Custom inserts for tidy toolboxes

There is no doubt that tidy toolboxes save time and frustration, but in practice, it is not always easy to achieve.
By **Josh Giumelli** with photos by **Ben White** and **Josh Giumelli**

Tools tend to get purchased in dribs and drabs, with new sets of spanners, sockets or screwdrivers replacing older sets, often with bits missing. Toolboxes get upgraded, with larger units with extra storage capacity replacing smaller boxes.

But no matter how much space we have, it never seems to be enough to lay out all tools in an orderly fashion so they can be located at a moment's notice. Anyone who is lucky enough to have spent thousands on a fully-equipped roller toolbox with moulded drawer inserts probably won't have this problem, but this is often not the case in reality.

Even a very basic set of tools can be rendered useless when the moulded tray collapses. It is a shame that manufacturers of quality tools don't invest the same value in their toolbox inserts, which often collapse well before the tools are worn out.

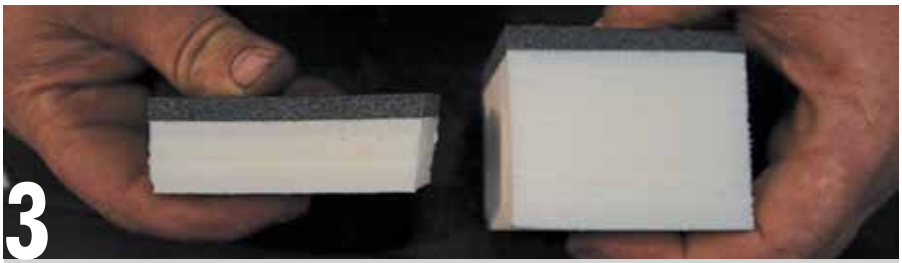
But there is help at hand for toolbox trouble. If you are lucky enough to have a rainy day to spend in the workshop, there are a range of ways to better organise your tools, including custom inserts for your toolbox.

They take time to make, but once done, you will wish you had done it years ago.

Tools sourced from Toolmart

1 This drawer full of metric spanners includes ring, open-end, combination ring/open-end and ratchet spanners. It is hard to find anything in a hurry, with many spanners looking the same, and larger spanners obscuring the smaller spanners.

2 The standard in tool trays these days is EVA foam inserts, offered by manufacturers such as Kincrome. This is all well and good if purchasing tools from new where the trays are included, but basically impossible to purchase a tray for pre-existing tools. Note that even though this tray is well laid out, it is not particularly space efficient.



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The good news is you can make a custom toolbox insert to suit your own tools, and lay it out exactly as desired. These two foam samples are called 'cut and peel' and are available from Clark Rubber. The sample on the left is 25mm thick and has four layers, and is most suited to standard toolbox drawers. The sample on the right is 55mm thick with eight layers, and is more suited to deep drawers for larger equipment, or custom hard cases used to hold cameras or other delicate instruments. An alternate product, 'Kaizen foam', is currently only available from Timbecon outlets in Perth and Melbourne.

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Start by accurately measuring the inside of the drawer. Check the depth as well, in case the foam is too thick for the drawer.

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Mark out the foam and cut to size with a box cutter. Alternatively, the shop may cut it to size for you. The foam is not cheap, costing $1 per 100mm x 100mm for the 25mm, and twice that for the 55mm foam.

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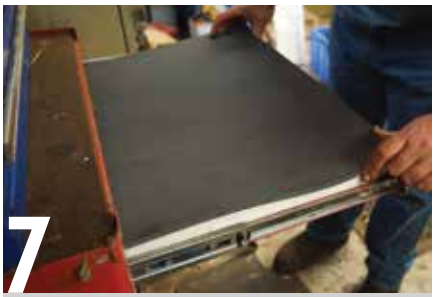
One of the secrets to a neat job is to use a fine bladed box cutter to cut the foam sheets, and a scalpel or hobby knife to cut the tool inserts out. Sharpness is the key, so buy some extra blades, and change them as soon as they start to grab instead of cutting. A fine blade works well as it helps to manoeuvre around intricate shapes.



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Check the fit of the foam sheet before cutting, just to be sure all fits well. A slightly snug fit is an advantage as it will hold everything in place nicely.

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Next, plan the layout of the drawer by trying several different arrangements of spanners to maximise storage efficiency or ease of use. Grouping spanners together saves a huge amount of room, while mounting them separately makes them easier to access, but takes up more space. Don't forget to check there are no spanners missing.

9

With the layout decided, arrange the groups of spanners on the foam. Here we have tightly grouped a set of ring spanners together. This will save space and make cutting the insert a little easier. We are placing these at the back of the drawer as they are not used as often as the other spanners in the drawer.


