saw back curve, tire line, and tension ring shape. You must ensure this tool is accurate, undamaged, and properly zeroed every time it's used. Calibration ensures that readings are trustworthy—even a 0.002" deviation in reading can result in a tensioning error.	• Before each use: •Visually inspect for bent tips, loose fasteners, or surface damage •Ensure indicator reads zero when placed on a certified flat surface •If not, re-zero or reset the dial indicator • During calibration: •Compare back gage readings to a reference straightedge or certified master saw •Confirm that all moving parts glide smoothly and do not bind or rock • After use: •Wipe tool clean and store in its protective foam case •Do not drop, strike, or leave the gage exposed to grinder dust • If dropped or damaged: •Tag out the tool immediately •Notify shop lead or mentor •Do not attempt to recalibrate without approval or training	Back gage calibration affects: • Accuracy of tension verification • Tire line positioning • Overall flatness and balance of saws Using a miscalibrated tool introduces false tension zones, leading to vibration, overheating, and tracking failure. The tool is only as reliable as its calibration.
BS13	Band Saws	Handling, storage and transportation of band saws	• Handling and Transportation Rules BC Saw Filer Level 1, Section 7-1-3 • Filing Room Safety and PPE BC Saw Filer Level 1, Section 2-1-10 • Saw Storage Practices BC Saw Filer Level 1, Section 7-1-4	Band saws are large, heavy, and under tension—even when out of service. They must be handled with strict attention to safety, stored to prevent distortion, and transported using approved carts, racks, or lifting equipment. Poor handling leads to bent backs, twisted plates, damaged teeth, and serious personal injury.	• When moving band saws: •Wear steel-toe boots and cut-resistant gloves •Always lift from the back side, away from the teeth •Use team lifting or mechanical assistance for wide saws (10"+) • Never: •Flip saws near racks or machines •Carry saws horizontally over cluttered or uneven floors •Coil a saw without proper tooling and clearance • For storage: •Hang saws by designated saw hooks or padded racks •Never store flat on concrete or stack saws •Ensure hanging saws are protected from contact or crowding • For transport: •Secure saws in designated crates, carts, or vertical racks •Label saws "for service" or "scrap" to prevent mix-ups • Report any saws that: •Have bent backs, collapsed kerf, or unmarked damage •Were dropped, flipped improperly, or dragged	Poor handling and storage causes: • Permanent saw damage • Increased risk of failure during use • Tooth fractures, twist, and crack propagation • Severe injuries from saw spring-back or unexpected movement Safe handling protects both personnel and high-value saws—and reinforces a professional filing room standard.

MMS01	Mill Machine Set-Up	Set-up and align head rig (incl. strain, guide pressure, crossline)	• Headrig Setup Principles BC Saw Filer Level 3, Sections 6-2-1 to 6-2-2 • Guide Pressure and Strain Setup BC Saw Filer Level 3, Sections 6-5-4 to 6-5-8	The headrig is the primary saw assembly that cuts logs into cants and flitches. Accurate setup ensures: • The saw runs straight on the cut line • The strain system compensates for heat and feed stress • The guides apply consistent pressure • The saw stays centered on the true sawing axis (crossline) As a filer, you must align all mechanical and structural systems—including wheels, guides, and strain—in accordance with mill specs and geometric tolerances.	• Pre-alignment checks: •Verify foundation is stable (no broken welds, cracked bases, or missing bolts) •Remove saw, guides, scrapers, and debris from the alignment path • Level the top wheel: •Place a machinist's level across wheel face or hub •Use shims or adjustment bolts to eliminate tilt •Confirm wheel is level in both horizontal and vertical planes • Crossline alignment: •Use plumb bob, centering bar, and three-point triangulation •Measure between front/back guide mounting holes to ensure parallel saw travel •Adjust guides and wheels until measurements are square and equal (A=B and C=D) • Strain system: •Verify strain rods or hydraulic actuators apply force evenly •Set according to saw size, species, and feed pressure specs •Observe strain line drop using tire line inspection (e.g. 1" to 1½" below gullet) • Guide pressure: •Install guides and test contact using the guide pressure pin method •Confirm all bolts apply equal compression •Ensure guide face and saw body are clean and lubricated	Incorrect headrig setup leads to: • Saw snaking or dishing under feed load • Inconsistent lumber thickness and cant taper • Excessive guide and bearing wear • Higher operating temperatures and tension collapse A precisely aligned headrig produces straight cuts, stable saw tracking, and consistent lumber dimensions.
