

Guide to fitting an import digital dashboard & H.U.D. to a UK 200sx S13

By John Bennett

Version 1 (June 2004)

Print pages 5 & 8-12 for reference when fitting (the rest is just background info)

The Japanese and US S13's (180sx and 240sx respectively) had a digital dashboard and head's-up display as an optional extra. Unfortunately this was one of the few extras not available to UK 200sx owners. However you can find them (e.g. on Ebay) for £50-100 and make them fit your car.

So what does it do? Not a great deal actually – instead of a dial speedo, you get a reasonably big 3-digit display of speed using a Vacuum Florescent Display (as found in videos, cookers, Hi-Fis) on the dashboard in white (actually filtered green) and out of the HUD in green (although the HUD can *only* display up to 199 while the dash goes to 299). It updates about 2 times a second. It does look very cool though, in a retro sort of way, and having your speed on the windscreen is rather handy (if surreal).

The 240sx has the option of km/hr or mph - I don't know about the 180sx. A dial to the left of the speedo allows you to select your units and turn off the HUD (press it in).





One drawback of the dashboard is the poor reliability of the digital speedo. Symptoms include the speedo taking longer and longer to light up or starting up for a few seconds then switching off.

This is an age related issue. Fortunately they can usually be repaired/reconditioned. I'm willing to have a look for the price of a crate of Stella should you buy a broken one ;-), whilst overseas readers might want to do a Net search for 'Mr Snezy' of Australia who's pocket money is provided repairing these units. The speedometer section unscrews easily so you won't have to post the entire dash.

The other issue is that **THEY DO NOT PLUG INTO A UK 200SX**. Nope, you have to re-wire the loom.

Before we continue I'd like to state that I haven't yet seen any pinout diagrams for the 180sx ('JDM') dash, so the following information may not work for that dash – I fitted the 240sx dash. I have seen no evidence to suggest the pinouts are different for the 180sx dashboard though (I've even heard rumours of 240sx owner's importing and plugging in 180sx dashes to replace their faulty ones). The 180sx dash is the better option to be honest (more expensive though), and I'm 100% sure we'll be able to get it to work.

Always try and buy a dashboard with its small wiring harness:

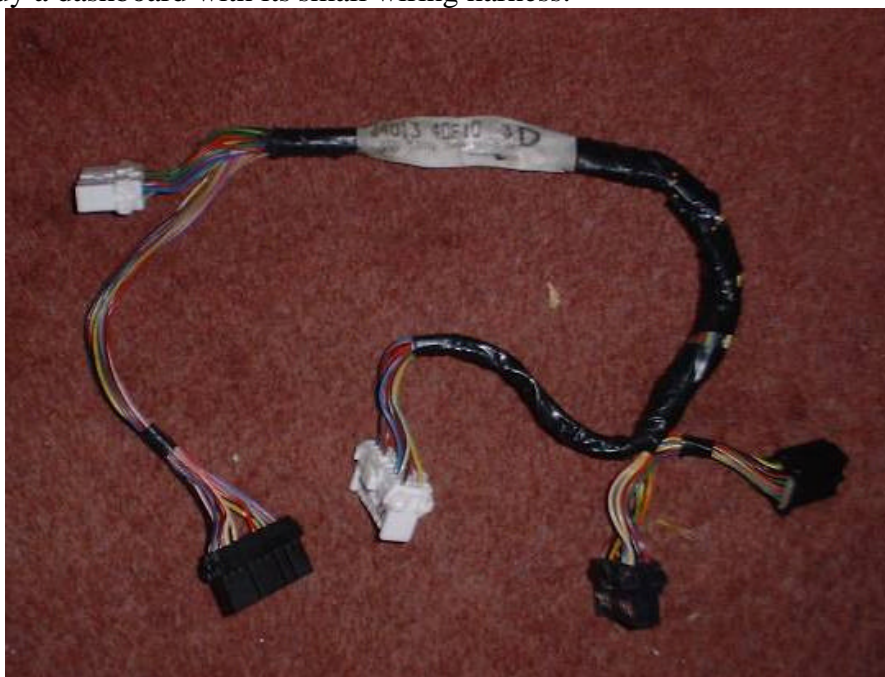


Figure 1: Loom - 240sx end to left, digi-dash to right.

