Z8 Engine Start Button Install for the BMW E46 3 Series

This write up is a specific installation of a Z8 engine start button on the E46, but it can be used as a general guide for an engine start button on most BMW models.

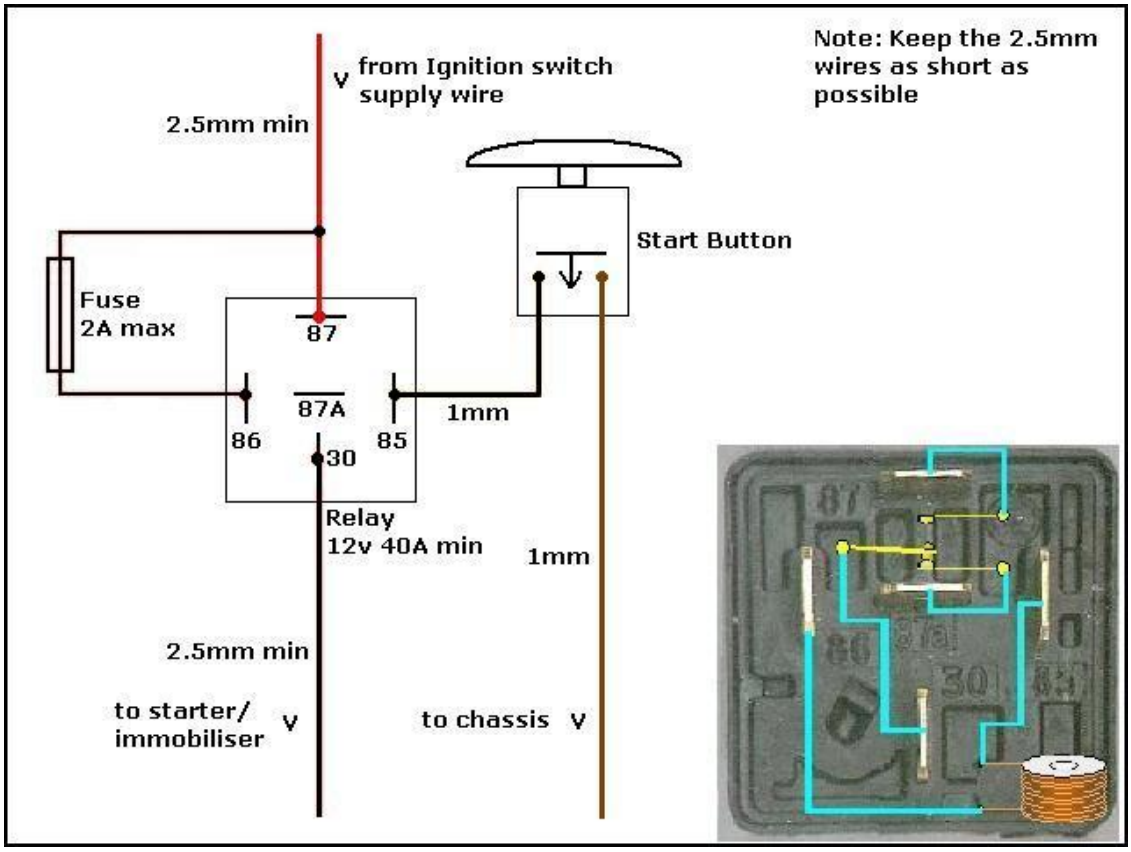
Tools Required:

Battery drill.
35mm ‘Starrett’ hole saw.
30W (min) Soldering Iron.
General Purpose Screwdriver Set.
Craft knife.
Electrician’s wire cutters, strippers and pliers.
Multimeter or Voltmeter.

Materials and Parts:

Z8 Engine Start Button Part no. 61318377343.
40A (min) 12v, 4 or 5 pin, automotive relay.
Relay socket/base (optional).
Internal PC CD/DVD drive 4 pin audio cable (black plug type).
4 x 6.3mm female crimp connectors (to fit relay or relay base terminals).
2M x 2.5mm automotive cable.
5M x 0.65 or 1.00mm automotive cable.
Fluxed solder wire.
Silicone self-amalgamating tape or PVC tape.
Cable ties.

