VICKI GREEN'S PINTO

WIRING LOOM

Edition Number: **Two**

Firstly study the loom and label all connectors by starting at the obvious Alternator plug and working along to the rear of the car

Check out the website for any wires that are different on your donor. There are several different systems used.

In line fuses are a good idea for any suspect areas.

This shows typical Ford Sierra donor

The colours on yours could be different.

CHECK OUT THE WEBSITE FOR MORE INFORMATION

Ensure all wires go through rubber grommets and do not chafe on sharp bodywork.

Main power feed to Loom is via donors battery wire down to starter motor, remember also to earth the engine with donors wire.

Original style Robin Hood rear combination lamp O/S

The centre push on steering wheel can be used for horn, or the Sierra stalk button (if fitted)

Ignition Switch

White & Red TO Black and Yellow
White TO Black
Brown TO Red
(Yellow Not Used)

OR

White & Red TO Black & Blue
White TO Black & Yellow
Brown TO Red
(Yellow Not Used)

VARIOUS IGNITION SYSTEMS

We have identified the Ford Sierra 80HC as having three different types of ignition / engine management system - Type A, B, C.

System A - This is the most simple system and does not have an ECU and only has one wire from the carburetor. The Motorcraft amplifier part number 83BB 12A199 B3A 095078 this has six wires on a plug going into it, this is about the size of a biscuit and is fastened onto an aluminium plate to dissipate the heat, it is fitted to the nearside front inner wing.

First label clearly the wires and plugs that go to the coil, the amplifier, oil pressure, water temperature switches and the distributor. Cut off a section of loom about 18" that surrounds these items and then proceed to remove carefully the plastic wrapping. You will be able to throw away some of the wires that are non ignition and you will be left with a neat sub loom. From the amplifier the Brown wire goes to earth, the Black and Red and the Green and Yellow have a plug that goes to the distributor. The Green wire has a special plug for the negative side of the coil, it is also spliced and the spliced wire goes to the Vicki Green loom's White and Black wire. The Black wire from the coil (positive side) goes to the White wire from the Vicki Green loom. There may be also suppressors or extra plugs on this black wire, these are unimportant. There is a plug that goes to the side of the carburettor. This Black wire also goes to the White wire from the VG loom. The Black/Green goes to the White/Red on the starter motor solenoid.

System B - Single Overhead Cam Engines with Fuel Injection

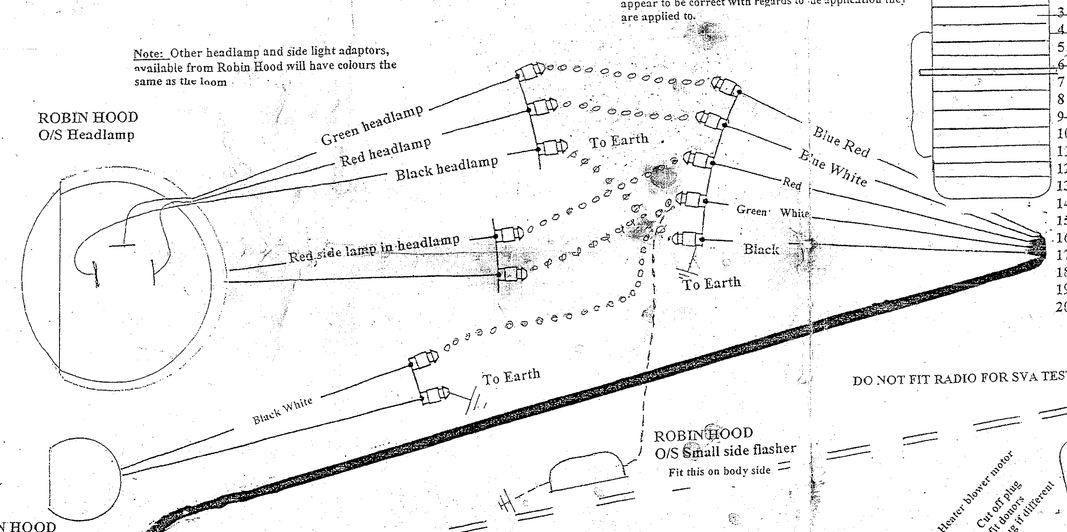
This is surprisingly simple to wire up. There is a Motorcraft amplifier 86FB12A297AA on the front of the off side inner wing panel and an ECU (an ECU is like a biscuit tin with loads of wires coming out of it) L9B08 EFI VM101 86BB12A650DA under the dashboard on the passengers side. (Do not mix this up with the similar bulb failure unit). There is a large multi pin plug on the ECU, disconnect this and you will be able to pull the plug and loom (separate it from the rest of the loom) through the big rubber grommeted hole near the passengers feet. This loom goes on to connect every thing on the engine, label everything and take the loom out. Put the ECU away safely. You will note that about one foot from the main ECU plug there are two smaller multi pin plugs joined with a thick Blue/Red wire, it is these plugs that you need to connect into. Do not use the Blue wire, all Browns go to earth the thin Blue/Red powers the electric fuel pump relay. All black to ignition supply (White on VG loom)

