# Metalworking Machines – Milling Machines – Fact Sheet



## WHAT SHOULD YOU KNOW BEFORE USING A MILLING MACHINE?

Milling machines can be dangerous if not used properly.

- Read the owner’s manual carefully.
- Make sure you understand instructions and are properly trained before operating a milling machine.

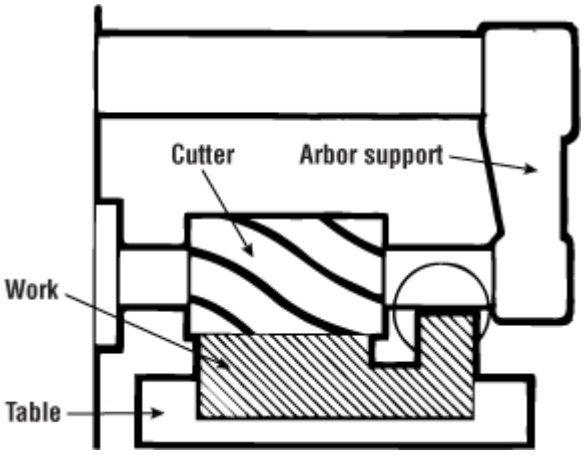
**What are some safe work principles to follow when using a milling machine?**

- Wear appropriate CSA-certified safety glasses. Wear other personal protective equipment as necessary (such as footwear or hearing protection).
- Make sure all machines have a start/stop button within easy reach of the operator.
- Make sure that all machines have an emergency stop button (e-stop).
- Make sure that the work piece and cutter are mounted securely before taking a cut.
- Check that work is mounted squarely.
- Mount work in a vise that is bolted or held magnetically to the table. Use proper hand tools to make adjustments.
- Hold milling cutters with a cloth to avoid being cut when handling them.
- Move table as far as possible from cutter while setting up work to avoid injuring your hands.
- Mill the largest surface first.
- Keep hands, brushes and rags away from the revolving milling cutter.
- Use a vacuum, brush or rake to remove cuttings only after the cutters have stopped moving.
- Change cutting compounds periodically.
- Keep cutters sharpened correctly and in good condition.
- Keep working surface clear of scraps, tools and materials.
- Remove cutting tools from spindle when cleaning the machine.
- Keep floor around the milling machine free of oil and grease.
- Use lifting equipment when appropriate to move heavy work to or from milling machines.
- Make sure the power is off before changing cutters.
- Always stay at the machine when it is in operation.

**Before starting the machine, what should you check?**

Before starting, make sure that:

- all guards are in place;
- work is properly secured in place;
- bolts used to hold down work clear the tooling;
- tooling and supporting pieces are properly tightened in position;
- table stops are secured properly;
- handles on all feed screws are in neutral;
- table is free of stock, tools or other loose material;
- the arbor and arbor support are clear of the work;
- the cutter is rotating in the right direction.




**What should you consider when setting the cutting speed?**

Make sure that the following factors are considered when setting cutting speed:

- material to be machined
- type of cutter
- finish required
- depth of cut
- rigidity of machine and work piece

**What are some things you should avoid doing?**

- Do not wear gloves, rings, watches or loose clothing. Tie back and confine long hair.
- Do not attempt to mount, measure or adjust work until cutter is completely stopped.
- Do not use an excessively heavy cut or feed as it can cause the cutter to break. The flying pieces could cause serious injury.
- Do not reach over or near a revolving cutter. Keep hands at least 30 cm (12 in.) from a revolving cutter.
- Do not lean or rest hands on a moving table.
- Do not make any adjustments while the machine is running.
- Do not use paper shims to check the distance from the cutter to the stock.
- Do not move the operating levers without knowing what they control and what action is going to take place.
- Do not leave machine unattended while it is running.

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