SCREWMEZ

If you are reading this you have successfully downloaded the Screwmez program and this manual in PDF format and an icon for the desktop shortcut.   Screwmez will run in Windows 10.

To make the desktop shortcut, locate the program file in the folder where you saved it using 'Explorer'. Right click the program file and left click on 'Create Shortcut' in the drop down menu, a shortcut file will appear in the folder. Click the 'Restore Down' button at top right of your screen and drag and drop the shortcut file onto the desktop. Close or minimise 'Explorer' and you should see the 'Screwmez' shortcut icon on the desktop. To change this icon for the one that you downloaded, right click on it, click on 'Properties' then 'Change Icon' then 'Browse', find the 'Screwmez' icon that you downloaded, click on it and click 'OK', 'Apply' and 'OK' and you should have the 'Screwmez' shortcut icon on your desktop.
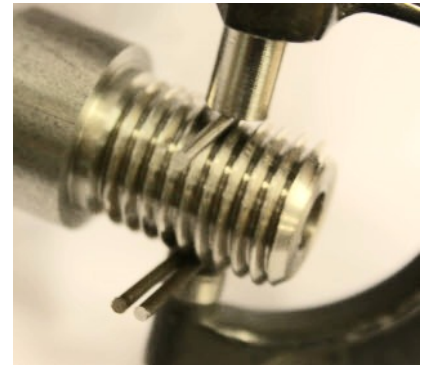

Fig. 1. Showing how thread is measured.

The purpose of this program is to assist in the measurement of screw threads by the 'three wire method' by placing three wires of the correct size across the thread to be measured, two on one side and one on the other, in the 'V' of the thread and measuring across the wires with a micrometer as in (Fig. 1.).

To load the program you will need to Double Click on the 'Screwmez' Icon on your desktop (unless otherwise stated 'click' or 'double click' will refer to using the left mouse button).

The first window you see will be that shown in (Fig.2.). This is the main screen where all the information is displayed, including the 'Helix Angle', the angle at which the tool is set when screw cutting, especially on coarse threads. The 'Depth of Thread' is handy to know how deep the tool needs to cut.
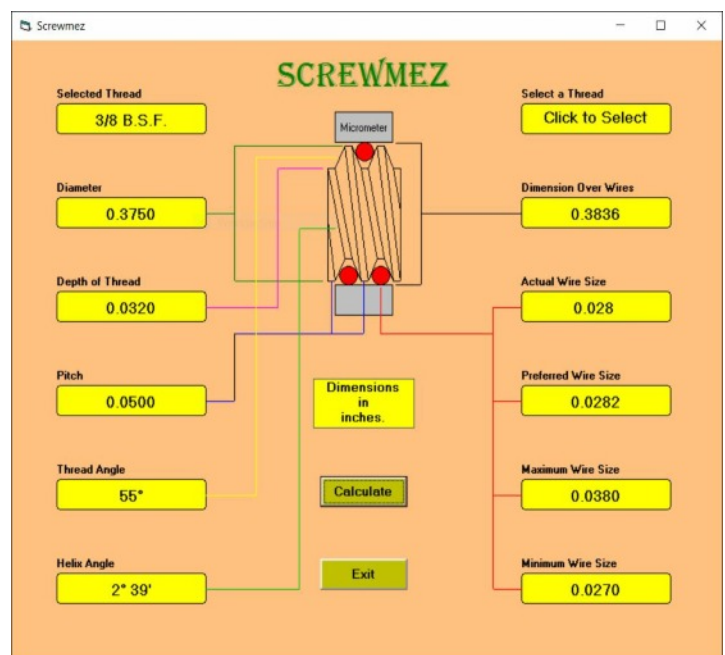

Fig.2. The main window with sample data shown.

To operate the program, once you have loaded it, you will need to click on 'Select a Thread', which will then show the next window (Fig. 3.) consisting of a selection of buttons. The buttons are labelled with various thread types. Click the button with the thread type you wish to measure and the next window will appear (Fig. 4.) to allow you to select the size you want, then click 'Apply'. This will take you back to the main window with all the data regarding your selected thread displayed.
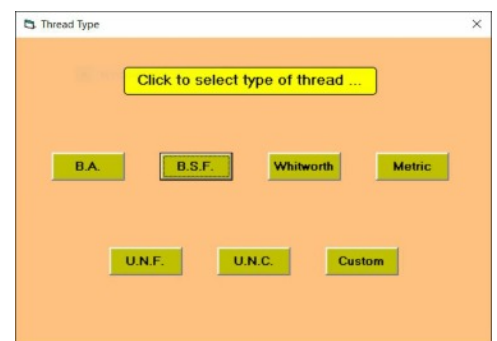

Fig.3. Select type of thread.

