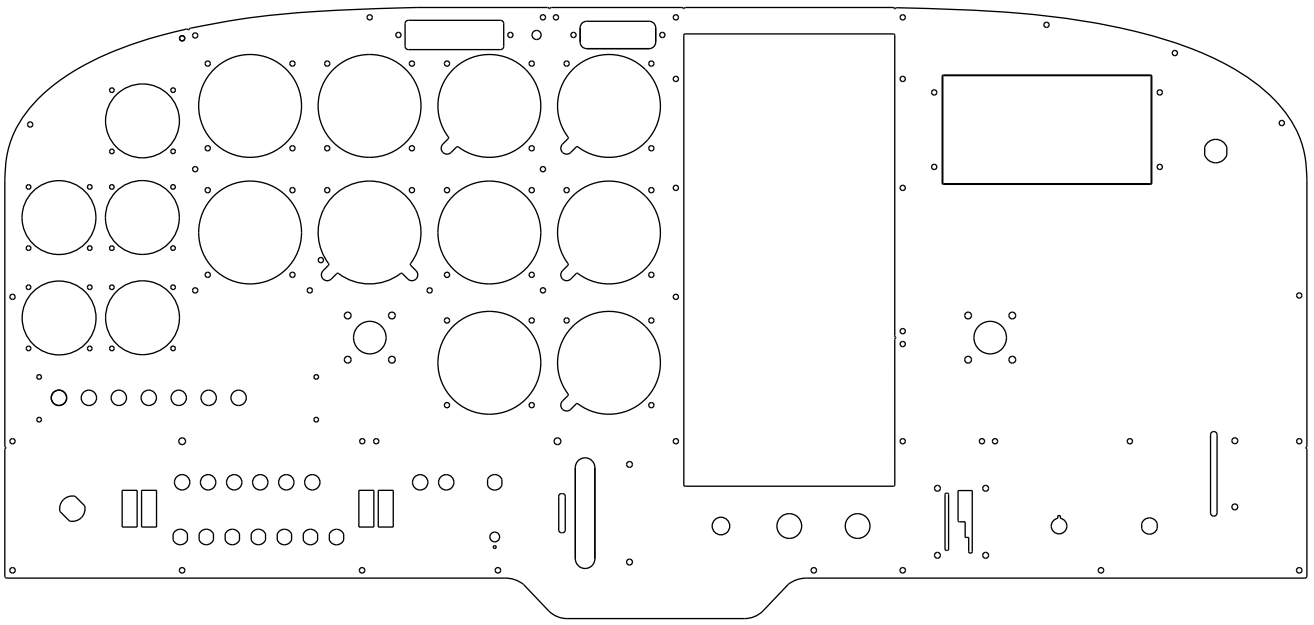
SimKits Panel Designer

software for laser cutting of metal aircraft panel

(for use in flight simulator environment only)



This software is made available free of charge and may not be disassembled or used for any other purpose than to design metal aircraft panel which are produced for the designer by TRC Development.

The software may be reproduced and distributed freely.

The SimKits Panel Designer
is a software program which allows you to design a metal aircraft panel without the use of expensive CAD programs and does not require any knowledge of Computer Aided Design.

The result of the use of this program is a file which contains the positions of the chosen cut outs and a calculation of the expected costs.

The program is distributed free of charge under the condition that is used only to design an aircraft panel for a flight simulator and that the output of this program is used to order this aircraft panel from TRC Development through its SimKits product service.

The program is contineously under development but is not created for the purpose to replace a real CAD program. Therefore the output of this program does not contain any vector drawings.
The output of this program is converted into the real vector graphics when the output file is received by TRC Development and is used thereafter to feed a laser metal cutting machine, which reproduces in detail the designed panel into a metal plate.

The software contains a library of pre-programmed cut-outs. These cut-outs can be placed onto a pre-programmed or self dimensioned panel lay-out.

The main pre-programmed panel lay out fits exactly in the flight simulator cabinet made of vacuum formed plastic, creating thereby a realistic and professional flight simulator (see details of the flight simulator cabinet on the SimKits website).

You can position cut-outs by entering the exact X and Y position and when placed on the panel lay-out you can alter the position by double clicking on it to open the dialog box again or even drag the cut-out to a new position. Fine tuning of the position is realized by opening the dialog box and changing the X and Y coordinates.
Its so easy, you design a metal panel in minutes rather than days.

Once finished, just send the output file (the extension of the file is **.SPF**) to:
paneldesign@simkits.com, wait for the price confirmation and pay for the panel on the website according to the instructions received by email.

Generally, the panel is shipped to you within 3 weeks after receipt of the cutting file and your payment (payment is accepted by credit card or bank wire prior to the cutting of the panel.

How is the panel produced?
The file you have generated with the SimKits Panel Designer is first converted to a DXF format and checked against impossible cutting. Of course, our system cannot check if the positioning of your cut-outs are according to what you wish. That is the responsibility of yourself, so we advise to check and double check.
The next step is that the file is forwarded to a high speed laser cutting machine. A large X-Y table with an extreme powerful laser, able to cut through metal.

The result is a clean cut metal panel which dimensions of cut-outs are clean an precise.

What metal is used?
The metal panel is produced from so-called Zincor plate, which is anti corrosion coated metal. The thickness of the metal is 1.5 mm. (approx. 0.059”).
No other type of material can be ordered. This is due to the fact that orders which come in during a period of 14 days are combined into a single cutting job and the material used is purchased by us in large quantities.
(if we would handle individual orders, we could not deliver an individually cut panel below € 600.00 to € 800.00)

Not painted
The panel, once cut, is not finished by paint, since there are so many different wishes for paint and color. However the panel is easily painted by the use of car paint in a spray can from your local car paint store.