Wiring Diagram:

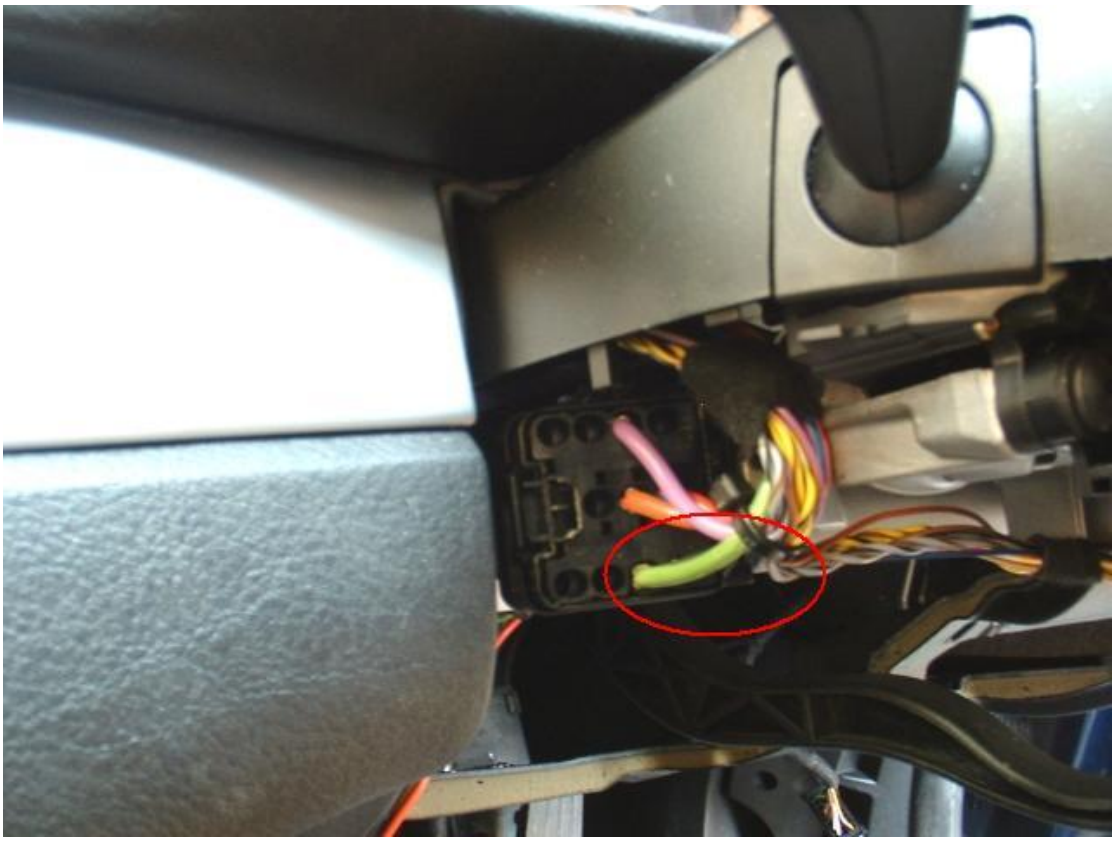


Procedure:

Remove the dashboard panel and small glove box from around the driver's pedals and below the steering column – four Philips screws to remove the driver's glove box, one plastic push pin rivet, one Philips screw and the clutch pedal stop screw to remove the main panel.