The important items are the minimum, maximum and preferred wire sizes. The wires you choose must be within the limits of minimum and maximum and as near to the preferred size as possible. If the wire diameter is below the minimum then the wire will not protrude above the top of the 'V' of the thread and all you will measure is the outside diameter of the thread. If the wire diameter is larger than the maximum it will only sit on the crest of the 'V', which is not where you want it to be. In fact the program won't let you go beyond these limits. (Fig.5.).
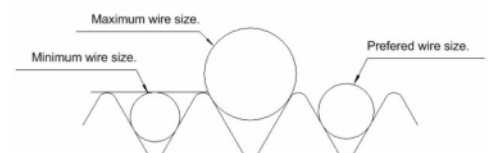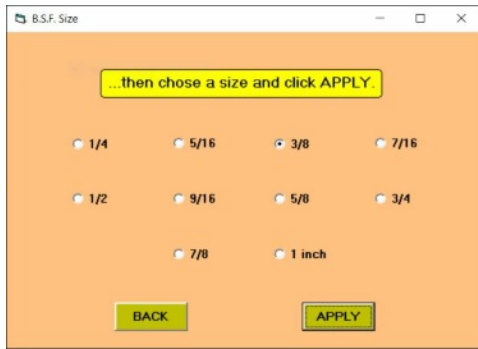

Fig.5. Showing correct wire size.

Fig.4. Select the size of thread.

You will need three wires approximately 30mm to 50mm long, the length is not important, and must all be exactly the same diameter. Once you have settled on your wire size enter this figure into the box labelled 'Actual Wire Size' and click on the 'Calculate' button. The dimension across the wires will appear in the 'Over Wires' box.

It is possible to measure non-standard threads by clicking on the 'Custom' button in the thread type window to open the window shown in (Fig. 6.) and selecting the 55 deg. or 60 deg. option, which is the angle of the thread, depending on whether you are measuring a Unified or Whitworth thread, then enter the diameter and pitch or threads per inch (TPI) in the appropriate boxes. You can enter metric sizes above 2mm or imperial sizes up to but not including 2 inches. If you enter a size of 2 or above in the diameter box the program automatically assumes you wish to measure a metric thread, in which case there is no need to select either of the thread angle options, Screwmez knows the thread angle is 60 deg. When you have entered all the data press 'Apply' to get back to the main window. If a thread angle is not selected in imperial mode a message box will warn you. There are two more message boxes that will appear to warn you if you fail to enter the diameter or pitch/TPI in the 'custom' window.
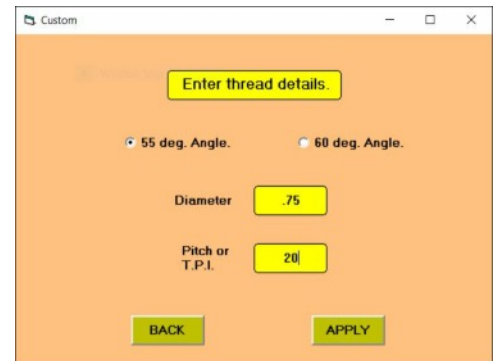

Fig.6. Window for setting custom thread.

If you click on 'Calculate' without selecting a thread or entering an actual wire size a box will appear to warn you of the mistake.

TIP.   Holding the three wires while you are trying to measure across them can turn out to be somewhat of a juggling act. Try placing two wires across the underneath of the thread and hold them with your thumb, place the third wire across the top of the thread opposite them and hold this with your first finger, in the positions as shown in Fig.1., get the wires as parallel to each other as possible and press a suitable sized piece of Plasticine , or similar, over the ends of the wires. Carefully hold the Plasticine and measure across the wires without disturbing them. If you slide the Plasticine and wires off together carefully you can slide them back onto the thread if you need to make any further measurements.