

Hints, Tips and Solutions

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Q: How can I cut exactly the same hole in many layers?

A: There are at least two ways to do this.

(1) You may use the command Tools>>Cut by Line as follows.

- 1.1. Set Cut by line mode to "All".
- 1.2. Hide all layers where you do not want to cut the hole.
- 1.3. Draw a self-intersecting cutting line in such a way that the required shape of hole is drawn, see Figure 1. It is important that no "loops" of cutting line lie completely inside the cutting regions: such loops will be ignored.
- 1.4. Select the pieces that cover the intended hole, Figure2, and delete them.
- 1.5. Select all objects cut by line, Figure3.
- 1.6. Run Tools>>Merge Selected command, to obtain the result at Figure4.

You can use several simple cuts instead of a single tangled cut line. Remember however, that to produce a cut, the cutting line must start and end outside the suited objects.

(2) If there are a few layers to cut, then you can use the command line input.

```
reg m /h ! Set hole mode for object creation
la Poly
b 0 0 10 10 ! box hole. Any shape may be drawn here.
la Met1
b 0 0 10 10 ! you can repeat this command from the !command-line drop-down list
la N-Dif
b 0 0 10 10 ! you can repeat this command from the !command-line drop-down list
!.... and so on
reg m /n ! Reset normal mode for object creation
```

Q: How can I draw exactly the same object in several layers?

A: The first way is to use the command line input in the same way as in the previous hint. The second way is to use the command Select>>Save Selected>>Copy to Active Layer.

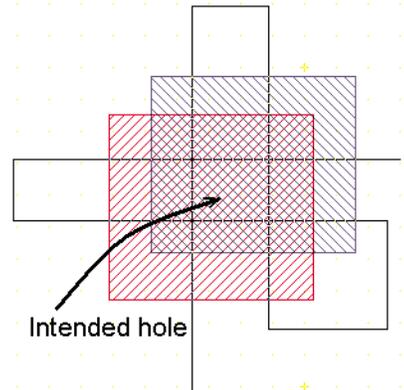


Figure 1. Cutting line.

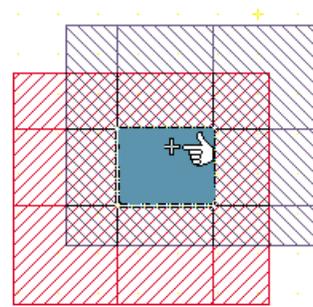


Figure 2. Select pieces from the whole.

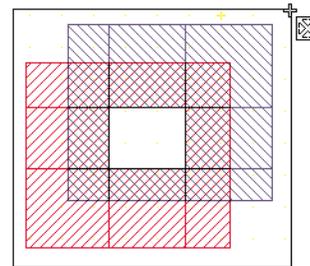


Figure 3. Merge the remaining pieces.

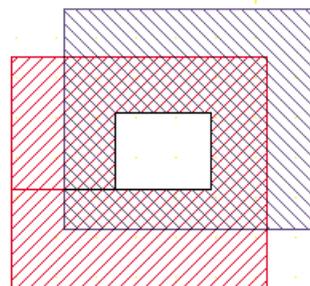


Figure 4. Resulting shapes.

Q: How do I extend a wire one segment beyond the endpoint, when your "modify" command can add new points only between the existing ones and "Stretch" cannot do this either?

A: You must draw this segment as a separate wire and use the command Tools>>Merge Wires. To merge wires, you simply click LEFT mouse button at the first wire end and RIGHT mouse button at the second wire end. You can click left mouse button at several wire ends. This would simply mean that you have changed your mind. Actual wire merging is performed only after a RIGHT mouse click. The merged wire is produced as follows:

- An intersection point of the lines of the two "marked" end segments is computed;
- The two end segments are replaced by the two joined segments, with their merge at the computed intersection point, see Figure 5 and 6.

This procedure is moderately smart, and in unusual situations it can produce unexpected results, like shown in Figure 7. So it is recommended to merge wire ends which are close enough to each other, and of course, you cannot merge two ends of the same wire.

Q: How can I copy and paste images of my layout from *Expert* into external documents?

A: *Expert* has no special function. However you may use standard features of Windows NT to accomplish this.

- Press the "Print Screen" key on your keyboard; It will capture the whole screen image into the Windows NT clipboard.
- Open the "Paint" program from Start>>Programs>>Accessories menu;
- Press <Ctrl>-V in "Paint" to paste the clipboard into a new Paint document.
- use functions of "Paint" to cut the required piece of image and save it into an image file, which can be used in other Windows applications.

Q: While doing some disk cleaning I may have deleted some files by mistake. When I attempt to start *Expert*, I get the error message:

> Line 6: Variable *FALSE is not defined.

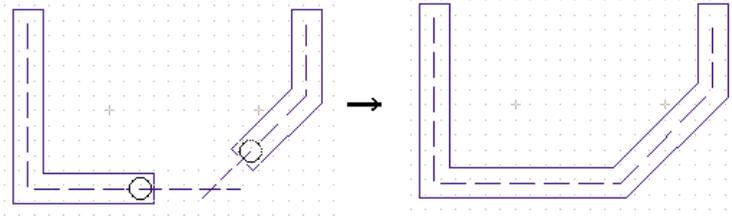


Figure 5. Wire merging: Example 1.

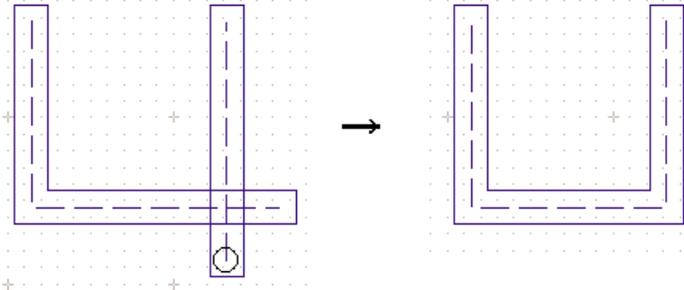


Figure 6. Wire merging: Example 2.

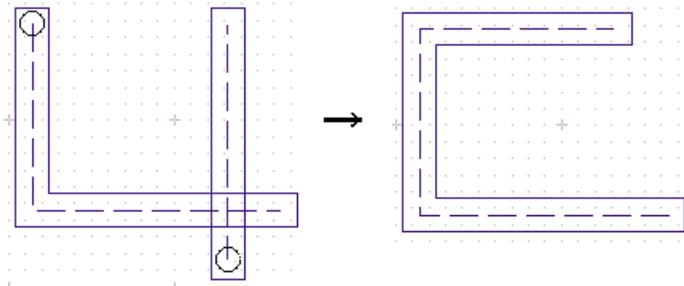


Figure 7. Nonstandard usage.

A: You have lost the file "techfile.def" from *Expert's* home directory. This file contains definitions of various variables used in technology files.

Call for Questions

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