10

Trace around the group of spanners carefully with a fine tip felt marker. Note how we have angled the pen so the line is directly under the edge of the tools.

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Carefully cut along the line, with the knife only deep enough to cut through the top grey layer.

12

Now slowly peel back the top layer. You may need to slide a finger between the layers to help them separate.

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Sit the spanners into the cut-out to see how well they fit, and adjust if necessary. Note the larger spanners do not sit well, as further layers need to be removed. They will also prevent the toolbox drawer from closing if they sit too high.

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Remove the group of spanners, and replace the smallest spanner. It will probably fit without removing any further layers. Fit successive spanners, cutting the insert for each one to keep the top of the tools roughly level, or at least in line. Initially you will only have to remove a layer of foam under the ring ends as shown. Note the 'islands' of foam which have been left attached to fill in large gaps between spanners, and help hold everything in place.

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As the spanners get larger, you will need to remove another complete layer, as well as small sections of the layer underneath. Make sure the largest spanner sits low enough to clear the toolbox as the drawer is closed.

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If some tools are hard to remove, a couple of cutaways will help get your fingers under them. You can cut out a piece of foam with the knife, or form the cut-out with a hot section of pipe. Lightly heat an offcut of ¾ copper pipe as shown.

17

Gently touch the pipe against the side of the cut-out. The foam will quickly melt away, leaving a neat grip hole.


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Here is the completed job with cut-outs finished for the remaining groups of spanners. Note the frequently used spanners on the left have been mounted individually to improve access. As a finishing touch, you can mark locations with spanners sizes with a suitable marker.

Flimsy plastic socket trays rarely last the distance, especially in toolboxes that get carried around or lot or stored in a vehicle. A box full of loose sockets is almost useless when you need to get repair work done quickly. In addition, it becomes impossible to tell if one or more tools are missing. It is a lot more difficult to make a custom insert out of foam for socket sets, but there are other options available.

Socket rails are a great way to store loose sockets in a fixed toolbox but they don't work very well in a portable situation as the sockets tend to fall off. The standard steel socket rail does not work as well as the more modern plastic version (about $10 each) as the sockets are more positively located thanks to the sprung balls (inset).

While the rails will not restore order to the sockets in the toolbox shown previously, they can make loose sockets more useful for use around the workshop, especially if the rails are attached to a toolbox or tray as shown. The good thing about socket rails is the spacing between the sockets can be adjusted by sliding the socket clips along the rail.

There are a few types of pin-style socket storage trays available, but they have one major drawback. You can't adjust the spacing between the pins, which causes problems when trying to store larger diameter sockets.

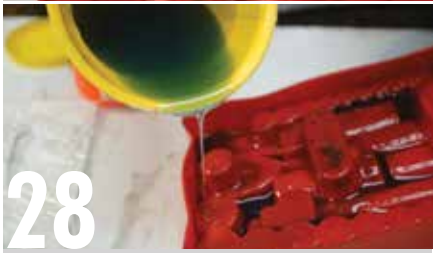
Damaged insert trays invariably cause the loss of some sockets, especially in toolboxes which bounce around in the back of utes. This set of sockets is otherwise fine, but will become next to useless once the tray collapses completely. But there is a way to repair the damage.

With the tray upside down, start by re-attaching any broken pieces and sealing any splits and holes. We found regular silicone works well for this. Let it dry thoroughly.

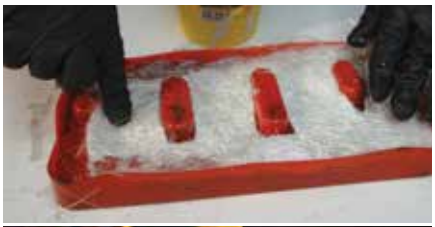
This fibreglass kit cost about $40 and contains a litre of resin, hardener, fibreglass mat, brush and gloves. There is enough resin in the kit to repair two or three socket trays.

Start by cutting a layer of fibreglass mat to fit inside the rear of the tray.

Measure out a few hundred mils of resin then add hardener according to the packet directions. It is better to mix too little resin and have to add more later, rather than mix too much and waste it. We are going to repair one tray, and strengthen another newer tray which has not broken yet.



Liberally coat the tray with resin using a disposable brush. Alternatively, pour a small amount of resin directly into the tray, so that it flows into tight crevices.



Add the fibreglass mat and press down well into the tray. Now pour additional resin into the tray until the mat is well covered. Work it into all corners with the brush, then set aside for 24 hours to fully cure.

Here is the finished product showing the strengthened tray (left) and repaired tray (right). The thick layer of fibreglass and resin has set rock hard. They should last for a few more years yet.