This harness (24013 40F10) has 3 connectors to the back of the digidash which are wired to 2 connectors to connect into the 240sx. The technique I use is to hack off the 240sx end and piggy-back all the wires onto the loom in your 200sx (where it would plug into your analogue dash). This essentially leaves you with 2 sets of dashboard connectors, so you can put your analogue one back in if the digital one packs in.

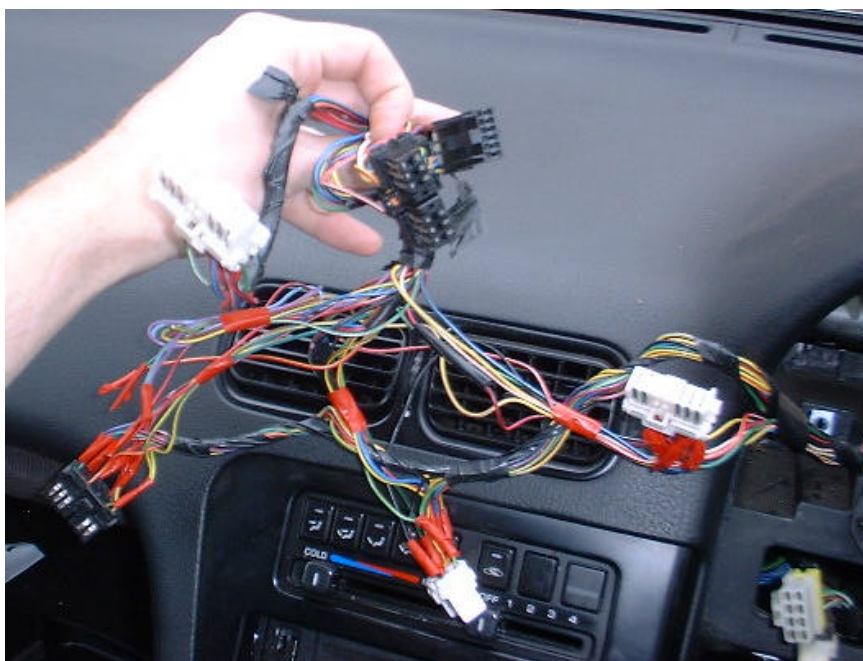


Figure 2: Spliced loom - original connectors at bottom, digi-dash connectors at top.

If you don't get the loom then you'll have to solder wires onto the back of the digi-dash, do-able, but not very slick (and you have to slice through the wires to take it back out should it fail). I can't make conversion looms as it's all weird Nissan connectors.

The Wiring

The numbering is based on the connector pinout for the digital dash and the connector pinout for the analogue dash. Print out both diagrams and then go through the table, cutting a wire to the 240sx connector then piggybacking it to the appropriate pin on the 200sx analogue dash connector. As a guide, the wire colours of the digi-dash loom and 200sx loom should match up in 90% of cases. Pay attention to the orientation of the connectors in the diagram. You **will** have some spare wires – tape them up.

I joined the wires by using a stripper tool so expose some bare wire on the S13 end, without snapping it and then wrapped the chopped wire at the end of the 240sx loom around and soldered them together. I put insulating tape over the join (**essential**). Disconnect the battery before doing all of this and tape over any connectors not in use (stops the pins shorting to the metal of the car).

The table on next page (for ease of printing).

Description	Position on Digidash Connector	Connect to this pin of 200sx
Illumination	1	11
Turn Left	2	14
Indicator ground	3	15
Turn Right	4	16
Brake	5	21
	6	
Door open	7	25
Gauge 0V	8	28
Tachometer	9	19
Clock backlight	10	20
Oil pressure	11	22
Battery charge	12	27
Seatbelt	13	-
Illumination (as 1)	14	11
Fuel gauge	15	10
Check engine	16	-
Gauge 12V	17	24
Clock 12V (battery)	18	30
Temp gauge	19	26
High Beam	20	4
High Beam 2	21	3
	22	-
Cruise control	23	-
Fuel warning	24	9
Speed in A	Speedo 1	12
HUD brightness 12V	Speedo 2	Ext switch (option)
Illum control 1	Speedo 3	11
IGN ACC/ON	Speedo 4	11
Ground	Speedo 5	28
ECU (output)	Speedo 6	7
Speed in B	Speedo 7	6
HUD brightness input	Speedo 8	Ext switch (option)
Illum control 2	Speedo 9	-
IGN ON/START	Speedo 10	24
BATTERY	Speedo 11	30
X (no wire)	Speedo 12	-

If you have the loom, it's likely that certain common signals are joined in the loom. This is good – leave them alone

Fitting the HUD

Ok, this isn't so simple. If you've got a 180sx HUD, there isn't a problem, however I haven't...