What does it cost?
The SimKits Panel Designer has a built-in calculation system, which automatically calculates the cost of your panel, depending on the panel size and the number of cut-outs / size of cut-outs used.
It also calculates the approx. shipping costs, so it gives you an idea of what your panel design would cost.

The final costs are recalculated bij our sales department when you send in the file and you will receive a confirmation and a JPG of your panel design as an extra check.

Directions are given how to pay for the panel design. The receipt of the payment is considered as the final order and agreement to cut this panel.
You will also receive and estimated date of shipment.

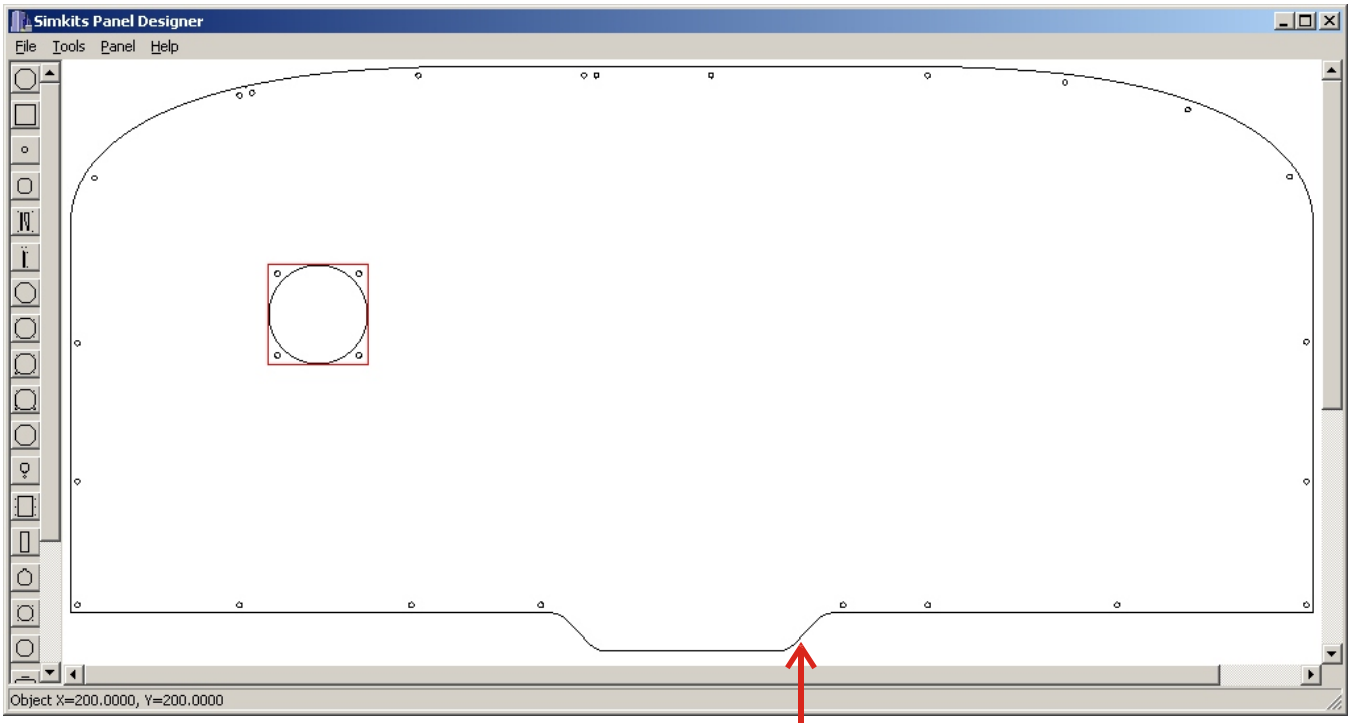
How do I order my panel?
When you are finished with the panel design, and have saved your work, there will be a file with the extension **.SPF** on your computer.

Send this file to **paneldesign@simkits.com** and you will receive confirmation of the received file within 24 hours.

Warning
Check and double check your design. Errors result in a wrong panel and SimKits/TRC Development is not responsible for errors in the final product other than errors created by SimKits/TRC Development.

The main screen

The SimKits Panel Designer program is very easy to use. On the left of the main screen, all libraries are visible as thumbnails. On the top row, the pull down menus **File, Tools, Panel** and **Help** are visible.



Positioning
Here you find the X and Y position of the selected cut-out. When a cut-out is selected, a red square is positioned around it.

Panel
Pre-defined panel outline with mounting holes. The pre-defined panel fits exactly into the TRC472 type cabinet available from the SimKits Website.

The File Menu

The File Menu let you open existing panel designs. Create a new Panel Design, Saving them under the same name or a new name and enables you to print out the panel design for your reference.

The Tools Menu

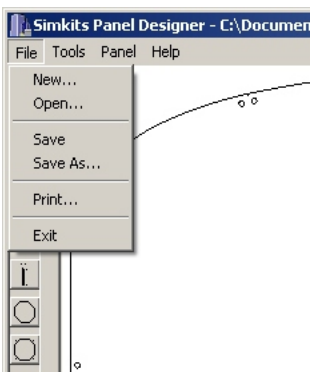
The Tools Menu gives you access to the built-in calculation system, which can give you a cost estimated for the metal panel you are designing in real time. You can call it up at any time to see what your panel would cost.

