



# Farm machine tools

HSB, a Munich Re company, is a technology-driven company built on a foundation of specialty insurance, engineering, and technology, all working together to drive innovation in a modern world.

## Equipment description

Some of the more common machine tools used on farms include lathes, drill presses, millers, planers, routers, table saws, band saws, chop saws, and grinders. A lathe is used for machining a shaft or other cylindrical parts and is used in both wood and metal applications. A drill press is used for drilling holes in metal or wood and can be used for polishing small parts. Equipment such as milling machines and surface planers are typically used for shaping metals. Routers, jointers, and table saws are typically used for shaping wood.

Different types of saws are used for cutting metal or wood. Metal grinders are used for light material removal, sharpening, and high-precision surfacing of metal parts. Rotary disk and belt sanders are used for shaping wood parts using abrasive sheets attached to a rotating machine element. Each type of equipment is designed for specific applications and requires specific installation, operation, and maintenance. The best source of information and directions for each piece of equipment is the owner's manual provided by the original equipment manufacturer (OEM).

## Maintenance tips

- Keep cutting tools and blades sharp to reduce electric load on machines. This will also result in fewer cut passes, saving time and money.
- Lubricate the machines and metal parts per manufacturer's recommendations which helps ensure long life and accurate machine functionality.
- Inspect all machine-tool pneumatic hose lines and connections prior to use.

## Failure/Loss prevention tips

- Keep metal cutting chips cleaned from moving machine tables. This will prevent premature wear of parts and also keep lubrication seals from getting cut and causing leaks.
- Be certain to observe the location of the tool, workpiece, and the tool path. This will avoid unintentional collisions or impacts of moving parts which could damage the equipment.
- Metal grinders operate at a high speed. Avoid letting the wheel rest on one spot of the work surface for too long. This could cause the work material or the wheel to overheat.
- Understand the recommended blade speed and feed rates and how they are chosen based on the material properties.

## Safety tips

- Be familiar with and follow OEM safety guidelines.
- Before performing any machinery maintenance, always lock-out and tag-out all power/energy sources (electric, hydraulic, mechanical) to prevent injury.
- Be sure to keep all safety guards in place on machines to prevent serious injury.
- Make sure power cords have no exposed wires that could cause an electrical shock hazard.
- When operating bench or portable power tools, always use the recommended personal protective equipment (PPE) such as hearing, vision, respiratory, and foot protection.

## Energy savings/Conservation tips

- Keep all metal cutting tools sharp and in good working order to reduce friction and save cutting energy.
- Replace worn sandpaper sheets on power tools when they stop cutting effectively. Worn sanding materials will cause increased energy use and overheat the worked materials.
- Use the recommended metal cutting lubricants and coolants to keep the metal cool and reduce cutting friction.
- Replace pipe cutting dies when they become dull. Cutting pipe threads with dull dies creates excessive mechanical load on the power drive unit.