The Fuel Pump Relay (a relay is a small plastic box 1" cube with 4 terminals on it)
You will need to find a relay on the donor (or buy one) that should be marked with the terminal numbers 85 – 86 – 87 – 30 The thin Blue goes to 85. The White from VG loom goes to 86. The power out to the fuel pump 87 and a fused battery supply to 30. Earth the pump. All other wires on these to brick of connectors, leave unconnected. You will need to run a new wire to the back of the car for the fuel pump.

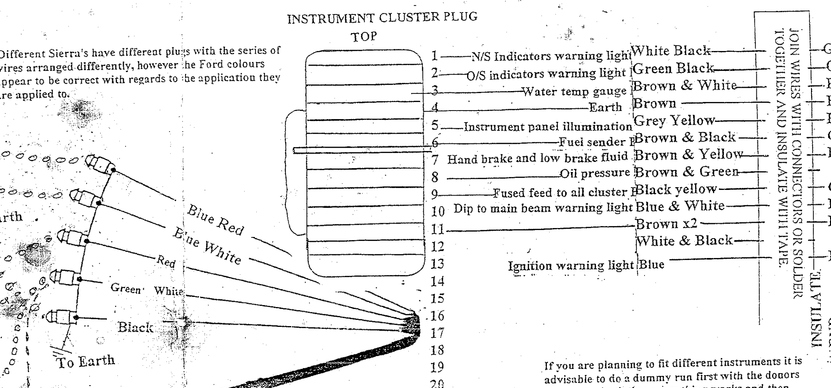
System C – This has the ECU fitted onto the centre of the nearside inner wing panel in the engine bay. The number on the box is 85GB-12A297-045523. There does not appear to be a separate amplifier with this although on some cars there is a 4" cube black box containing two relays this is situated near the battery. All cars with this ECU have a Weber carburettor with steppermotors on the carburettor there are many wires from the ECU to the Carburettor, there is also a vacuum pipe from the inlet manifold to the ECU. Wires come from both the oil pressure switch and the water temperature switch back to the ECU area. The wires from the engine, from the heads off towards the front of the car it goes across the front cross member and then back into the car and mostly heads towards the instrument cluster, if the loom is removed from this bundle of wires then many of the wires that are applicable to the front lights, horn, etc can be disregarded and you will find that there is the following wires remaining.

- One big fat Red wire- this has come from the battery positive terminal and goes to the ignition switch.
- A Black/Red wire (quite thick) this has come from the starter motor solenoid and also goes to the ignition switch.
- There are two Brown/White wires - one is from the water temp sender on the block and goes to the instrument clusters Brown/White wires on the back of the plug.
- The second Brown/white wire is not used.
- The Green wire is from the negative side of the coil and goes to the twin Green wires that come out of the instrument cluster plug, these operate the rev counter.
- The Brown/Green wire from the oil pressure switch on the engine goes to the Brown/Green wire from the instrument plug and operates the oil pressure warning light.
- To power the whole system up there is a live feed (Red/Blue wire) into the black relay box from the battery.

Finally, you can unplug and run with this system wired up without the VG Loom. The VG loom will cover the rest of the cars electrical system.