MMS02	Mill Machine Set-Up	Set-up circular gang saws (incl. arbor runout and wear)	References: • Circular Gang Setup and Arbor Inspection BC Saw Filer Level 2, Sections 11-3-7 to 11-3-30	Gang saws consist of multiple circular saws mounted on a common arbor, used for high-speed ripping. Proper setup requires: •Arbor inspection •Runout measurement •Accurate collar and key seating •Alignment of all blades in the cut path This ensures each saw cuts parallel, without wobble or tracking errors under full feed speed.	• Inspect arbor system: •Clean arbor and check for wear or scoring •For keyed or splined systems: oMeasure groove and key depth oReplace sleeves or arbor if wear exceeds manufacturer limits • Check arbor runout: •Mount a dial indicator to a fixed base •Zero the gauge on the arbor face or shaft •Rotate the arbor slowly and record total indicator runout (TIR) oAcceptable runout is typically <0.002" • Inspect collars and keys: •Collars must be clean, flat, and free of dents •Keys must seat snugly without slop •Collars should clamp saws squarely and evenly • Install saws: •Slide each blade onto the arbor, aligned with spacers or bushings •Check that all saws are parallel and evenly spaced •Tighten collar bolts to torque spec using a calibrated wrench •Rotate the arbor and check for: oTooth path runout oPlate wobble or vibration • For shifting edgers or gangs with setworks: •Inspect rails, bushings, and slides for smooth operation •Lubricate moving parts and check for misalignment or jamming	Incorrect gang saw setup causes: • Wavy cuts and board variation • Saw wobble, heat buildup, and stress cracking • Premature saw failure due to arbor misalignment • Excess vibration → damage to guides, arbors, collars, and bearings A precise gang setup maximizes cutting efficiency and saw life—especially under high-volume ripping conditions.
MMS03	Mill Machine Set-Up	Set-up band mill (incl. strain, guide pressure, crossline)	• Bandmill Setup Sequence BC Saw Filer Level 3, Sections 6-2-1 to 6-2-13 • Guide Pressure Setup BC Saw Filer Level 3, Section 6-5-6	Setting up a band mill involves aligning the saw line, top and bottom wheels, strain system, and guide pressure so that the saw tracks properly and cuts with precision. Unlike circular setups, band mills rely on exact positioning of a flexible blade—meaning small errors lead to wandering cuts, guide wear, and tension failure. As a filer, you're expected to restore the mill to square geometry and functional tension balance every time a saw is installed.	• Lock-out and prep: •Lock out all energy sources (electrical, pneumatic, hydraulic) •Remove the saw, guides, shear boards, and any scrapers •Clean wheel faces and guide mounts thoroughly • Level and align wheels: •Level the top band wheel using a machinist's level •Use shims, jackscrews, or wedges to eliminate tilt •Check both face and edge alignment BC Saw Filer Level 3, Section 6-2-2 • Rail and frame alignment: •Use a T-jig or straightedge system to verify alignment of the flat track and V-rail •Measure diagonals to ensure the carriage is square to the saw line • Install saw and check tire line: •Mount the saw, apply baseline strain •Check tire line using a back gauge: oTypically 1"–1½" below gullet and above back edge •Ensure saw contacts both wheel crowns evenly • Set guide pressure: •Reinstall guides •Use a pressure pin gauge to confirm equal contact on both sides •Adjust bolts for uniform contact pressure along the guide face • Crossline check: •Use a spider and centerline gauge to confirm saw line is square to the feed path •Ensure centerline measurements from top and bottom guides match	Incorrect band mill setup leads to: • Saw drift and inconsistent board thickness • Overheated blades, lost tension, and gullet cracking • Rapid guide wear and noisy operation • Feed misalignment and lumber defects This setup ensures that your blade is square, stable, and fully supported—at all speeds and feed loads.
