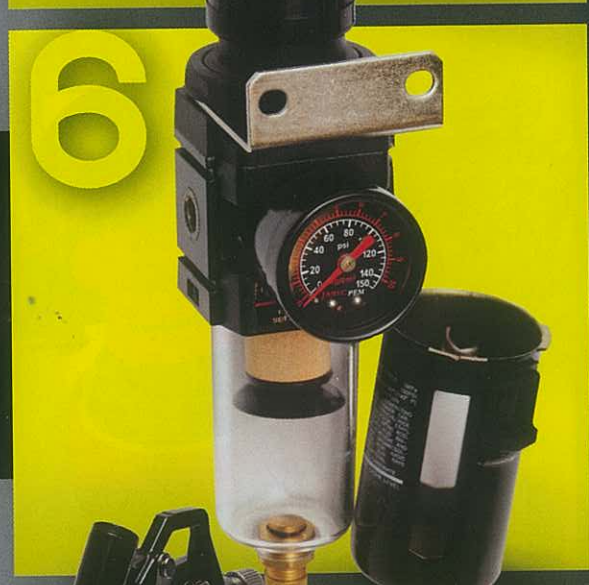


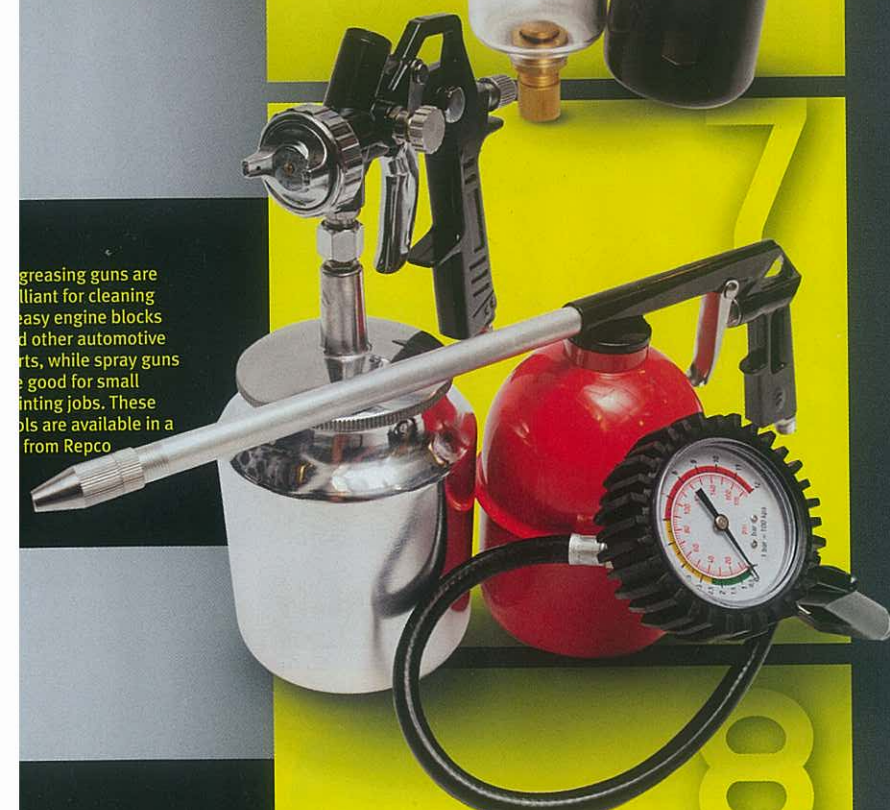
Wrenches aren't impact wrenches; they're far less massive (around 30ft/lb for the 3/8in-drive up to 100ft/lb for the 1/2in) and have slower rotational speeds. There's little risk of cross-threading and they're ideal for hard-to-reach places



An inline regulator adjusts pressure to suit the task and application. Most models have one but they can also be purchased separately. The moisture should be emptied regularly via the cock at the bottom of the glass housing



Greasing guns are brilliant for cleaning easy engine blocks and other automotive parts, while spray guns are good for small painting jobs. These tools are available in a variety of sizes from Repco



Air guns come in all shapes and sizes and are extremely useful for cleaning and blow-drying in a variety of ways

THT: There are many types of tyre inflators and having one in your garage is easier than checking your tyres at the servo



are special torque-limiting extensions available to prevent over-tightening wheels nuts with a rattle gun. Remember that a half-inch-drive rattle gun can be brutal and easily strip or break almost any fastener.