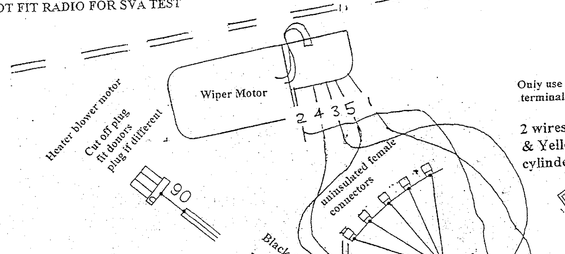
Note: Other headlamp and side light adaptors, available from Robin Hood will have colours the same as the loom



Different Sierra's have different plugs with the series of wires arranged differently, however the Ford colours appear to be correct with regards to the application they are applied to.

If you are planning to fit different instruments it is advisable to do a dummy run first with the donors cluster to check that every thing works and then substitute your new gauges afterwards.

DO NOT FIT RADIO FOR SVA TEST



Only use the two outside terminals on screw cap.

2 wires Black, Black & Yellow to master cylinder reservoir

Foot brake switch.

Green + Purple

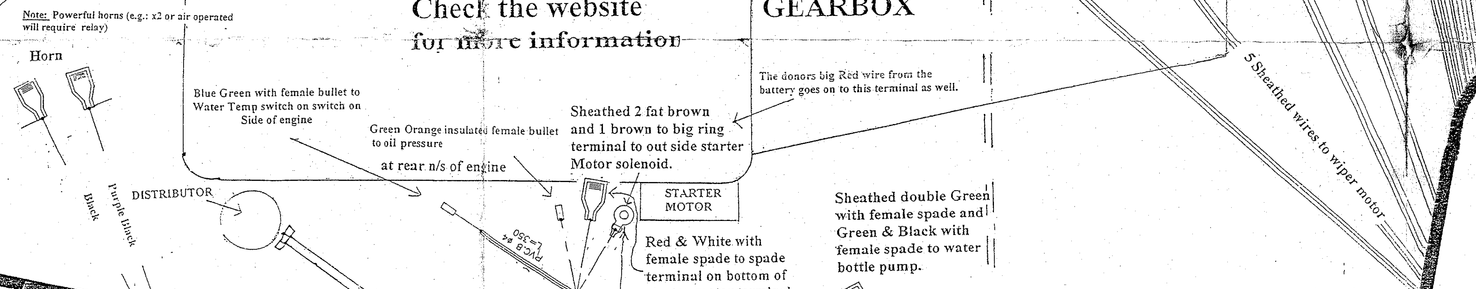
An under bonnet light is a good idea, connect this up from any Red wire and put in an extra switch.

It is necessary to fit front indicator lamps on the side of the nose cone. Robin Hood lamps are correctly spaced for the SVA. If your kit has a alligator bonnet, then both wires must take a long route to the back of the bonnet, then ample loop must be left to allow for hinging effect. Ensure the wires do not get trapped when closing bonnet.
(use wire from old loom)

AMP ALTERNATOR PLUG

Sheathed wire, one fat Brown, one brown + one Brown & yellow, with plug to alternator.

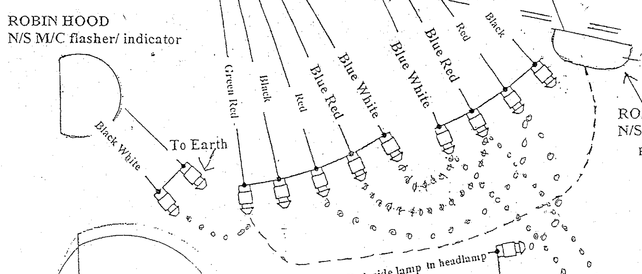
ALTERNATOR



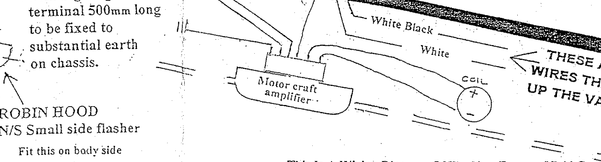
Note: Powerful horns (e.g.: x2 or air operated will require relay)