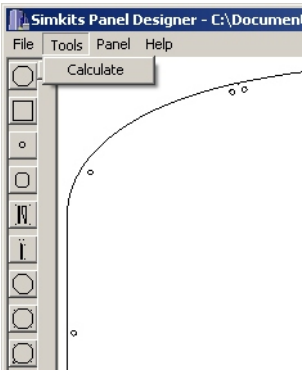
The Panel Menu

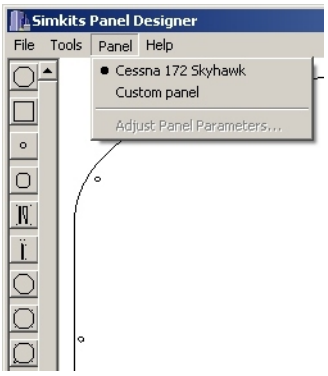
The SimKits Panel Designer comes with a pre-programmed blank panel in the precise format for the large cabinet or you can create your own custom panel outline here.

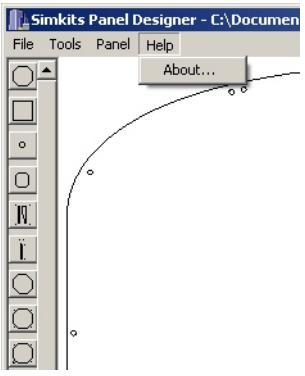
The Help Menu

The Help menu shows the release version of the software when you click on **About.** Use this function to check if you use the latest version. If not, please download the latest version from the SimKits website.









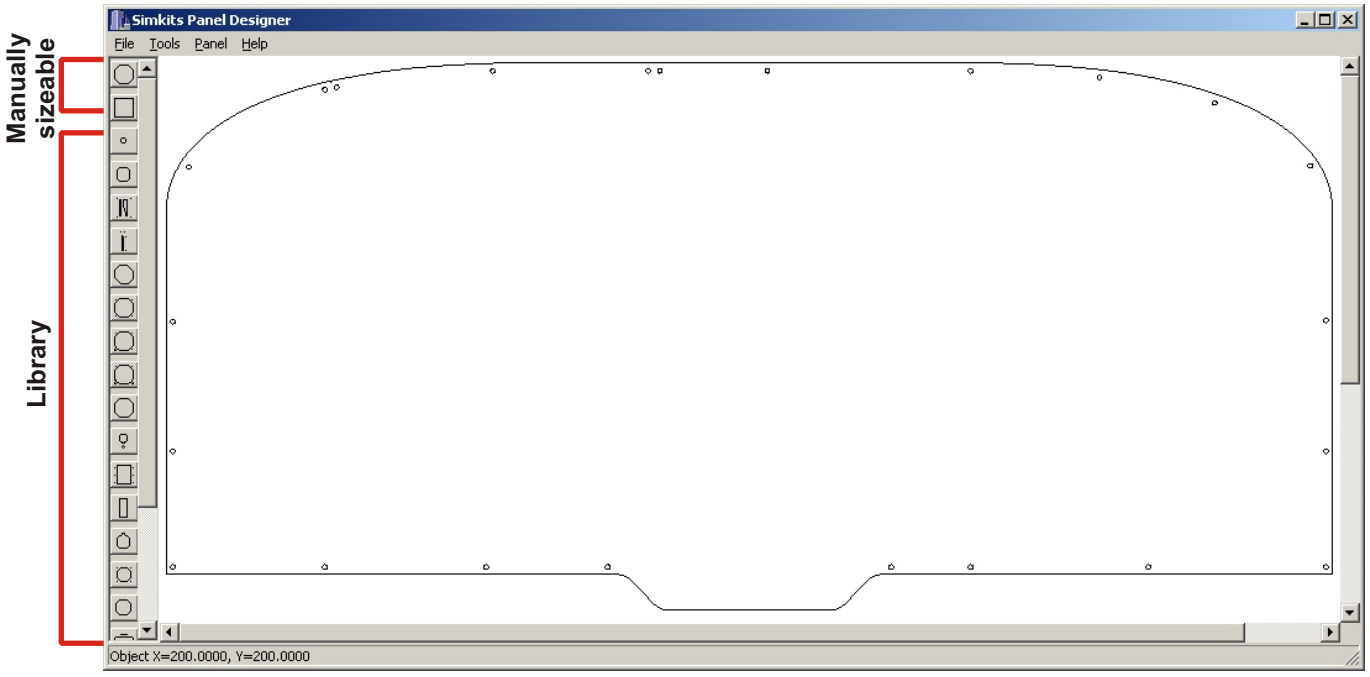
Cut-out Groups
There are several types of cut-outs. Most cut-outs are available from the built-in library of the SimKits Panel Designer. There are also two cut-out, which dimension you can set yourself. A rectangle cut-out enables you to set the width and height of the rectangle, while also a circle cut-out command is available, which allows you to create any size of circle or even ellipse. When you click on a thumbnail, a dialog box opens which will ask you the width and height (for circle and rectangle cut-outs only) and the X and Y position (for all library cut-outs).

Clicking on a thumb-nail in the left column
Opens a dialog box where you can enter the X and Y position for a cut-out. When clicking on one of the two thumbnails in the utmost upper left hand corner, the dialog box also enables you to enter the width and height of the cut-out.

Clicking on a positioned cut-out
Selects the cut-out. Holding down the left mouse button allows you to drag the cut-out to a new position, When the left mouse button is released, the dialog box opens again and let you eventually fine tune the new position. Clicking on OK places the cut-out on the new position.

Double clicking on a positioned cut-out
Opens the dialog box and let you set new values in the X and Y positioning fields.

Right clicking on a cut-out
Opens a dialog box to enable a delete action or an edit action.



