Instructions for G5 backplate replacement and motherboard mounting.

Kit contents:

1 x Motherboard tray; 8 x 8mm M3 Standoffs and washers; 4 x M3.5 short cross head screws (attach mobo tray to up to 4 lower standoffs on some G5 models); 12 x 3mm acrylic washers (3 per M3.5 screw); 10 x M3 screws and washers (attach mobo tray to shelf attachment points on ALL models and to attach lower part of tray to case on some G5 models); 1x brushed aluminium backplate; 1 x acrylic cut out for I/O; 1 x fan support drilling template; 10 x M3 screws - attach backplate to G5; 10 x M3 Nyloc nuts - attach backplate to G5; 2 x M3 screws -attach cut-out for I/O to fan support; 2 x 10mm standoffs - attach cut-out for I/O to fan support 2 x M3 nyloc nuts - attach cut-out for I/O to fan support

Instructions:

The case should be stripped of all electrical items and fittings prior to kit installation so as to avoid problems with drilling swarf. The directions below do not detail the full stripping process.

BACKPLATE

1. With the G5 stripped and fans removed, offer up the backplate to the rear of the G5 and do a test fit. Test fitting means simply laying the backplate against the rear of the G5 and ,using the PCI slots as a reference and starting from the upper right hand corner place the short M3 screws through aligned holes in the G5 backplate.

2. With the new backplate lying against the G5 back, this will show you where you will need to cut away material. I suggest scribing around the inside of where the fan holes will be, as well as around the I/O cut out. REMEMBER you must keep the material of the G5 backplate that you are going to secure the screws to, so it is a good idea to mark with a pen or similar the position of the mount holes.

3. Once you have marked up the areas to be removed, you can start cutting the G5 back. If in doubt under cut and then go back and cut more later - you can always remove material, but putting it back is not so easy....

4. The Picture below shows an example of the material to be cut away. Note that the mesh needs to be cut right up to the wall of the PCI compartment, one full column of holes needs to be left on the right hand side and five colums of holes on the left hand side.

5. Make sure one row of holes remains above the top of the power plug outlet. Generally leave as much material of the original back intact as you can.


6. Once you have made the cuts test fit the new back. This time, once you have loosely fastened the new back plate into place offer up the G5 fan plate (with the tongue facing inwardly - i.e. the opposite way to the original G5 fitment) to the rear of it and see if all fits well. If there is too much of the original back to allow the fan assembly to fit, then make a note of where the problem is, take the backplate off and do any needed extra cutting.