Horn

Apart from being a good safety feature, a battery switch acts as an anti theft device

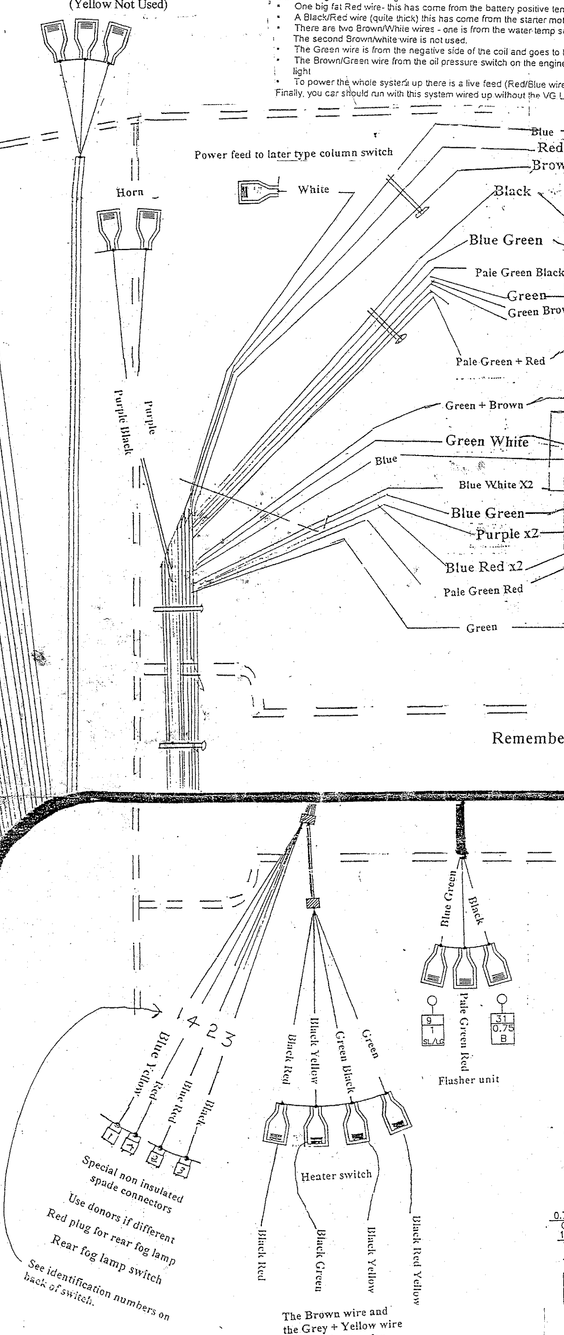


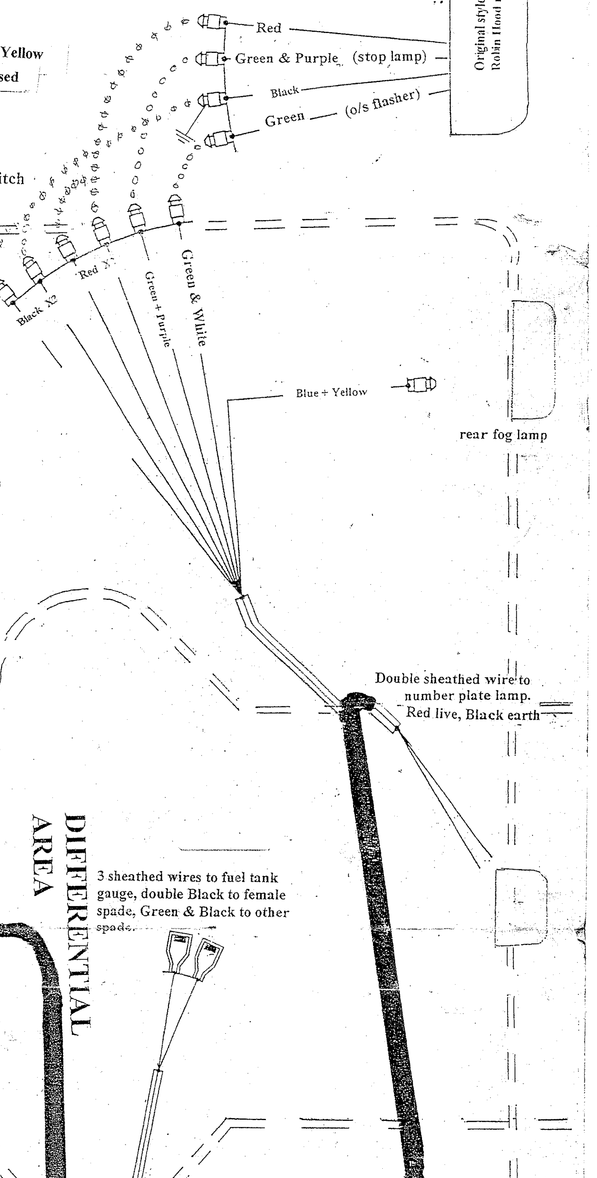
Three black wires with big ring terminal 500mm long to be fixed to substantial earth on chassis.