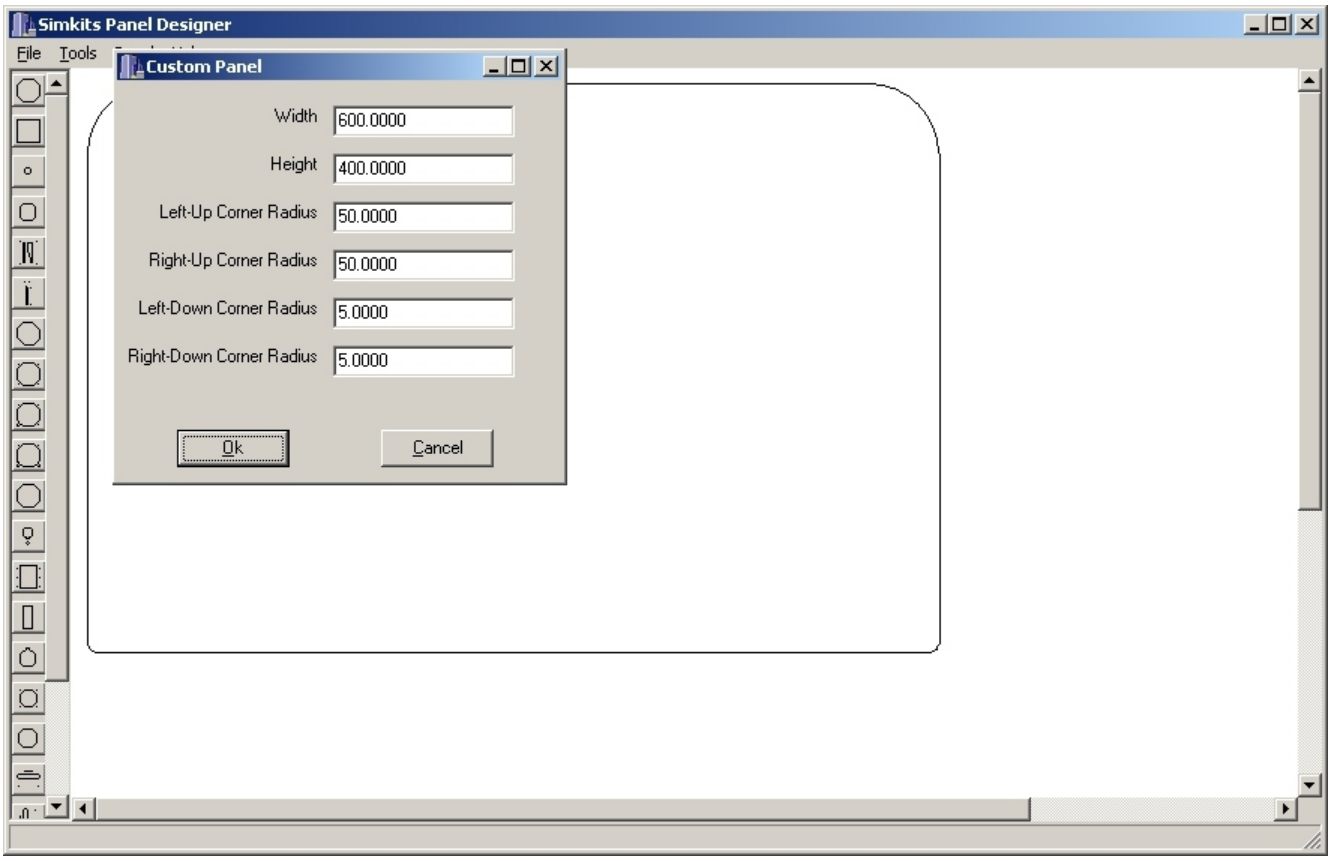
Panel
The SimKits Panel Designer has the possibility to choose for a pre-designed panel with moutning holes which fits exactly in the large cabinet an glareshield, made from vacuum formed plastics. (See more details on the SimKits website).

When you choose the pre-designed panel, you can start positioning the desired cut-outs immediately.

When you would like to design your own panel outline, please choose for **Custom Panel** in the **Panel** pull down menu. Once you have created a custom panel, you can always change the dimensions or corner roundings by clicking on **Adjust Panel Parameters** in the **Panel** pull down menu.

Dimensioning a Custom Panel
Sinced the SimKits Panel Designer is not a CAD program (which produces vectorised drawings), the design of a Custom dimensioned panel is limited. You can choose a rectangle panel and round off the corners up to your own wish.

When you enter a Radius for a corner, the number you enter produces a quarter of a circle at the position of the chosen corner. For example, when you chose for the upper left corner a radius of 50.000 mm. (50 mm.), the quarter circle is part of a whole circle with a diameter of 100 mm.



How to order the designed Panel from SimKits

Ordering the designed panel from SimKits
The file, which contains the panel you have designed using the SimKits Panel Designer has the extension *.SPF.