Most manufacturers offer several types of impact wrench in all the standard drive sizes (1/4in, 3/8in, 1/2in, 3/4in and 1in). While many are much the same, some models operate in different torque ranges. High-end impact wrenches have what's known as a double hammer mechanism, which basically means they have twice as many hammer actions per revolution. They can run slower but make more strikes which means more work for lower air consumption and reduced wear. You should only ever use black, non-chromed impact sockets, as peeling chrome can quickly become a fast-rotating razor blade.

### CASH = QUALITY

WEAR is an issue in all air tools and is directly related to the quality of construction and materials, which are linked to price. Some impact wrenches have shafts that turn directly in their body casings, while better units turn the shaft in a sleeve and the best have proper bearings. The material used for the rotor vanes can vary widely in quality. Higher prices generally mean better quality and longer life. Very high quality tools cost a lot but they're suited to heavy duty professional use and will last a long time — if cared for. For a home user, such a tool will effectively last forever. However, mid-range tools will also enjoy a long life in the hands of a careful DIY user. In terms of wear and tear, there's just no comparison between constant, daily workshop use and occasional DIY home use.

### HANDY ANDY

MANY of these photos were taken at The Muscle Car Factory (03 9580 3548, [www.musclecarfactory.com.au](http://www.musclecarfactory.com.au)), which turns out some superb classic cars. Leo, the owner, says that for cutting into bodywork the air hacksaw is about the best tool available. Of course, a hacksaw needs to start at an edge, so for a cut in the middle of a panel he makes an initial slice with a cut-off tool. These are also useful for cutting through body metal where two or more sheets are welded together, as in the opening shot on page 110, where the original roof is being cut off a Mustang.

Another tool that's in constant use at the shop

is the small pistol-grip disc sander seen being used in image 13 to prepare weld points. These are called micro surface preparation tools, gasket sanders and other names depending on the manufacturer. Regardless, Leo says they're vital for prep work, along with die grinders. Most of us think of die grinders in the context of porting heads but the wide range of bits available makes them ideal for many jobs. Sanders are also very popular with body shops.

### HOME AND HOSED

MOST pneumatic tools are designed to run at 90psi. If pressure drops by 20psi, the reduction in tool capacity is actually 40 per cent. On the other hand, trying to increase performance by increasing pressure will likely damage the tool. The rotors in them can actually break or burst in extreme circumstances.

The size and length of hose you use can affect air flow. Most tools here will be adequately fed by 3/8in (10mm) hose. But if your hose is really long there can be a delay before the air in the storage tank gets down to the tool, and there may be a pressure drop too. If the tool bursts into life, then drops in speed almost immediately, your hose is probably too long.

### STAY DRY

COMPRESSING air forms condensation. Condensation is especially bad for spray painting as it causes tiny pinholes in the finished job. Also, condensation entering any air tool creates internal corrosion, scaling and pitting. It also washes out oil, causing wear on the tips of vanes, which then fail to seal properly. When a tool is damaged like this it no longer works properly and people tend to hold the trigger open, hoping that a longer application will get the job done. In the case of an impact wrench, this simply wears out the hammer mechanism, damages your sockets and driveshaft, and increases wear and tear on the operator. When an impact wrench is operating correctly, the hammer action should achieve the desired result within about half a second — no more.

Always run a water trap at the compressor.



LEFT: Die grinders are useful for getting into tight places during bodywork restoration. They are often available in kits

A cheap, stiff hose may be permanently damaged if it gets kinked. Quality hoses are more supple and tend not to kink

Restoring cars is all about cutting metal. Cut-off tools and air hacksaws make quick work of it

The drive of a rotating air tool. Air enters on the left and pushes the rotor around as it expands, before leaving via an exit port. Air in the vane slots ensures that they seal against the housing

Rattle guns are great for loosening bolts. Take care when tightening bolts as the torque rating for a half-inch-drive unit varies from 250ft-lb to a bolt-snapping 700ft-lb on heavy duty variants. Even the lower-rated units can easily cross-thread bolts, so always start by hand