ROBIN HOOD
N/S Small side flasher
Fit this on body side

THESE ARE THE IMPORTANT TWO WIRES THAT ARE USED TO CONNECT UP THE VARIOUS IGNITION SYSTEMS



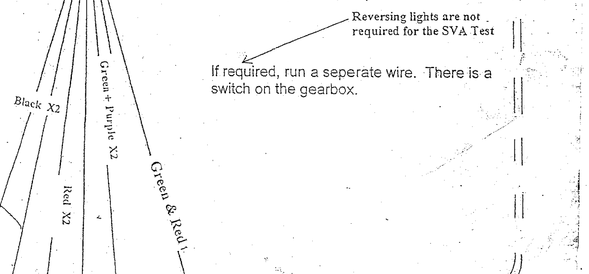


Original style Robin Hood rear combination lamp N/S

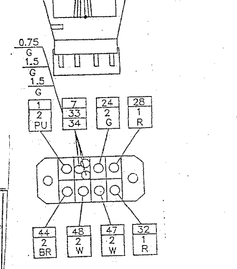
Ensure all wires are routed through rubber grommets and are securely fastened to frame or bodywork

Reversing lights are not required for the SVA Test

If required, run a seperate wire. There is a switch on the gearbox.



Fuse box, place this in a easily accessible place, make storage space for spare fuses.



The Vicki Green loom uses seven base British Standard colours:

BLACK	Earth to chassis or metal body
BROWN	Charging circuit red power feed to switches
BLUE	Headlamps
WHITE	Fe wipers mono-electric or tension
RED	Side lamps (tops on rear)
PURPLE	Additional colours not covered by tension key
GREEN	Additional colours not covered by tension key

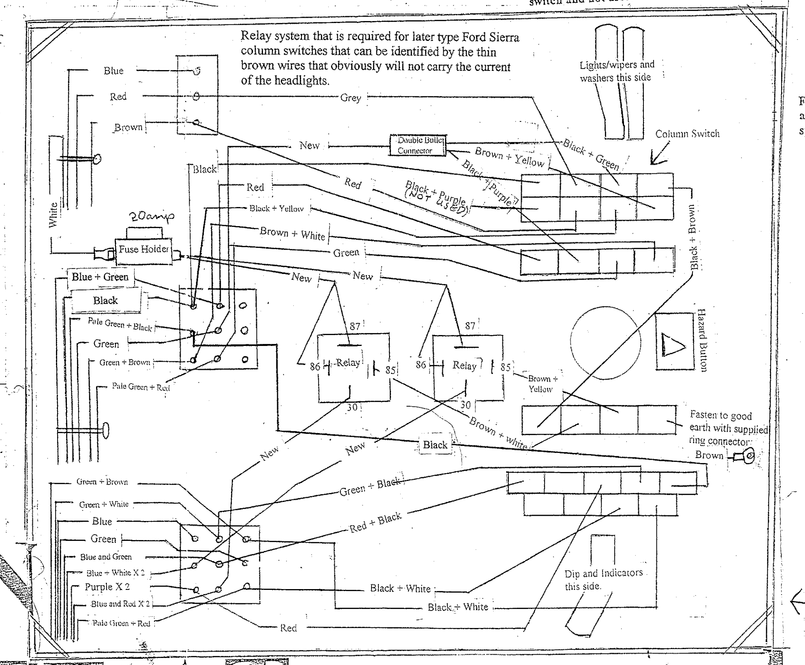
With one of these main colours on a cable there may also be a lesser colour stripe, when for example a colour is described as Green and White, the first colour, in this case green is the main colour and white is the lesser colour stripe.