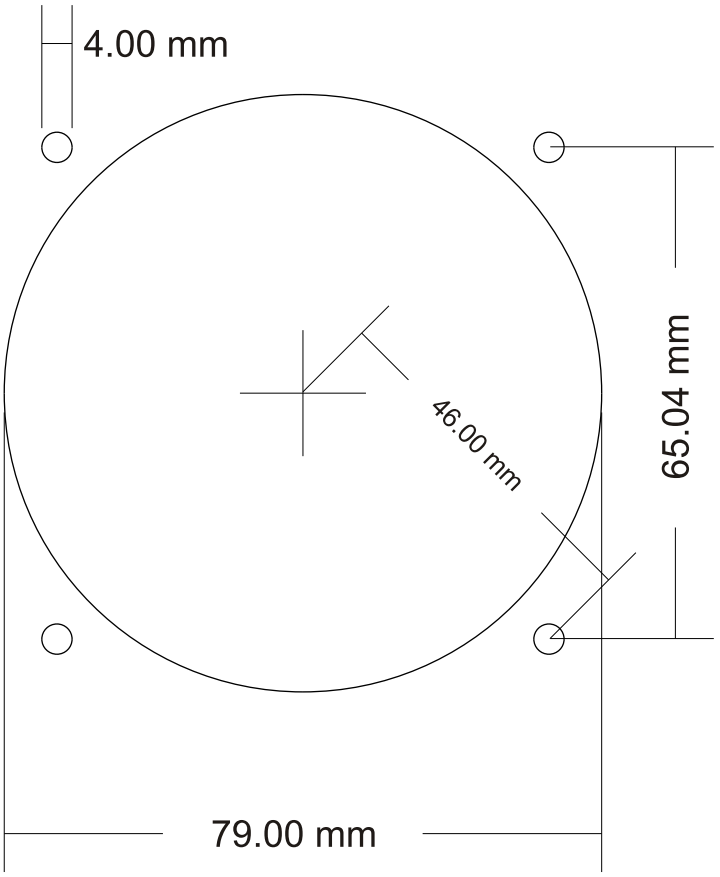
When you have checked (and double checked) your metal panel design, you should send this file to:

paneldesign@simkits.com

Upon receipt - and during working hours - this file is checked on validity and a final price is sent to you by email, together with the invitation to initiate the final order of your metal panel.
In the email is explained how you can pay for this product.

Once the payment is received, the production process starts and cannot be stopped anymore.

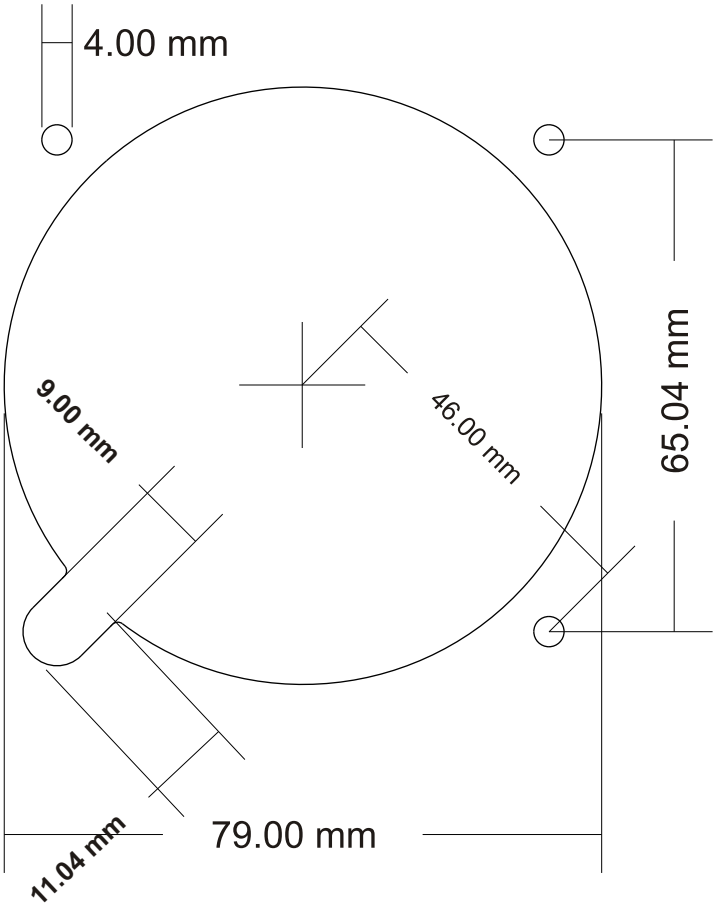
The delivery time is approx. 2 to 3 weeks after the final order (either credit card order via tghe website or prepayment on our bank account) has been received.



Large Gauge
This is the standard cut out as used for the so called General Instrument gauge. With a General Instruments gauge you can create a.o. an Airspeed Indicator, a Tacho Meter and a Vertical Speed Indicator.

The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!

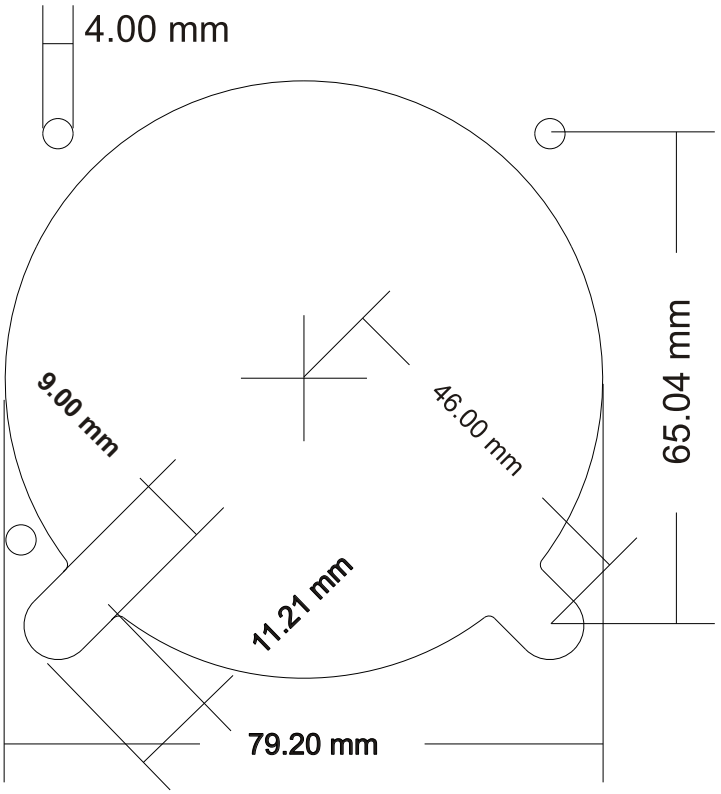
The overall size of this cut out is 79 x 79 mm.
Size of mounting holes: 4 mm.
Size of cut out: 79 mm.
Center cut out to center mounting holes: 46 mm.