The HUD is designed to fit on the top of the dash, between the driver and the driver's door, on the edge of the console. The 240sx is left-hand-drive however, so when you come to mount the unit in a UK car, it is sloped the wrong way. This means you have to mount it on the left-hand side of the dashboard. This still projects to a convenient spot on the windscreen, but the unit doesn't mount properly, and you'll have a job making the top cover fit without butchering it and adding plastic to it. Mine's still a hack-job (hence putty holding it on), until I figure how to make it look right. I might end up making my own top cover.

You'll need to remove the entire console (driver to passenger side) to cut the hole for the HUD as the console is plastic underneath, so you can't use a Stanley knife. Instructions are provided at the end of this document. Exactly where you mount it is up to you (I've already described the approximate position)



The original car's came with a tint/reflective overlay for the windscreen. In the dark you don't need anything, works fantastic, but in the daytime the HUD is hard to see. To remedy this, a small patch of tinting strip where the numbers reflect should do the trick (have yet to try this though).

Tachometer

Ok, can't guarantee this, but it's possible the tachometer that comes with your dash won't work with your car (should you want to know, your ECU provides the signal). If you don't get a reading, unscrew the tacho on the digi-dash (3 screws in the back) and swap it with your old one from your analogue 200sx dash. It might not be a *perfect* fit though (if you look at the photos of the dash, you'll see that my CA18 UK tacho doesn't display all of the markings as it's slightly too big for the bezel). I'll look into the compatibility issues between KA24, SR20 and CA18 ECU's and tachos at some point (for a nicer solution). If you get a 180sx dash from a CA18 car then you should be OK.