With VG cars, a problem arises, although the loom supplied by Robin Hood uses British Standard coloured wire, when the aftermarket components manufacturers e.g. the headlamps use a different set of colour codes. To make matters worse, Ford use their own code, not British Standard, but with this chart you should be able to follow the differences with success.

All cars use what is known as a Single Wire Circuit, this means that the electricity is directed from the battery (12 volts) by a switch to the components or light and then instead of using a wire to get the electricity back to the battery it goes back through the chassis or metal body panels. This is why it is important that all connections (black wires) are fastened well to clean unpainted, not rusty metal (a small star washer helps make a good connection). Obviously this system works well in all cars as it is only 12 volts, it could not work with mains power because then it usually is 240 volts and would kill you if you touched the chassis.

Remember it is the negative side of the battery that goes to the earth (the term used for fixing to the chassis or metal body), often this symbol is used ⊖. Batteries have positive and negative, ALWAYS USE MOIST batteries with round terminals (ie Magnum one is positive. Always disconnect the negative cable first and connect up last.

- The battery gives off an explosive hydrogen gas, never eximine a battery with a naked flame.
- Ensure when dismantling up a battery that the connections are the correct way round, if wrong a large spark will occur that will cause the battery to explode.
- Always wear face protection when working with a corrosive battery especially when charging.
- Do not wear metal bracelets or watch straps and keep tools away from the terminals, a carelessly placed spanner will short across the battery. A metal bracelet will glow red hot and weld itself to your wrist.
- New batteries have never been as exceptional, treat your car as a new one.
- Dispose of your battery thoughtfully.
- Never let a battery fully discharge, it may never recover.
- Ensure your battery is firmly fixed in the car so is comply can not overtighten.
- Check there is no leakage from battery, with the exception of the dect. nothing should be on when the ignition and all switches are off.
- Keep the top of the battery and the battery terminal if there is a spark, smoking or some explanatory word, unlike each part of the circus until you find it.
- Put a thin layer of petroleum jelly on the terminals this helps acts corrosion.
- If corrosion occurs, pour boiling water over it, a wall brong is up like new, be careful!
- Wear rubber gloves as there is a sulphuric acid inside the battery.
- Do not hold a lead in your body when carrying it.



Later Type Column Switches

KEY

- Double bullet connector
- Single bullet connector
- Earth to body
- Main chassis tubes
- Main Loom
- Sheathed wires

This Is A Wiring Diagram Of The Now Famous Vicki Green Loom

Hopefully you will find it easy to follow and it will give you confidence to tackle kit car wiring which is undoubtedly a difficult job. You will see that we have suggested the geographic route that the loom should follow but if you wish, for any reason, the path of the loom can be altered eg if it is not a Robin Hood you are fitting it in. British standard colours are used throughout so that it is easy for you to identify where any wire belongs (see separate chart). Unfortunately Ford do not use these colours so we have shown the Ford components with their coloured wires running from them with the wires going to the wires in the VG Loom which the colours are clearly marked.

It is intended that the Ford Sierra components are used with our loom, these are; the column switches, instrument cluster, heater switch, wiper switch, wipers, brake reservoir, low level indicator, hand brake, fuel gauge, all the Pinto's engine ancillaries, these include the engine bay wiring this apart from the amplifier in the coil in an amplifier form and is fed by the White and Black/White and White wire in the VG loom, however this is the simplest case as many Sierras have engine management systems which we deal with separately and do take a little more thought and understanding.