7. Now that everything fits, it is time to modify the fan assembly. In your kit there is a template marked "LEFT RIGHT" and with a pair of holes in it. Align the template as shown above with the right hand end of the template flush with the right hand edge of the tongue portion of the fan holder. Fix the template in position with some sticky tape and then using a 2.8mm to 3mm drill bit drill two holes in the tongue portion in the positions marked by the template holes:
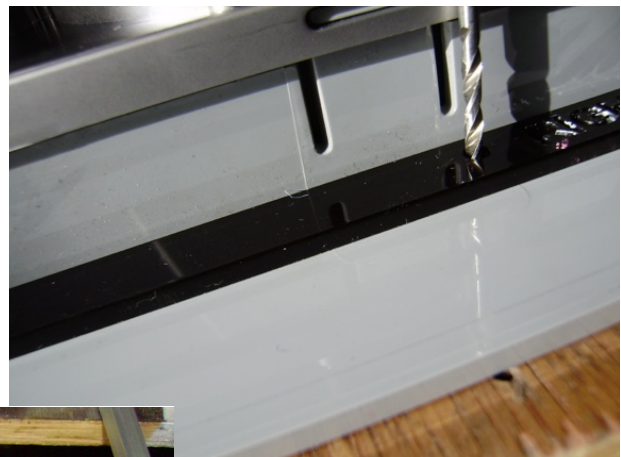
8. After that then saw the tongue along the bottom line of the template (all the way from end to end so you have this left:Now insert the two standoffs into your drilled holes. If you used a 2.8mm drill then the standoffs will cut their own thread when twisted, if you used a 3mm drill then you will need to secure the standoff stem with an M3 nut. Now the fan holder looks like this:
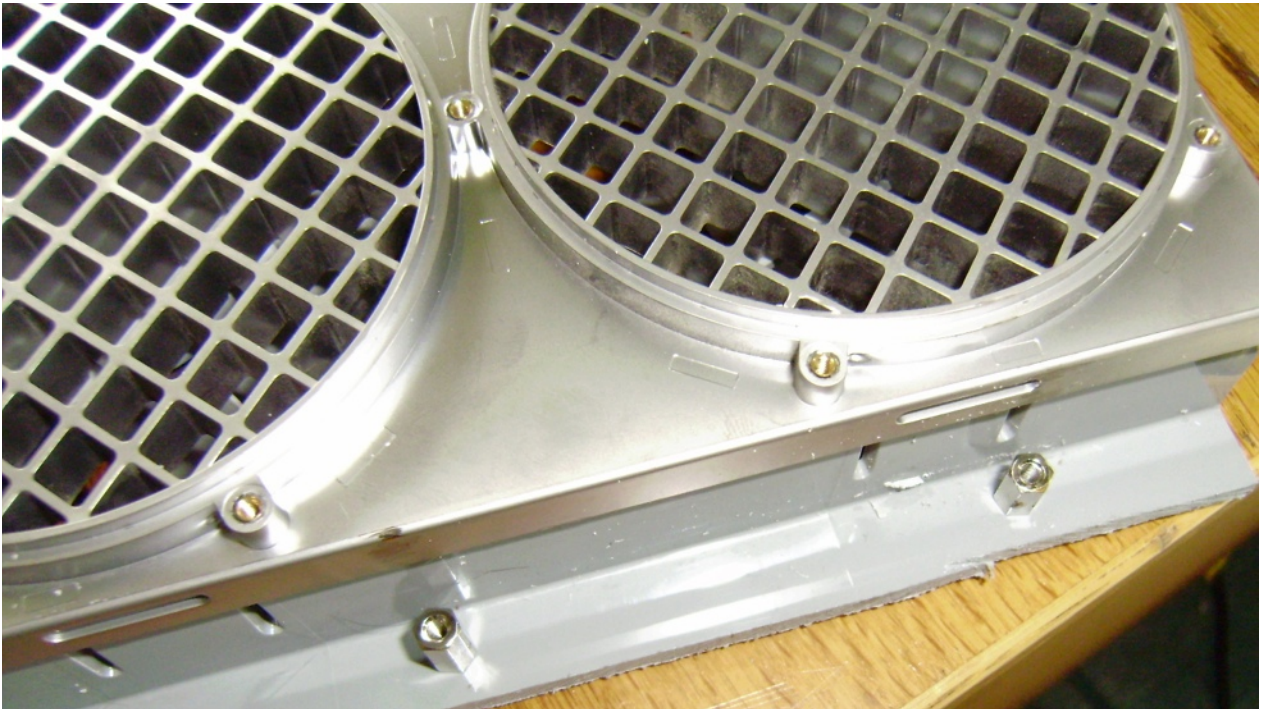