MMS04	Mill Machine Set-Up	Regrind band saw wheels as required	• Wheel Wear Effects and Tracking BC Saw Filer Level 1, Section 7-1-2 • Crown Profiles and Grinder Setup BC Saw Filer Level 2, Section 10-2-3 • Wheel Regrinding and Saw Alignment BC Saw Filer Level 3, Section 11-1-3	Over time, band wheels develop flat spots, tapering, or crown wear from friction and pressure. These defects can cause the saw to wander, heat up, or crack, especially near the back edge. Regrinding restores the correct crown radius and wheel geometry—crucial for saw tracking and tire line positioning. You are expected to inspect, diagnose, and regrind wheels with extreme precision, using the proper grinder setup and wheel profile.	• Inspect wheels for wear: •Use a straightedge and dial indicator to check for: oFlat spots oDouble crown or taper oUneven wear between left/right or top/bottom wheels BC Saw Filer Level 1, Section 7-1-2 • Determine proper crown profile: •Crown radius typically ranges from 36" to 48", depending on saw size and speed •Confirm specs using mill documentation or OEM tables • Set up grinder: •Ensure grinding head is aligned to wheel centerline •Dress wheel face to match the crown radius •Verify all guards, coolant flow, and RPM settings • Grinding procedure: •Use light feeds and constant coolant flow •Traverse evenly across the wheel face •Avoid overheating the steel—watch for bluing or surface checking •Make multiple passes if needed • After grinding: •Check for concentricity and balance •Reinstall saw and verify tracking and tire line position under light strain	Worn or improperly crowned wheels cause: • Saw instability and vibration • Gullet cracks from poor tracking • Heat buildup and premature loss of tension • Loss of cut accuracy and increased guide pressure A properly reground wheel provides a stable foundation for the saw and supports consistent tracking at all operating speeds.

MMS05	Mill Machine Set-Up	Calculate and set-up cooling and lubrication as needed	• Coolant Safety and Setup BC Saw Filer Level 1, Section 2-2-13 • Guide Block Lubrication and Delivery BC Saw Filer Level 1, Section 11-2-2 • Grinder Coolant Flow and Setup BC Saw Filer Level 2, Section 10-2-3	Cooling and lubrication systems prevent overheating, minimize friction, and protect both the saw plate and contact surfaces such as guides, bearings, and wheels. These systems often use oil-water emulsions, synthetic coolants, or direct lubrication feeds. As a filer, you are expected to: •Calculate correct coolant ratios •Set up delivery lines and nozzles •Monitor coolant temperature, pressure, and clarity •Ensure guide and grinding systems remain properly lubricated	• Coolant mixture setup: •Refer to manufacturer specs or mill standards for coolant concentration •Typical ratio: 5–8% oil to water for grinding applications •Use a mixing chart or refractometer to verify concentration is within range • Coolant system checks: •Inspect hoses and spray nozzles for clogs, kinks, or leaks •Clean filter screens and confirm pump pressure is steady •Verify delivery to both guide faces and grinding zones is even and continuous • Guide block lubrication: •Ensure oil lines reach all guide contact surfaces •Use low-pressure oil delivery systems or mist lubricators as required •Adjust flow rate to prevent oil pooling or dry spots • Coolant reservoir maintenance: •Monitor for cloudiness, odor, or foaming—signs of bacterial growth or contamination •Flush and replace coolant at intervals specified by your shop (e.g., weekly/monthly) •Dispose of used coolant according to environmental guidelines • Temperature and delivery checks: •Confirm coolant stays in range: typically 15–25°C •Adjust pressure settings and nozzle angles during cutting trials	Improper coolant setup leads to: • Heat tint and cracking of saw teeth or plate • Guide scoring and loss of tracking • Glazed grinding wheels and inaccurate tooth shapes • Breakdown of emulsion → corrosion or bacterial contamination A correctly set-up cooling and lubrication system protects the saw and the filer, ensuring clean cuts, long tool life, and safe operating conditions.