Points to note

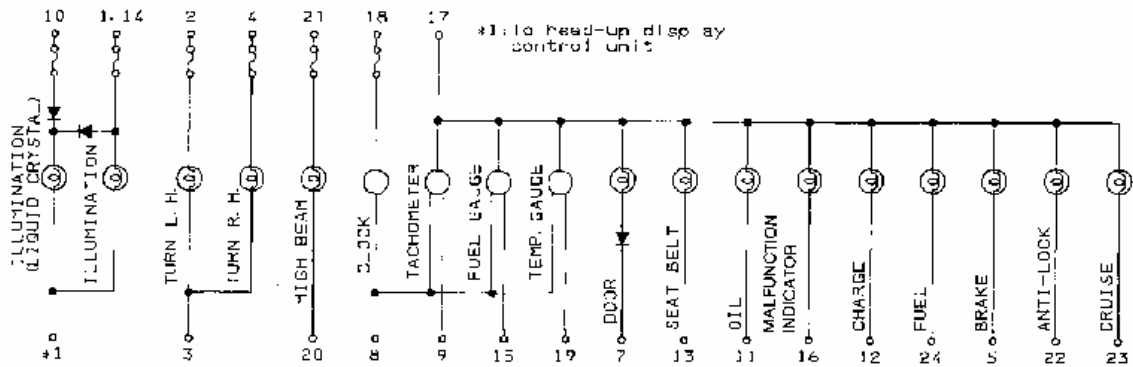
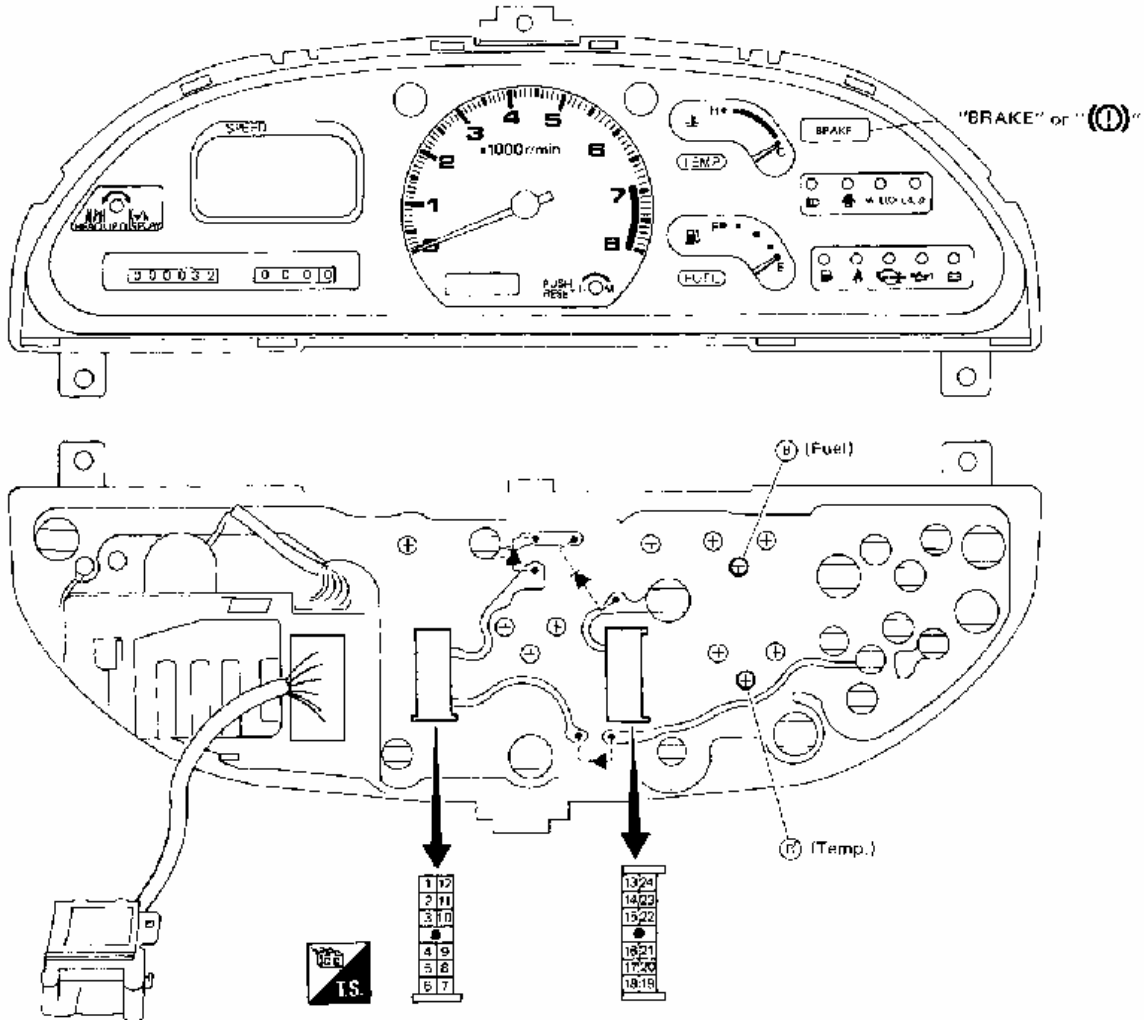
- You can optionally control the brightness of the HUD. To do this you will need to add an external switch. Shorting pin *Speedo 8* to ground, or to 12V (provided by pin *Speedo 2*) will change the brightness up or down by one level (this is a digital control). Ideally you could source another dashboard brightness switch (you know, the one to the right of the steering wheel) and wire this up for the HUD. If I get round to doing this, I'll edit this document.. As I said this is all optional. Without any switch the HUD remains on full brightness (which is the best setting to be fair).
- The 200sx speedometer has an output signal to the differential oil cooler. This shuts down the cooler when the car is stationary. There is no such output on the 240sx dash. Looking at the wiring diagram for the 200sx the cooler circuit should still operate fine without this signal connected, it will just mean that the cooler will be trying to cool when the car is stationary – almost useless but not harmful (the thermostat part of the cooler should still function).
- All the pinout diagrams I've included are for the **sockets**, so when you're finding the appropriate numbered pins imagine the plug facing away from you. As I said before, the wire colours should usually match up when loom splicing. If in doubt PLEASE ask me.
- Some indicator lights are missing on the digi-dash that would be on the 200sx dash. There are spare lights that can be re-routed. You'll have to do this bit yourself – just trace the tracks on the back of the digi-dash for the bulb you'd like to use, note what pin of the loom it goes to, then connect it to the signal you need on the 200sx loom (e.g. diff-oil warning or washer fluid are usually missing). Again, if in doubt ASK ME.