9. Finally, fit the acrylic grey bracket like this (note production models do not have the extra hole shown below left):

10. You have now finished all the adaptations to the back of the G5 and can fix the main backplate into position tightly with the countersunk screws and nyloc nuts provided. If however you are going to now fit the motherboard tray do not put the fan assembly into position yet.
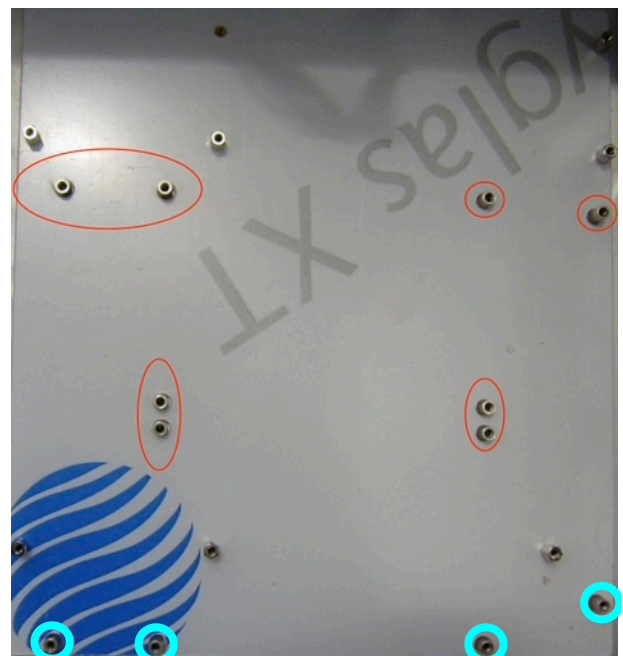

MOTHERBOARD TRAY

1. Turning to the inside of the G5 we come to the fitting of the motherboard tray. First though, there are some "non" standoffs that need to be removed from the G5 case completely. These are the button headed (i.e. not threaded) standoffs that were used to locate the original motherboard and which allowed the motherboard to slide in elongated slots. The photograph below shows one example of these standoffs - all similar standoffs to these should be removed.
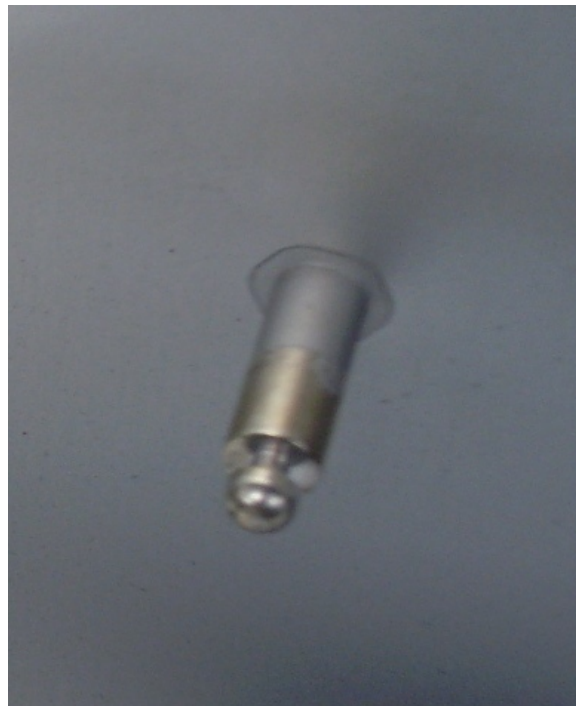

2. Now is a good time to just do a quick test fit of your motherboard tray into the G5. Take the tray and place the tray in the G5 as shown below. Note that standoff positions in the G5 will vary according to model. The principle though is that standoff posts within the motherboard outline (red) and not used to fix the tray in position need to be removed or cut down.

   *Note: With our recent kits the hole patterns for our trays are universal to fit all models of G5, there are therefore **more** holes on each tray than are shown here.*