MMS06	Mill Machine Set-Up	Calculate and set proper speeds and feeds	• Feed and Speed Calculations BC Saw Filer Level 2, Section 9-3-4 • Saw Spec Table and Performance Chart BC Saw Filer Level 2, Section 9-4-1 • Kerf and Tooth Bite Measurement BC Saw Filer Level 1, Sections 4-8-1 to 4-8-2	Speeds and feeds refer to the relationship between saw rotation (RPM), feed rate (FPM), and tooth geometry. These factors determine how efficiently a saw cuts and how much strain is placed on the plate and cutting edge. You must use mathematical formulas to calculate: •Tooth bite (feed per tooth) •Rim speed (surface feet per minute) •Chip load and kerf behavior	• Use the tooth bite formula: Tooth Bite (in)=Feed Speed (FPM)RPM×Number of Teeth\text{Tooth Bite (in)} = \frac{\text{Feed Speed (FPM)}}{\text{RPM} \times \text{Number of Teeth}} Tooth Bite (in)=RPM×Number of TeethFeed Speed (FPM) • Apply bite recommendations from mill standards: •Frozen wood: 0.110" bite •Softwood: may allow slightly higher; hardwood slightly less BC Saw Filer Level 1, Section 4-8-1 • Confirm RPM based on saw size: •48" circular saw: typically 750 RPM •Use mill speed charts or calculate manually using: Rim Speed (SFM)=π×Diameter (in)×RPM12\text{Rim Speed (SFM)} = \pi \times \text{Diameter (in)} \times \frac{\text{RPM}}{12}Rim Speed (SFM)=π×Diameter (in)×12RPM • Cross-reference tooth pitch, gullet spacing, and hook angle to ensure chip load is balanced • Record these values in: •Mill setup sheet •Digital system or shift log •Use these results to confirm guide pressure, strain, and cutline conditions	Incorrect speed or feed setup causes: • Overfeeding → tooth breakage, gullet cracking, overheating • Underfeeding → rubbing, dulling, poor chip formation • Kerf collapse or lost tracking from poor chip clearance Proper speed/feed balancing maximizes cut quality, tool life, and sawmill efficiency.
MMS07	Mill Machine Set-Up	Checking and maintaining scrapers, shears and covers	• Machine Guard and Safety Cover Requirements BC Saw Filer Level 1, Section 2-1-12 • Scraper Maintenance and Vibration Control BC Saw Filer Level 1, Section 7-1-1 • Protective Cover and Interface Devices BC Saw Filer Level 3, Section 11-2-1	Scrapers, shear plates, and protective covers ensure: •Clean board surfaces •Controlled chip flow •Operator safety near high-speed rotating systems You are responsible for inspecting, cleaning, and replacing these components regularly to prevent defects, jams, and injury.	• Scraper maintenance: •Clean buildup daily to prevent interference with saw tracking •Look for signs of gouging or bending from board impacts •Confirm scraper is secured with no vibration or movement under load BC Saw Filer Level 1, Section 7-1-1 • Shear plate inspection: •Check for warping, grooving, or excessive drag •Realign or replace if interfering with lumber flow •Confirm spacing from saw blade is within safe spec • Machine cover inspection: •Inspect plastic or metal shields for cracks, looseness, or missing bolts •Confirm all guards over belts, shafts, and drive pulleys are in place •Ensure guard interlocks function correctly if installed • Additional tasks: •Lubricate cover hinge points if applicable •Tighten all mounting hardware and tag damaged parts •Never bypass or override safety interlocks	Worn or missing scrapers and shears cause: • Tracking issues, burning, or scoring on boards • Dangerous debris ejection • Blade interference and excessive heat • Injuries from exposed shafts or rotating parts Maintaining these parts ensures safe operation, clean product output, and tool protection.