

Dash board & fitting

The layout and number of gauges used and size of Speedo and tachometer are very much down to the builds personal taste, some may want to go with a more “original” layout, but most Cobra replicas seem to have none “original” lay outs .



The lay out of the first proto type BMW based Python is shown above this is just one layout that you could use. It is a good idea to cut out some card clocks and tape them to the dash panel in the place you think you would like them. Then site in the car and make sure that you can see all the clocks and that they are not obscured by the steering wheel or the switch gear. As a good looking set up that looks nice may not be so nice from the driver's seat! It's best not to cut all the holes and then find that you can only see half the Speedo!

There are so many different layouts that you could do its almost endless. We will give you the tips on how to trim and make a very professional finish to your dash

First you will have to decide the size and number of clocks to use, 80mm or 100mm Speedo & Tacho and how many 52mm clocks, the most popular are 100mm Speedo &Tacho and Four 52mm Fuel / Oil Pressure / Water Temp / Volts. (as with our car) this is also a cost effective set up.

We can recommend ETB instruments Ltd www.etbinstruments.com in Essex for your instrument needs. They give a great service, wide rage of options and value for money.

SVA Points.

It states : The vehicle interior surfaces (other than windows) shall not have any fittings/controls/instruments/sun visors etc, or features which have any dangerous roughness or “sharp edges” due to their exterior shape or design likely to be contacted by the occupants in the even of an accident.

There are “exempt areas” this is behind the steering wheel and 127mm (5”) around the outer edge of the wheel and cutting off horizontally at the bottom edge of the wheel.

It states: Visually check (where necessary using measuring equipment) the **interior fittings and design features** in the “specified zone” which can be contacted by a 165mm sphere for dangerous roughness or sharp edges.

“Sharp edges” means an edge of a rigid material having a radius of curvature of not less than 2.5mm, except in the case of a projection from a panel which is less than 3.2 mm. In this case the minimum radius shall not apply provided that the height of the projection is not more than half its width and its edges are blunted.

Check the **Instrument panel** lower edge is rounded to a radius of not less than 19mm (3/4”) 5mm if covered with a non-rigid material.

Non-rigid means a material capable of depression under thumb pressure and deformed retains a degree of protection against contact with any structure which it is covering and when released returns to its original form.

In English: any metal surfaces that are on the surface of the dash should not have any radiuses less than 2.5mm, Clock bezels 3.2mm (1/8”) rad, any toggle switches must be behind the steering wheel or within 127mm (5”) around the wheel.

Watch out for glove box door handles, rubber or soft plastic a fine but metal or hard plastic are a no-go. A leather tag is often the best with a magnetic catch, or if you want a **lock** the early type **XJ Jag** mark I II III catch and lock are good, and comply with SVA.

If you are using the RVD dash the lower edges are SVA compliant so there is no need to worry about this part.

At this time it is a good idea to have the lay out and covering finalized, as depending on the covering will determine the amount of clearance that you will need around cut outs or the glove box door, if you have decided to cover with leather you will need to have at least 5/32” (4mm) as most leather is around 1/16” (1.6mm) + 1/32” (.6mm) clearance.

For vinyl this will be thinner and need less gap, you will need to check the thickness before gaping the door.

For “Hard type” coverings Wood / Carbon Fiber / Alloy paneling, that are only applied to the surface and do not rap around the sides of the glove box will only require a small clearance gap.

Method:

- 1.** You will need to lower the steering column down to allow the dash moulding to fit over the top and around the steering column plastic cowl, fit the dash in the approximate position. If the flange on the top of the dash moulding hits the under side of the scuttle, trim the flange down until it fits all the way up.
- 2.** Once the dash fit as you would like it, lift the steering column back up into position with the plastic cowls fitted and move the dash side to side until you have obtained an even gap all the way round the cowl.
- 3.** To make sure that the dash goes back in the same place every time, place two pieces of masking tape from the scuttle across onto the dash moulding, cut the tape at the point where they meet. You now have a good method of aliening the dash with out fitting the column back every time.



- 4.** There are many ways to mount the clocks and switches. One way that we like to mount switches and clocks is to mount a panel from the rear of the GRP panel. This works well when the switches that you are using are not designed to be fitted to “thick” GRP and are for mounting in to a steel “thin” panel.



- 5.** The above panel shows one option that you may like to have (this type of panel can be supplied by RVD to your own requirements) the clocks are angled at 10 deg towards the driver.

- 6.** But this said the Clocks can be cut straight in to the dash GRP if you prefer, and this is the simplest way to fit the clocks.



- 7.** The above picture shows one way to mount switches, these switches are simple on/off type and then we use relays to do the switching. This makes more wiring but allows the use of small modern type switches. The two lights are for Hand brake/ fluid level warning light & ABS warning light. The holes above the column are for L/H & R/H indicators, Oil, Battery, High Beam, warning lights
- 8.** To hold these panels on to the rear of the GRP the best way we have found is to use M5 countersunk screws “bonded” into the dash panel, locate the metal panel on the rear of the cut out you have made in the GRP and drill back through the fixing holes you have made in the metal panel with a 4mm drill.
- 9.** Over countersink the screw head side so that it is under the surface of the GRP, and countersink the other side around half the size on the rear for a nut to fit in. Screw M5 x 20 screws into the GRP, you will need to push hard on the screw but they will cut there own thread into the GRP. Leave the head around 10mm above the surface.



- 10.** Place a small amount of Epoxy glue on the thread and under the head and screw down tight.

- 11.** Smooth out the excess glue over the head of the screw, if there is not adequate glue to cover the head add more to ensure that it is proud of the surface and totally filled.



- 12.** Place a small amount of glue under the nut and screw down tight as shown above.

- 13.** Once this has been done to all the fixings that hold all of the panels, allow the glue to harden totally before test fitting the panels.

- 14.** Tests fit the panels and file any holes that snag on the threads, this can happen if the studs are not totally upright and parallel to each other.



- 15. Note:** when fitting clocks take care that the clocks do not foul the blower ducts when they are fitted later.
- 16.** Test fit the dash back into position, to fit mounting brackets. You will need two L shape brackets at each end of the dash as shown below. Made from 1.6mm M/Steel, 1.2mm S/Steel, 2mm alloy . (these can be supplied by RVD if required)



- 17.** Fit two M5 screws at the ends of the dash as described above, bolt the bracket onto the rear of the dash and then bolt the two brackets together. Clamp the second L bracket to the side plate structure and mark the position of the two holes, repeat this on the other end of the dash.



- 18.** Fabricate two more L shape brackets from 3mm alloy 2mm M/steel or 1.6mm S/steel as shown below to hold the bottom of the dash to the center tunnel.



19. Position the brackets as far apart as possible on the top of the center tunnel but not off of the flat area of the front of the dash, marks the hole positions. When the dash is removed after the next operation, fit two M6 riv-nuts into the top of the center tunnel as shown below. Fit two M6 x 25 or 30mm Counter Sunk Screws (CSK screws) into the dash as you have the M5 fixings, and bond into the dash.



20. To hold the top center of the dash, fabricate a bracket that fits on the under side of the center bighead bolt that holds the center of the scuttle to the steering column support bar. It is best to make a Card board pattern and then the final bracket, this can be made from 1.6 S/steel, 1.2mm M/steel, or 3mm Alloy. Similar to the one shown below.



21. Mark the position of this bracket, remove the clamps and remove the dash panel and drill and rivet to the dash as shown above.

22. Now you are ready to fit the glove box and door