

## NEGATIVE EARTH CONVERSION

**The main reason for converting to negative earth is to allow the fitting of accessories, ICE (in-car entertainment) etc. It also brings another benefit in that, in theory at least, your car should rust less.**

Rust prevention comes down to the fact that in any electrolytic action a positively charged metal will come off worse than a negatively charged one. In fact, it is one of the main reasons why the motor industry universally adopted negative earth as a standard. Conversion is easy, straight forward and best of all costs nothing. It is also easy to put-back to 'original' if you so wish

- Switch off the Ignition
- Disconnect the battery and turn it round. Ensuring that any battery clamp/bracket does not contact the terminal posts
- Swap the coil connections over. The White wire should now be connected to the "+" terminal and the White/Black wire to "-" (sw) terminal. (see note below)
- Connect the earth lead to the battery negative post ("-")
- Repolarise the dynamo as follows

Remove the Brown/Green wire from the small "F" terminal on the dynamo. Using a suitable length of wire make a temporary/flash connection between the spade connector and the battery +/live terminal. It may well cause a spark – don't worry! 5 seconds should be enough, do it a couple of times to make sure if you want to. This removes any magnetic 'memory' from the dynamo field windings so that it charges the correct way.

Reconnect the Brown/Green wire to the "F" terminal on the dynamo

- Reconnect the 'Live' to the battery "+"
- Start the engine. If all is well the "ign" light should go out as usual at about 1000 rpm if it doesn't try repolarising the dynamo again.
- Ensure any battery & terminal identifications match etc reflecting the new state to prevent confusion when refitting the battery by you or any potential future user/owner

Additionally you may find the heater motor is running backwards. Swap the connections and feel if airflow is improved. The wiper motor may also be running backwards but shouldn't make any difference to operation. Any accessories already fitted eg Ammeter or Tachometer will also need converting to -ve earth.

It is important to note that if you do not swap the coil connections the car may still run but you may well encounter difficulties later on, especially mis-fires when hot or difficulty in starting for the following reasons; Whilst a coil will work when connected the wrong way round its output is physically reduced by up to 40% causing a weak spark. Additionally since the LT coil polarity is reversed so is the HT output polarity and so the spark is effectively traveling in the 'wrong' direction ie from the spark plug 'arm' to the centre electrode. This will cause a weak spark and result in heavy erosion of the plug arm.

*Contributed by Colin King*