Large Gauge with 1 Dial
This is the cut out as used for the Altimeter gauge, the VOR1, VOR2 and ADF gauge.

The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!

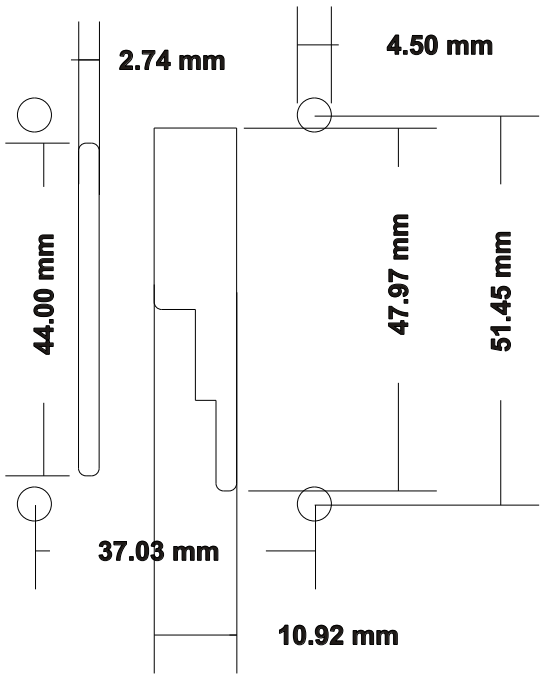
The overall size of this cut out is 79 x 79 mm.
Size of mounting holes: 4 mm.
Size of large cut out: 79 mm.
Size of cut out for dial: 11.04 x 9 mm.
Center large cut out to center mounting holes: 46 mm.



Large Gauge with 2 Dials
This is the cut out as used for the Heading Indicator.

The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!

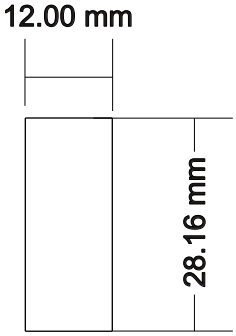
The overall size of this cut out is 79 x 79 mm.
Size of mounting holes: 4 mm.
Size of large cut out: 79.2 mm.
Size of cut out for dials: 11.21 x 9 mm.
Center large cut out to center mounting holes: 46 mm.



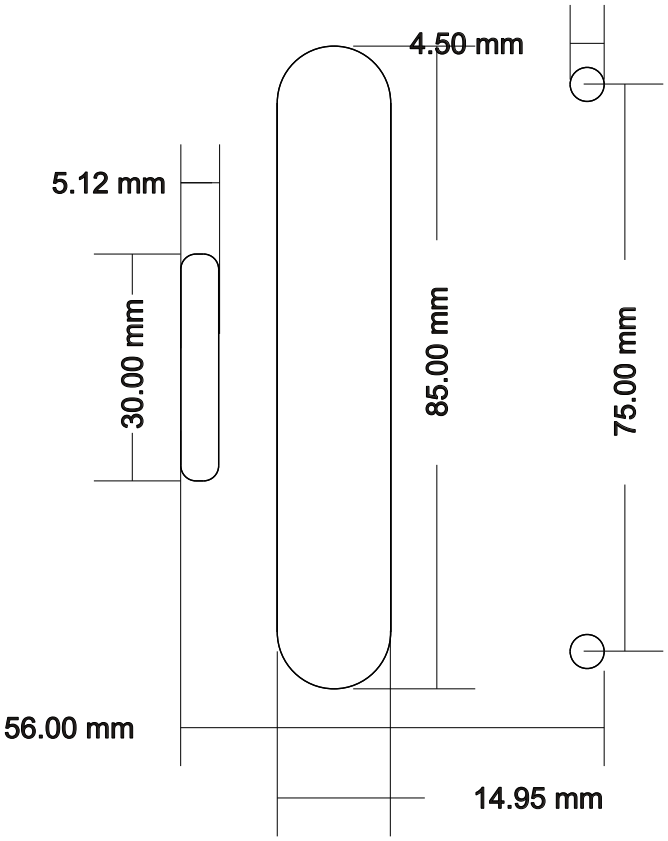
Flap Switch and indicator
This is the cut out as used for the Flap Switch and indicator driven by servo motor. (See the SimKits website for more details on this product.)
The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!

The overall size of this cut out (WxH) is 41.526 x 55.947 mm..

Size of mounting holes: 4.5 mm.
Size of large cut out: 10.92 x 47.97 mm.
Size of small cut out: 2.74 x 44.00 mm..
Center of mounting holes: 37.03 x 51.45 mm.



