Carpentry – week 8

Carpenters will use many different types of tools in the execution of a building project. Some of the tools are basic hand tools such as hammers, squares, and tape measures. Other tools will be handheld powered tools such as drills, circular saws and jig saws. These may be either battery or mains powered. Another class of tool you might encounter on a job site are more substantial. Mitre saws, table saws, tile saws and generators are typical.

These tools are available in Canada from many manufactures. The better-known brands and of better quality are DeWalt, Delta, Milwaukee, Bosh, Rigid and Makita.

All the images are from the Home Depot web site.

Mitre saws come in different sizes typically from 8 inches to 12 inches. They can be sliding or not, and they can bevel either to the left, the right or both. The most useful is a double bevel sliding compound mitre saw of either 10 or 12 inch blade size. The complexity of this type requires high quality materials and solid manufacturing to maintain durability and accuracy. These are not inexpensive tools. Their ease of use is greatly improved when mounted on a solid base, which adds to the cost.

As we have seen in class, table saws usually used in a shop are classed as either cabinet saws or contractor saws. However, these easily transportable to different work locations. Therefore, a third class of saw is the jobsite table saw. They are smaller and lighter than cabinet and contractor saws. Their rip capacity is often limited to about 24 inches, wide enough to rip a sheet of plywood in half. Safety features it should have are a blade guard and a riving knife. Look for a saw with a well-made rip fence, solid fence rails and an included mitre fence. These typically have either a 10 inch or 12 inch blade, but some can be even smaller. A good solid base is very useful but will add to the cost.

Many carpenters will also be installing tiles of various types. A wet tile saw will be very useful in those circumstances. Solid build, adequate water capacity and good rip guides are important. As with the other saws, a good stand is useful and will also add to the cost.

Many job sites, especially in the early stages, might not have available power, in which case the carpenter will have to use a generator to power his tools. Well known brand names are Champion, Honda, Generac and Westinghouse. Some manufactures will offer “inverter” models. These will supply clean stable pure sine wave power and much quieter operation. The cost increase for this option is significant, but not required unless sensitive electronic equipment will be powered by it. A very important consideration is the power capacity of the generator. Typical electric motors found in the above tools will require significantly more power at start than during runtime. A tool might be labeled as running on 15 amps but it might require much more current to spool up. An underpowered generator could be damaged and they are expensive to repair.

From the Generac web site:

“It's important to understand generator sizing in order to account for the load it will need to handle. Electric motors are particularly difficult for a generator because starting an electric motor requires 2 to 3* times its nameplate amperage or wattage. A current surge of short duration can be supplied by a generator, but a current demand of longer duration, such as a heavily loaded motor starting a high inertia system can overload a generator, possibly damaging both the generator and motor. For this reason, when determining the power your generator is to provide, it is important to calculate electric motor requirements at 3* times the running watts to compensate for the surge needed to start the motor.”

For this week find 2 examples of each of the above tools available from Canadian distributors. List the brand, distributor, cost, and features for each.