3. For a few G5s, you may find you need to attach the motherboard tray to standoffs that are inside the footprint of the ATX motherboard. For instance, in the motherboard tray shown below, the tray had to be attached at the points arrowed. For these two mount points the standoffs had to be reduced in size by the use of a dremel tool or hacksaw so that when the motherboard was mounted to the tray there was no chance of them interfering with it.
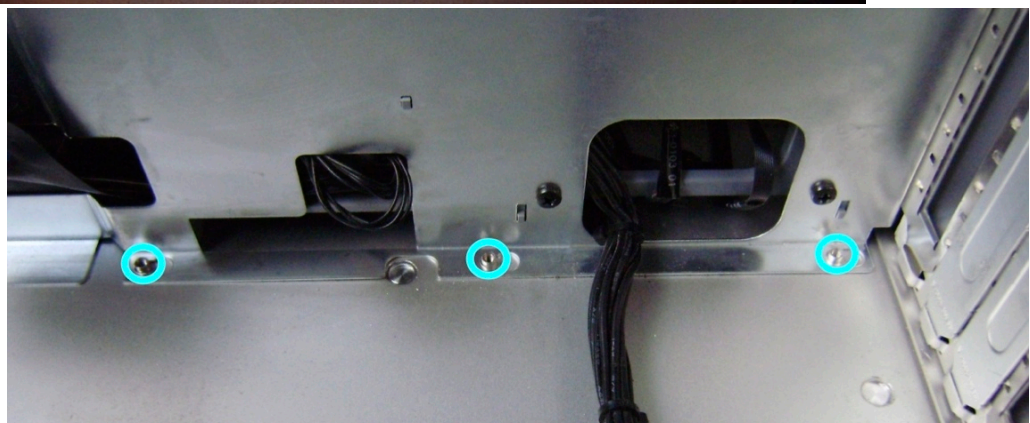
The top of the tray will be fixed in position by using these shelf mounting points:

4. Having done the test fit, now take the board out of the G5, detach the red circled standoffs (you can simply remove them by tapping them lightly with a hammer to give a sideways jolt) peel off the protective film from both sides of your motherboard tray and put it back into the case.

5. You can now secure the top of the tray by screwing in three of the supplied countersunk M3 screws to the three shelf mounting points shown, while the board is secured in place at the bottom by using other washers and screws from the fixings pack. In the example shown in the photos it is secured by putting three of the supplied acrylic 3mm washers over each standoff and then using the supplied M3.5 screws to hold the board securely in place. Other models may use M3 screws and washers to hld the board in place.

[Note: If you bought an ATX board, fitting is exactly the same except there are two additional top mounting points and two more M3 black screws supplied.]

6. Now screw the supplied standoffs into the brass inserts on the motherboard tray to match the pattern of mounting holes present on your motherboard.

Mounting your motherboard.

With the tray in position and the backplate secured, you can proceed with your buildup.

If you are re-using the power supply case from the G5 then put that into position, as well as the top metal plate without the rear fan holder in place. Only once the PSU is fixed and metal plate in final position should you replace the fan holder complete with the acrylic grey trim.

When fitting the motherboard, it is suggested that you do so with the rear fans and trim plate already in position.
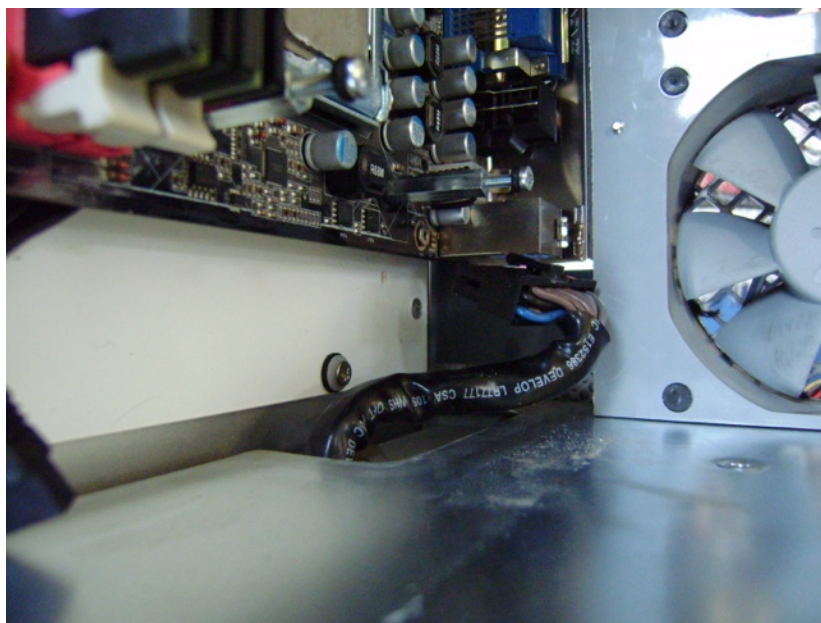
Loosely associate the metal I/O shield with the rear ports of the mobo and feed the mobo into position on the tray.