240SX Dashboard Pinout Part 1

METER AND GAUGES

Combination Meter (Cont'd)

DIGITAL TYPE



ME.728B

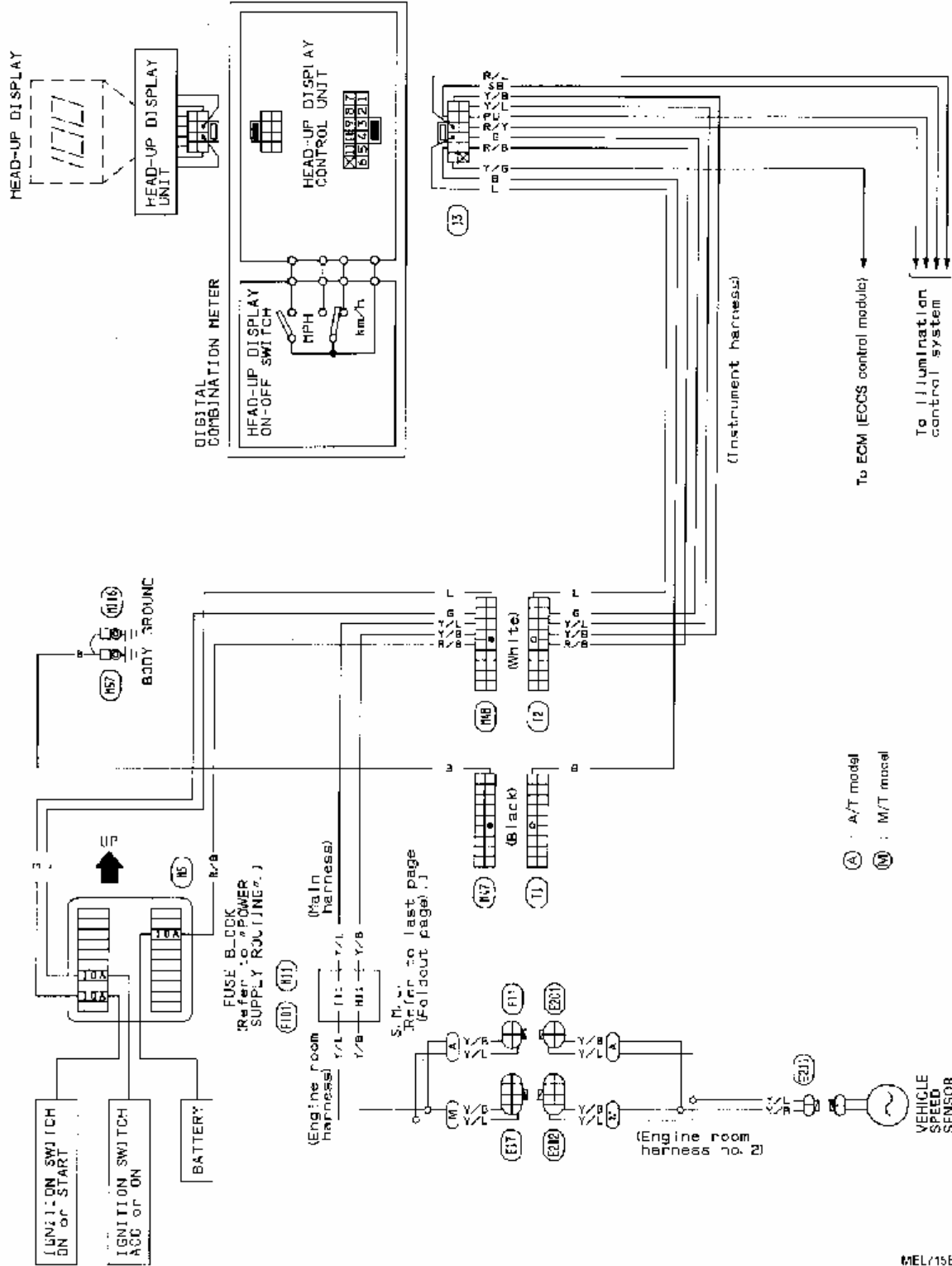
EL-40

890

240SX Dashboard HUD ('Speedo' connector pinout at top)