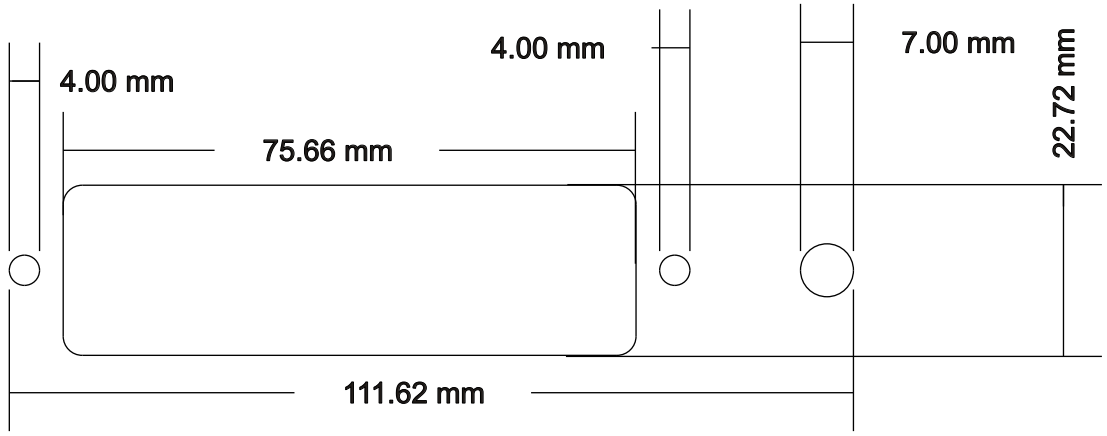
Rocker Switch
This is the cut out for the Rocker Switch as used for the main and avionics switches. (See the SimKits website for more details on this product.)
The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!
The size of this cut out is 12 x 28.61 mm.



Trim Wheel (vertical or horizontal)
This is the cut out as used for the Trim Wheel assembly. There are two identical cut outs. One can be used for vertical mount (pitch trim) the other for horizontal mount (rudder trim) or other purpose. (See the SimKits website for more details on this product.)

The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!

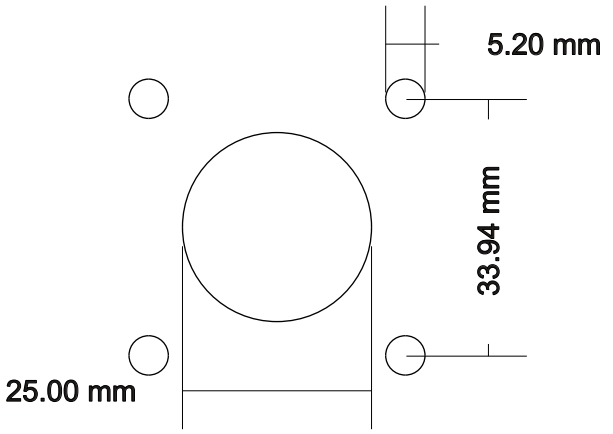
The overall size of this cut out is 56 x 85 mm.
Size of mounting holes: 4.5 mm.
Size of large cut out: 85 x 14.95 mm.
Size of small cut out: 30 x 5.12 mm.



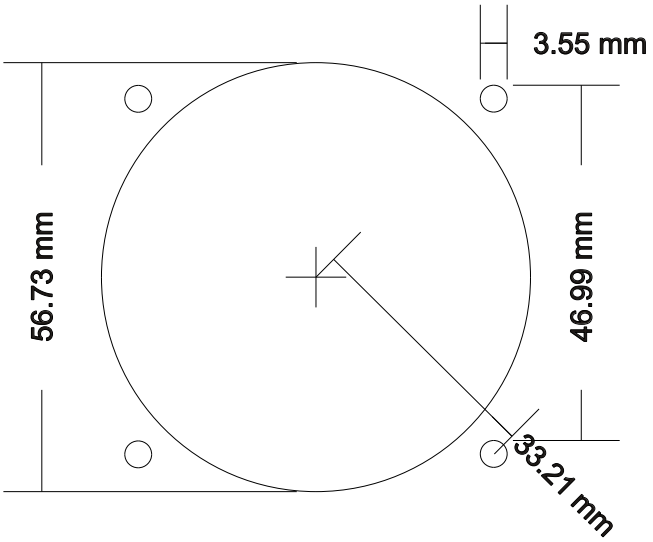
Warning Panel
This is the cut out as used for the Warning Panel assembly. (See the SimKits website for more details on this product.)

The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!

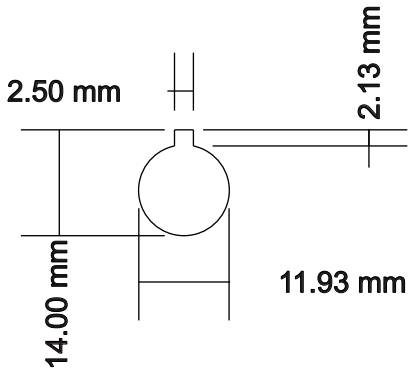
The overall size of this cut out is 111.62 x 22.72 mm.
Size of mounting holes: 4 mm.
Size of hole for tumbler switch: 7 mm.
Size of large cut out: 75.66 x 22.72 mm.



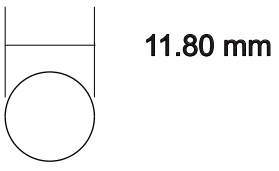
Yoke Mount
This is the cut out as used for the Yoke mount in the front panel. (See the SimKits website for more details on this product.)
The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!
The overall size of this cut out is 39.14 x 39.14 mm.
Size of mounting holes: 5.2 mm.
Size of large hole: 25 mm.



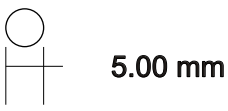
Small Gauge
This is the standard cut out as used for the small gauges. The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!
The total size of this cut out is 56.735 x 56.735 mm.
Size of mounting holes: 3.55 mm.
Size of large hole: *56.735* mm.
Center cut out to center mounting holes: 46 mm.



