## **Essential Tools For Series Land Rovers**

If you intend to do your own maintenance of your Landy, then it stands to reason that you should have your own set of tools. Years ago, when garage labour cost less than it does now, if you had no tools the cost of buying them could be directly weighed against the cost of labour. Then, (as now) though, you could argue that you only had to pay for your tools once, but you would pay for labour every time you had work done.

Most of us will already have some tools, either inherited from parents (in fact, I have some Whitworth spanners that are a relic of the steam era...over 100 years old and still in use) or bought as necessity arises – D.I.Y. projects etc. But, what tools would it be advisable to have to do our own Landy maintenance? Hopefully this article should give some pointers.

Firstly though, a quick word about quality. There are many good quality tools on the market, of varying prices. Really, all that can be said here is that you should buy the best tools that you can afford, and as long as they are of good quality you should get years of use from them. Who knows, your grandchildren could be using them one day!

The basic tool kit ought to include the following at least ...

A set of combination spanners, in sizes suitable for your landy; either Metric or Imperial, say sizes between 7mm and 27mm, or  $\frac{1}{4}$ " AF to 1 1/16" AF. These should fit the majority of nuts holding your Landy together! Combination spanners are what I personally prefer, having two types of spanner in one, a ring spanner at one end, and an open end at the other. You might find though that it is sometimes handy to have more than one spanner of a particular size, say  $\frac{3}{8}$ ",  $\frac{7}{16}$ ",  $\frac{1}{2}$ ",  $\frac{9}{16}$ ", and  $\frac{5}{8}$ " AF, or  $\frac{9}{16}$  mm.

An adjustable spanner, about 9 inches long

Feeler gauges, in metric and imperial

Screwdrivers, Phillips and straight slotted head, or a screwdriver with interchangeable bits – lots of options in one box!

A pair of combination pliers

A pair of side-cutting pliers

Wire strippers, and cable connection pliers

Hacksaws, Junior and 12"

A grease gun, preferably with a flexible nozzle

A wire brush

A foot pump

A jack, either a bottle jack which you can carry around in case of punctures, or a trolley jack for workshop use ... Must be capable of lifting at least 2 tons though!

A pair of axle stands, the stronger the better! I've said it before and I'll say it again, NEVER work under a Landy supported by the jack alone, ALWAYS use good axle stands! Squished folk don't get driving Landies!!!

That lot should stand you in good stead for general day to day maintenance and minor repairs, but

as you get more confident about your abilities and your experience grows, you will need a greater selection of tools which should include the following in addition to the tools previously mentioned ...

A socket set, ½" drive with the same selection of sizes as your spanners (though you may find you need to buy some sockets separately, as they never seem to be included in "sets", for example, 17mm). The socket set should include a reversible ratchet, a 10" extension, a 4" extension, a spark plug socket and a universal joint.

A torque wrench, ½" drive, to use with sockets.

An impact driver, again to use with sockets, but also for loosening stubborn screws.

A hub nut box spanner, to remove the nuts holding the wheel bearings and hubs in place.

Vice grips, or "mole" pliers, 8"

A 1/2lb ball pein hammer

A soft faced hammer, either copper or plastic faced...( for hitting things without causing damage...unless it's your thumb of course ... ouch! ;-) )

A 1/2" cold chisel

A centre punch

Multimeter, try and get one that is for automotive use if you can, the mains ones can be a bit out at lower voltages ...

An inspection lamp

Circlip pliers, internal and external.

Thin nosed pliers

Allen keys

A selection of files

A power drill, you will find a good electric drill handy; mains ones are more reliable than cordless ones (the battery seems to always go flat just when you need it!!) though both have their plus points. You should also have a good selection of high speed steel drill bits.

There are also some extra tools which you may find useful, but which you may not use very often – you could borrow or hire these instead of buying them perhaps? Still, there is nothing like having your own, is there?!

A cylinder compression tester

A dial gauge and magnetic stand

A micrometer

Vernier gauge/callipers

Bearing/hub pullers

Track rod end/ball joint separator, I personally prefer the screw type, I don't like the idea of having to wallop castings with a hammer!

Valve spring compressor, and valve grinding tool

A piston ring compressor

Probably the best places to source tools are motor factors, tool factors, car accessory shops and D.I.Y. outlets. There are also some good tools to be found quite cheaply at car boot sales, auto jumbles, and rallies. Once you have bought your tools, look after them; keep them clean and stored safely. A cantilever tool box is handy for keeping spanners together and safe, though I keep my spanners in 2 ex-military canvas tool rolls lined with felt damped with light machine oil. The sockets, spanners and pliers etc. all travel with me in the Landy's tool box, just in case repairs are needed at the roadside.

Well, with such a selection of tools at your disposal you should be able to tackle most jobs on your vehicle!

Happy Landying!