METER AND GAUGES

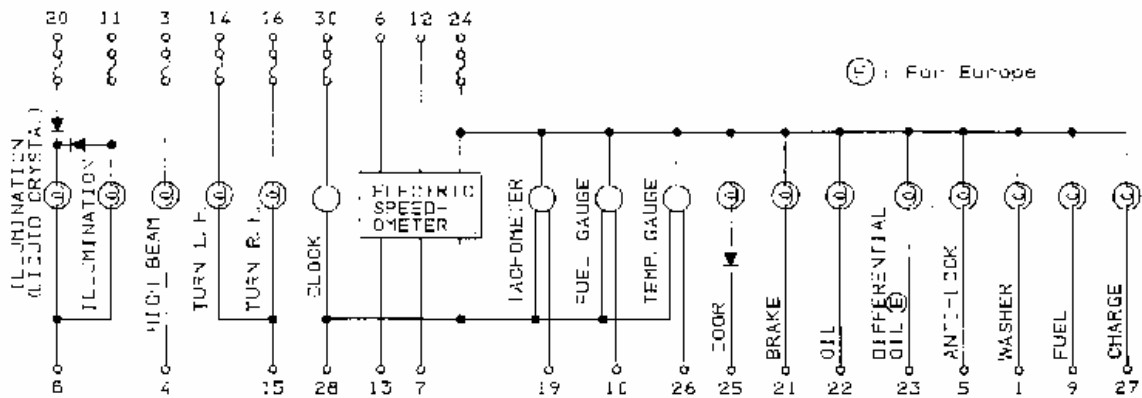
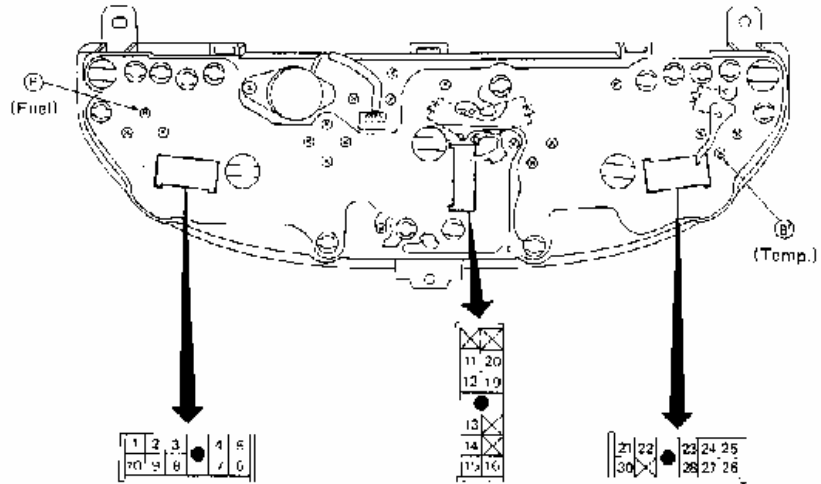
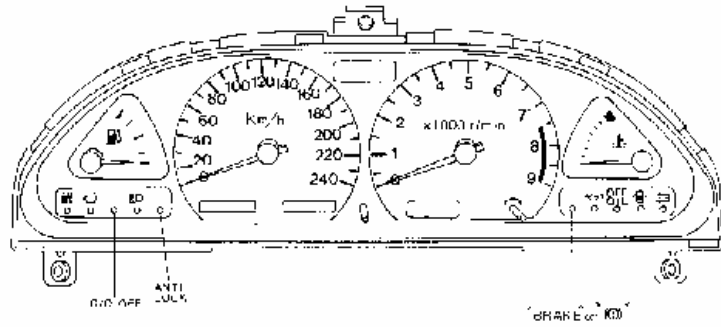
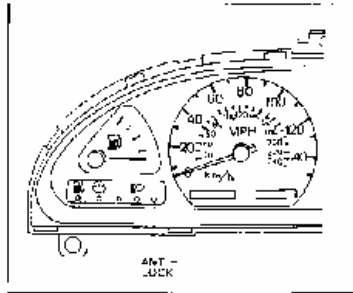
Combination Meter/Wiring Diagram



