



Construction Trades I

Project Book 1-Chapter 4: Power Tools for Cutting and Shaping

April 30, 2020



11-12 Construction Trades I
Project Book 1-Chapter 4 : [April 30, 2020]

Objective/Learning Target:

Students will learn about different power tools used to cutting and shaping and how to use them properly.

POWER TOOLS FOR CUTTING AND SHAPING

What You Now Know

- Safety is an important part of carpentry
- Many power tools are used in carpentry
- You should not use tools without being shown how to use them

What You Will Know

- How power tools are used effectively in the craft of carpentry
- How to safely and effectively use many common power tools

INTRODUCTION TO POWER TOOLS

- DRIVEN BY ELECTRIC MOTORS, BATTERIES, OR COMPRESSED AIR
 - CORDED OR CORDLESS
 - PROPER SAFETY PROCEDURES MUST BE FOLLOWED
 - APPROPRIATE PPE MUST BE WORN
- NEVER USE ANY POWER TOOL WITHOUT PROPER TRAINING.

POWER TOOL SAFETY

AVOIDING ELECTRIC SHOCK

- ANY EXPOSURE TO ELECTRIC SHOCK CAN BE DANGEROUS.
- NEARLY ALL SHOCKS CAN BE AVOIDED.
- SOME TOOLS ARE DOUBLE INSULATED—TWO-PRONGED PLUG.
- SOME HAVE A GROUND WIRE ON THE INSIDE OF THE TOOL—THREE-PRONGED PLUG.
- AVOID USING POWER TOOLS IN DAMP PLACES.

POWER TOOL SAFETY CONTINUED

SAFETY TAGS

DO NOT PUT TOOLS THAT NEED REPAIR BACK ON THE SHELF.

MARK DEFECTIVE TOOLS WITH A TAG.

- LIST WHAT IS WRONG WITH THE TOOL.
- WRITE "DO NOT USE" ON THE TAG.

PORTABLE CIRCULAR SAW

PORTABLE CIRCULAR SAW SAFETY

- REMOVE NAILS AND OTHER METAL OBSTRUCTIONS FROM THE PIECE TO BE CUT.
- SUPPORT THE MATERIAL BEING CUT.
- KEEP THE POWER CORD BEHIND THE SAW.
- MINIMIZE BLADE EXPOSURE.
- DO NOT ALLOW THE BLADE TO TOUCH THE MATERIAL BEFORE IT IS TURNED ON.
- DO NOT PUT THE SAW DOWN UNTIL THE BLADE HAS STOPPED SPINNING.
- ALWAYS USE TWO HANDS.

POWER MITER SAW SAFETY

SLIDING COMPOUND MITER SAW SAFETY

- MAKE SURE THE ARROW ON THE BLADE IS SET FOR CLOCKWISE ROTATION.
- MAKE SURE THE WORKPIECE IS SUPPORTED.
- DO NOT MAKE RIP CUTS OR CUTS ALONG THE GRAIN.
- KEEP AUXILIARY FENCES OUT OF THE WAY OF THE PATH OF THE SAW.

SABER SAW

ALSO CALLED A JIGSAW

BLADE MOVES UP AND DOWN OR IN AN OVAL MOTION

SOME HAVE VARIABLE SPEEDS

DIFFERENT BLADES CUT DIFFERENT MATERIALS

BLADE INSERTED INTO THE CHUCK

SABER SAW SAFETY

MAKE SURE THE TRIGGER LOCK IS IN THE RELEASE POSITION BEFORE PLUGGING IN THE TOOL.

ROUTER

- CUTTING TOOL WITH A REVOLVING VERTICAL SHAFT
- SPECIFIC BITS FOR SPECIFIC MATERIALS
- USE PROPER WRENCHES TO TIGHTEN THE NUT THAT HOLDS THE BIT
- HOLD ROUTER FIRMLY WHEN TURNING ON AND OFF; LET IT COME TO A COMPLETE STOP
- ALWAYS MOVE ROUTER IN THE PROPER CUTTING DIRECTION