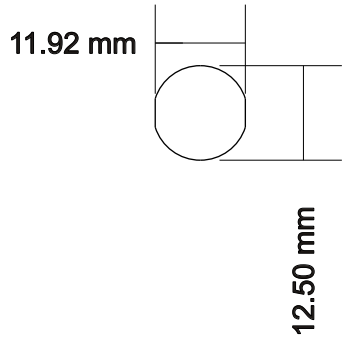
Slotted 3-pole Switch
This is the standard cut out as used for the Tank Switch. (See the SimKits website for more details on this product.) The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!
The overall size of this cut out is 14 x 11.93 mm.
Size of the slot: 2.5 x 2.13 mm.
Diameter of center hole: 11.93 mm.



Tumbler Switch
This is the standard cut out as used for the Tumbler Switch. (See the SimKits website for more details on this product.) The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!
Diameter of the hole: 11.93 mm.

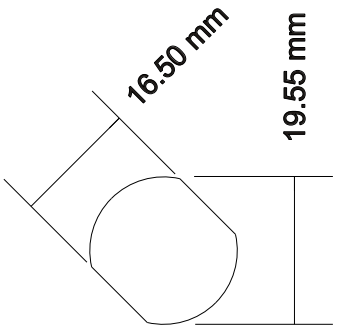


Mounting Hole
A 5 mm. mounting hole. The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!

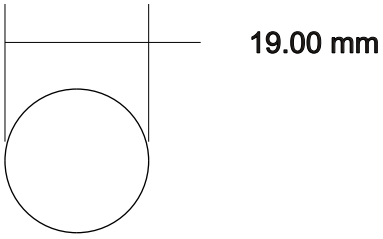


Circuit Breaker
This is the cut out as used for the Circuit Breaker in the front panel. (See the SimKits website for more details on this product.) The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!

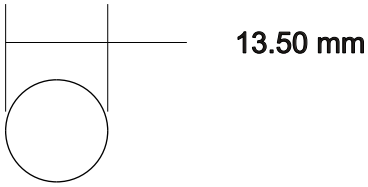
The overall size of this cut out is 12.5 x 11.92 mm.
Diameter of hole without slotted sides: 12.5 mm.



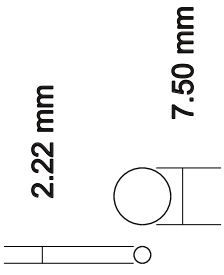
Key Lock
This is the cut out as used for the Key Lock Switch in the front panel. (See the SimKits website for more details on this product.) The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!
The overall size of this cut out is 19.55 x 19.55 mm.
Diameter of hole without slotted sides: 16.5 mm.



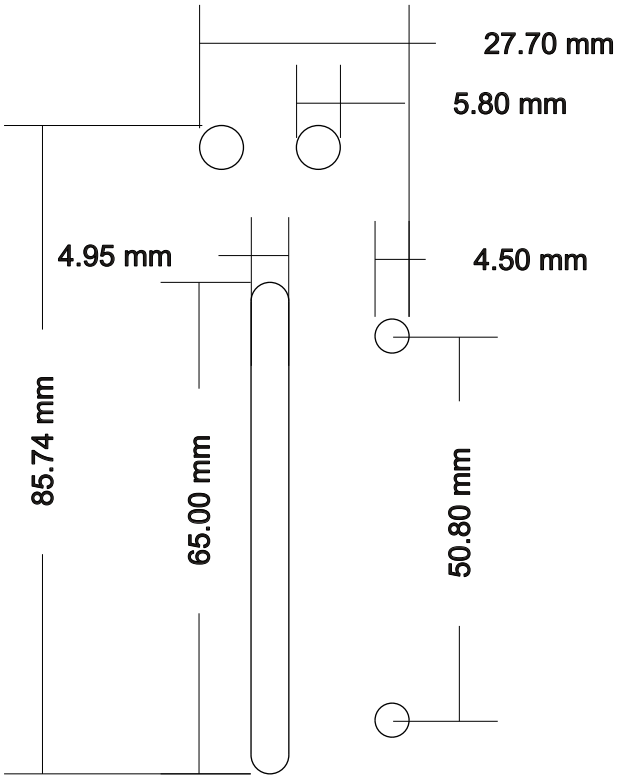
Mixture / Propeller Adjust
This is the cut out as used for the Cessna style Mixture and Propeller Adjust. (See the SimKits website for more details on this product.)
The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!
The diameter of this cut out is 19 mm.



Throttle
This is the cut out as used for the Cessna style Throttle. (See the SimKits website for more details on this product.)
The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!
The diameter of this cut out is 13.50 mm.



Potentiometer
This is the cut out as used for the light regulating potentiometer. (See the SimKits website for more details on this product.)
The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!
The diameter of the large cut out is 7.5 mm.
The diameter of the small cut out is 2.22 mm.



Gear Switch
This is the cut out as used for the Gear Switch with the Red and Green LED indicator in the front panel. (See the SimKits website for more details on this product.)

The dimensions are in millimeters. The scale is 100%, but due to the non-precision of most printers, it is not recommended to print this sheet and use it for measurements!
The overall size of this cut out is 85.74 x 27.70 mm.
Size of mounting holes: 4.5 mm.
Size of large hole: 4.95 x 65 mm.
Size of the holes for the LEDs 5.80 mm.

Details of pre-programmed Cessna 172 Skyhawk style panel

Cessna 172 Skyhawk panel
The Cessna 172 Skyhawk panel outline is an exact replica of the original panel. It includes mounting holes which fit exactly the mounting holes of the large TRC472 style cabinet and glare shield.

Design your own professional flight simulator using this pre-programmed panel and use cabinet and glareshield to finish a cockpit panel design which you cannot distinguish from a real aircraft panel!