UK 200SX Dashboard Pinout

METER AND GAUGES

Combination Meter



SEL698L

Removal of dash

By Turbo Pete and Kev

1. Open door and remove sill plate held down with plastic screws (Try to use the best fitting screwdriver as the screws are easily chewed).
2. Remove the kick panel with fuse cover it has 1 plastic screw in line with the sill plate half way up the door frame, 1 screw at the back beside the accelerator and one screw that is sunk in slightly at the front, then wiggle it out.
3. Using a large pozidrive screwdriver remove all 7 screws from the bottom panel (the one with the bonnet pull). There are 2 at the front left, 1 at rear left, 3 at front right and one at rear right which is now exposed by removing the kick panel with the fuse cover.
4. Remove the two screws holding the bonnet pull on and remove the panel. (If you prefer you can leave this attached. It just means you won't be able to remove the panel).
5. Pull down the steering wheel height adjuster and leave it at its lowest position.
6. Remove the two screws inserted diagonally upwards securing the top of the dash cover.
7. Unclip the bottom of the dash cover and pull forward slightly.
8. Now either reach in behind and push out all the switches (hazards, demister, pop-ups, fogs, dimmer and rear wash wipe) or just grab them and pull, they won't break.
9. Disconnect them from there wiring by the small clips on the back of each of the connectors. Don't worry, the connectors are idiot proof, i.e. u can't re-connect them to the wrong switch.

The order is

top left- hazards

bottom left- demister

top right- pop-ups

bottom right- fog lights

left middle- wash wipe

right middle- dash dimmer

10. Remove the top cowl of the steering column. It has 4 screws and the last one is only accessible if the steering wheel height adjuster is down. When all screws are removed the top cowl should unclip. You will probably find that you will have to take out the keys from the ignition and catch the small plastic dust cover that covers the barrel.

11. Now remove the dash cover by pulling it down towards the ignition, this will free it from the top of the dash, and it should just wiggle out after that.

12. You are now looking at the dash board unit.

13. Remove the three screws that face you, one at the top and one on either side at the bottom.

14. Now pull the dash out slightly and rotate it around a quarter of a turn by pulling the bottom out a bit and pushing the top back. This should allow u to get into the three connector blocks and unplug them by pressing the tab that sticks out on top of them. The one nearest the centre console tends to be stiffer than the other two and also a bit harder to get to (typical).

15. The dash should now be free but you have to take it out very slowly. If it feels as if it is jamming don't force it because you risk breaking the glass (plastic) front. Just rotate it a bit more and pull it out at the corner nearest the door. You should then be able to slide it out between the dash and the steering wheel.

Refitting

19. Re-fitting is a reverse of removal with the following points to note.

20. When fitting the dash in a bit of wiggling will be required. It usually takes longer to refit than remove.

21. When fitting the dash cover, locate it into the top first then negotiate the bottom. You will find that the small vents on either side of the steering column are a problem, reach up behind the cover as you push it into place and you will be able to guide them into place.

22. That's it.

Removing the **entire** dashboard console

By me (so it's probably got a few mistakes)

Follow the instructions for removing the driver's gauge console,

Then remove the 2x 10mm bolt/screws behind the steering wheel.

There are similar bolts to the far left and right of the dash (where the door shuts – you will need to remove the plastic corner plate on the passenger side like you already did for the drivers side to see this screw).

Then remove the windscreen vents by levering them out from the sides with a flat screwdriver (shouldn't require much force) There are some 10mm screw bolts now visible - remove them too.

Remove the screws holding in the radio, blower controls, and that stupid tray thingy and take them out.

Remove the screws on the gearstick handbrake console (including the gearstick cowling) and turn the gearstick console out the way of the dash (or remove it if you fancy unplugging the fag lighter, mirror controls etc).

There's a small white connector for the glovebox illumination behind the centre of the console (you can see it when you remove the radio), slide it to one side to detach it from the frame and unplug it.

Pull the glovebox so it's flapping down (and all your maps are on the floor) and there's a screw hidden there on the right hand side - get it.

I think that was it. Pull the whole lot towards you and look for any screws I might have forgotten to mention (all 10mm bolt-types). There are some plastic pipes to the vents at the very far sides of the dash - these should pull-off easily.