Screw the motherboard to the tray with the rest of the M3 countersunk screws that have been supplied.

Finally, you will need to adjust the metal I/O shield and/or the grey trim plate to get everything sitting in the correct position as the upper (right hand) end of the I/O shield actually is held/wedged in place by the end of the PCI slot area. This is inevitable due to the design of the G5 - this will give an appearance as shown below:
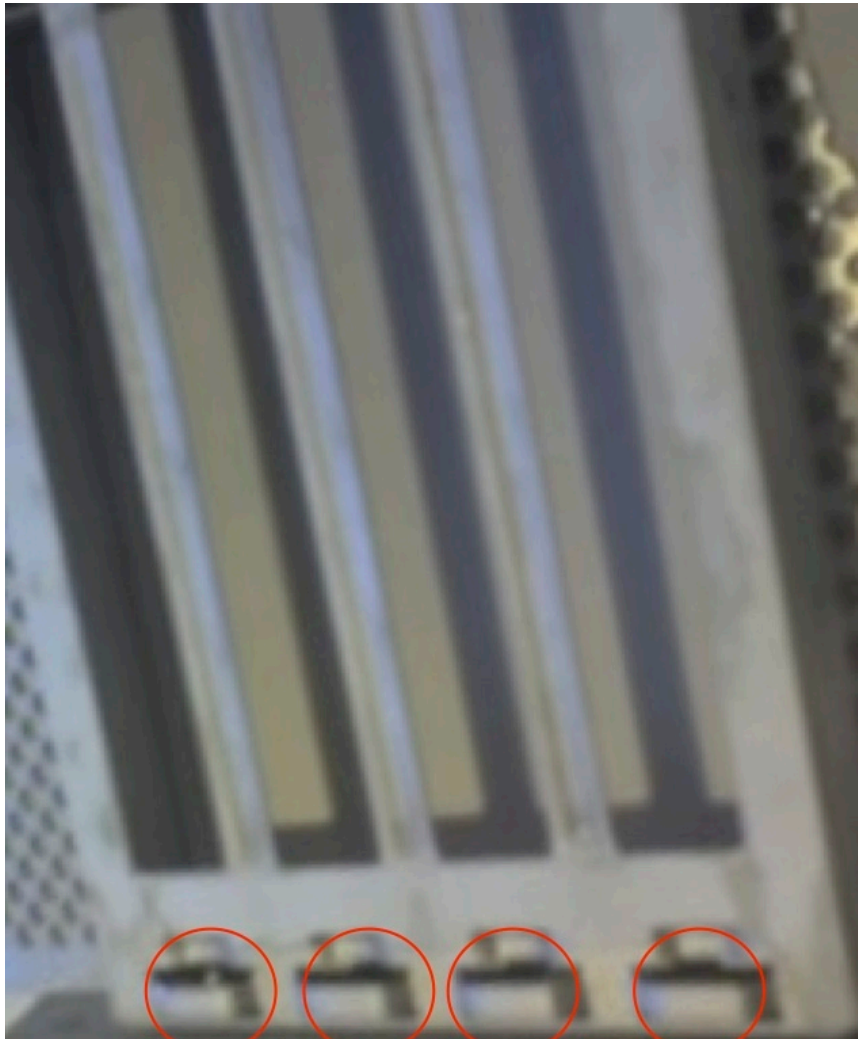

Finally, sit back and admire your handiwork!

Troubleshooting

Some modern PCI-e cards do not fit easily into the original G5 PCI slots. If you have a problem then this is the solution.

The small metal tabs (circled below in red) may need to be cut and removed.

If you need to do this to make your PCI-e cards sit properly against the top of the PCI slots then do not worry - the cards will be securely held by the screw and by the motherboard.

Thank you to Keith who found this problem and who used this as a solution.

Please note this does not seem to be needed for all PCI-e cards, just some do not fit correctly into the Mac PCI card holder.