You will also need the main engine earth strap and the thick Red wire from the battery to the starter motor. A battery isolator switch is an excellent idea so when you have finished your loom if any problems occur you can switch off before any serious damage is done. In any event until you are 100% sure you have wired everything up correctly, do not bolt your power lead on to the battery, just fasten it with a small pair of vise grips so that if you see smoke you can disconnect it quickly ☺ !

Until you are really sure do not connect your battery negative (or unsheathed with the battery connected. Remember with everything switched off and if you disconnect the battery there should not be a spark at the battery connection, if there is, something wrong and your battery will run down.

Some of you will not want to use some of the Sierra components, for example you may wish to fit reprime gauges, this is possible but you will find it easier to get the system up and running using the donors cluster. When you know everything works then you can identify all the wires and carefully substitute your own. Remember it may be wise to do so after your SVA test as the speedo has to be proved accurate this is often difficult if your new speedo has not been calibrated.

With your fuel gauge and sender, remember to wire in with the sender out of the tank, it is easy to simulate you level of fuel. Short the two wires together, your gauge should read full.

When choosing the route for your loom, remember to use rubber grommets or similar where the loom goes through the holes in the bodywork, keep the loom away from moving parts and the hot of the exhaust. Remember it must be securely fastened down, but do not do this finally until everything is working.

Handle your battery carefully, it contains acid which is dangerous. Do not hold it close to your body, do not rip it, do not drop it. Remember it gives off explosive gases particularly when charging by normal engine charging or by using a mains battery charger. Even the gases caused by overcharging a battery can explode and screw you in acid so please be careful and obtain further guidance if you are a novice. Always wear a face shield. Dispose of old batteries thoughtfully.

Look carefully for the positive and negative marking on the battery so you connect it the correct way. Do not use tools on top of the battery as this can short it out, do not wear metal bracelets, necklaces or metal watch straps as these can short out terminals and get red hot, (burned) and brand you as a lesson to everybody else. Ensure that the bonnet does not touch the terminals when closed. Ensure that where the battery is housed the fumes that the battery gives off when charging are vented to the outside of the car and that they do not enter the chassis vehicle cockpit.

Note here the battery will be hot when the donor vehicle make a similar fixing device or if housed in a box use a disregarded anti bolt under the battery to lift it out.

This loom has been designed to use a pair of standard headlamps. If you decide to use more powerful units then you will need to incorporate a relay in the circuit. The same applies to other items like horn e.g. if you are fitting air horns etc.

Reversing lights are not a requirement of the SVA test. MOT Note: High level fog lights have to work if they are fitted only if the examiner can see the wires going to them. If the can not see the wires and they don't work he can fail you on safety, but even if as illegal to drive any lights being devoted which are not value.

The loom uses all the column switches from the Sierra, there is an arm around the steering wheel which is exempt and you should not have a problem with the SVA test. Any other switch you fit to your dashboard must comply with regulations eg. not be dazy, or stick out etc. For the test fit everything behind the exempt area. Do not fit a radio or any other accessories for these after the test but obviously be considerate to flood enough could prove fatal in an accident. Alarms that are linked with engine immobilisers are banned, home to start a car.

If your car is fitted with an engine management system, ECU (metal box 5" x 6" x 1.5" approximately) with loads of wires, it is important that you establish that this is working properly before you strip your donor apart. On no account consider using any vital components that has not been proven as faser flash flashing can be very difficult. Always use a true 'set' of components from one donor vehicle. Be wary of alarm and immobiliser systems particularly if the wiring has been disturbed. Try to understand the alarms operation so you can bypass it when fault finding or trying to diagnose a problem.

This loom uses the Ford Sierra wiper motor together with the same park two speed switch unit. Other wiper systems can be used but you will have to carry out your own experiments to get 'your' system to park and operate correctly.

Modern batteries last about three years, the dost is usually on them. Don't waste time with old batteries, but it does one, they have never been so cheap. Never fully discharge a battery it may never recover.

Dirty, furry battery terminals can be magically cleaned whilst wired up by boiling a kettle and pouring boiling water over them, be careful.

Remember when returning to work on domestic 240 volts supply, Brown is Live

FOR MORE INFORMATION SEE THE DEDICATED WEB SITE AT www.carlooms. co.uk

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