

# Reducing Power Tool Down Time

## *Here's What to Do to Increase the Life of Your Power Tools*

*By Mike Hagemann*

**B**uilders, remodelers and other tradesmen invest significant sums of money to purchase the highest quality power tools available. A breakdown of a saw or drill while on the job, however, can create havoc in meeting a tight deadline.

That's why tradesmen of all types should always treat their power tools with respect. Otherwise, problems such as poor performance, tool malfunctions and safety hazards could result. Maintaining power tools is not complicated—it's just a matter of exercising some common sense before, during and after the use of equipment and developing proper habits that range from proper cleaning procedures to the appropriate use of a power source.

### *Manual Reading Is Essential*

Perhaps the first and easiest step that most power tool users simply ignore is reading the owner's manual. Operating requirements of a circular saw will differ vastly from cordless drivers or a reciprocating saw.

The manufacturer will provide basic information on the tool, including sections on maintenance and troubleshooting, which describe potential problems, their causes and solutions.

Reading and understanding the manual will answer many general



questions, so the next time you purchase a new tool, consider the owner's manual mandatory reading.

### *Power Tool Abuse Shortens Lifespan*

A power tool's worst enemy comes in the form of several different types of abuse and misuse. Most reputable power tool manufacturers

provide comprehensive warranties that cover defective tools. However, common wear and tear, misuse and power tool abuse typically are not covered under these warranties.

Therefore, be mindful of the types of abuses that can damage a tool and engage in preventative measures to extend a power tool's lifespan.

One common power tool enemy is

*Perhaps the first and easiest step  
that most power tool users simply ignore  
is reading the owner's manual.*

the by/product that is created after each use. Foreign particulates, such as sawdust, wood fragments, metal chips and drywall dust, are some of the materials that can build up and harm power tools.

Thus, it is essential to clean power tools regularly. A good habit to develop is to simply blow out your tool with an air hose after each use. This practice will clean off excess dust before it settles in the tool. It's a basic and easy procedure, yet one that can play a major role in extending the life of a tool.

Also, periodically check the wear of brushes in the tool, and replace the brushes according to the owner's manual instructions. Most models allow easy access to check brush wear. In addition, many tools require new lubrication when changing the brushes. The tool's performance and operation will be adversely affected if the brushes are not making complete contact with the armature.

Establishing a program of preventative maintenance should be another element in proper power tool care. This is best accomplished by periodically bringing the tools to the manufacturer's authorized service center every six to 12 months, depending on the frequency of the tool's use.

In addition to cleaning, service centers can perform various types of maintenance, including tune-ups, lubrication and other procedures. This is not costly, and the small investment can help prevent major, expensive problems in the long term.

### *Proper Use of a Power Tool*

While a majority of a tradesmen's tools are used daily, there are certain power tools that sit idle for days or even weeks. Inactive tools can develop excess dust that can cause motor problems. It is best to store the

tools in a dustless area or in their protective cases.

Some contractors make the mistake of trying to save time by using equipment not designed to do the job. For instance, someone may try to save time by drilling a 2-inch hole with a small-capacity drill because that is the tool presently at hand. This likely will damage that piece of equipment. Instead, take the time to get the proper tool for the specific task. Tools list their application capacities in the owner's manual.

Proper storage is another important guideline to follow to enhance the life of a power tool. One common mistake many tradesmen make is placing power tools in the back of their work vehicles, unprotected from the weather. This habit will almost guarantee future problems.

If left unprotected, power tools can develop rust, both internally and externally. It is easy to spot rust on the tool exterior, but internal rust stays hidden and will ultimately cause your equipment to malfunction.

Most manufactures provide storage cases to protect tools from the elements. If you do not own a case, make the investment. Most cases are designed to hold the tool firmly in place, but if not, it is a good idea to pad it with cardboard or foam. When in transport, the tool will be better protected from bouncing around the bed of your truck or van. Also, many cases allow you to store tool accessories and protect them from damage.

When using electric tools, remember to use power sources correctly. First, make sure the power rating on the name plate of the power tool matches the power source. This is particularly important when generators are used. Generators with direct current (DC) voltage will damage variable speed switches, so be sure

## What Size Extension Cord?

Ampere Rating (on nameplate)	0.0 - 2.0	2.1 - 3.4	3.5 - 5.0	5.1 - 7.0	7.1 - 12.0	12.1 - 16.0
Coed Length (in feet)	Wire Size					
25	18	18	18	18	16	14
50	18	18	18	16	14	12
75	18	18	16	14	12	10
100	18	16	14	12	10	
150	16	14	12	12		
200	16	14	12	10		
300	14	12	10			
400	12	10				
500	12					
600	10					

**Check your  
owner's manual for  
your tool's amperage,  
then apply that figure to  
this chart to determine the  
correct size and length of the  
extension cord you need.**

that you plug variable speed-controlled tools only into alternating current (AC) outlets.

### *Use Caution with Extension Cords*

An extension cord creates additional concerns. Estimate the required length of the extension cord needed for the job. The owner's manual should have a recommended chart for the minimum wire size of the extension cord needed.

Bosch and Skil power tools, for example, are designed to operate efficiently within a voltage range of 110 and 120 volts. Improper selection of extension cords can reduce the voltage below this range. Low voltage results in loss of power and speed, overheating and possible damage to the tool.

The general rule in this area is to use cords with the proper length and gauge to handle the amperage rated on the tool's nameplate or in the owner's manual. Apply this figure to the chart (left) to determine the proper size and length of extension cord. Always use a U-L-listed, three-wire extension cord.

In addition, always check cords for wear and exposed wire. If a cord is worn or cut, replace it. Using electrical tape as a short-term method to fix a worn cord jacket occurs frequently, but it is not a lasting solution. Moisture can develop beneath the tape, causing damage to the cord and affecting the power flow. Thus, it is best to make the investment and buy a new cord. These tips also hold true for extension cords.

Power tools are considered among a tradesman's prized possessions. By following the guidelines presented here, you may not have to go through the expense of prematurely replacing your equipment. And well-maintained power tools operate more efficiently, allowing you to be more productive. □

#### **About the Author**

Mike Hagemann is with S-B Power Tool Company (Skil-Bosch), Chicago.