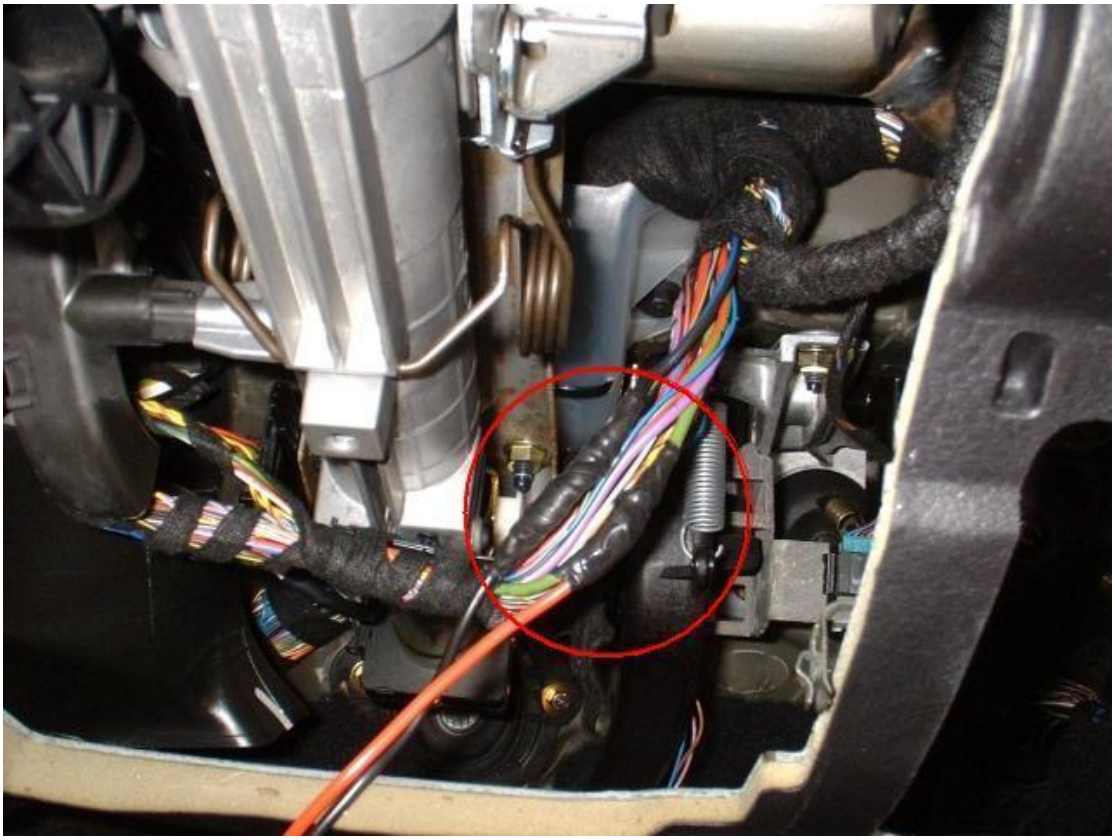
Remove the cover under and below the steering wheel/column. Two push pin rivets - push in the centre pins, they will fall loose, then pull downwards on the cover, it needs a bit of force to come free as there are plastic tabs holding the column surround together just behind the wheel.

This will expose most of the area behind the lower driver's dash, the ignition wiring loom and its switch terminals.



You will need to make two wiring 'T' offs from the larger 2.5mm green and 2.5mm blue/black wires either at the switch (circled in above picture), or I found it was easier to splice lower down under the steering column cover.

Use 2.5mm minimum cable here to make the two 'T' off cable joints; you can see I used red and black (circled in the picture below). Strip about 12-15mm off the PVC covering of the loom cores and twist the new 2.5mm cable around the bare cores. Ensure that you make a very good clean soldered connection with a medium to high powered soldering iron, as it is a high current circuit passing approx 40A to the starter solenoid. **Use of Scotchlock connectors for these two joints is definitely not recommended.** Plenty of tape to insulate these two important joints.



Make the lengths of the two new 2.5mm cables as short as possible, so the relay is situated close to this position. I fixed the relay and (optional) relay base to a strut just above and behind the driver's glove-box with a couple of cable ties, see picture below.

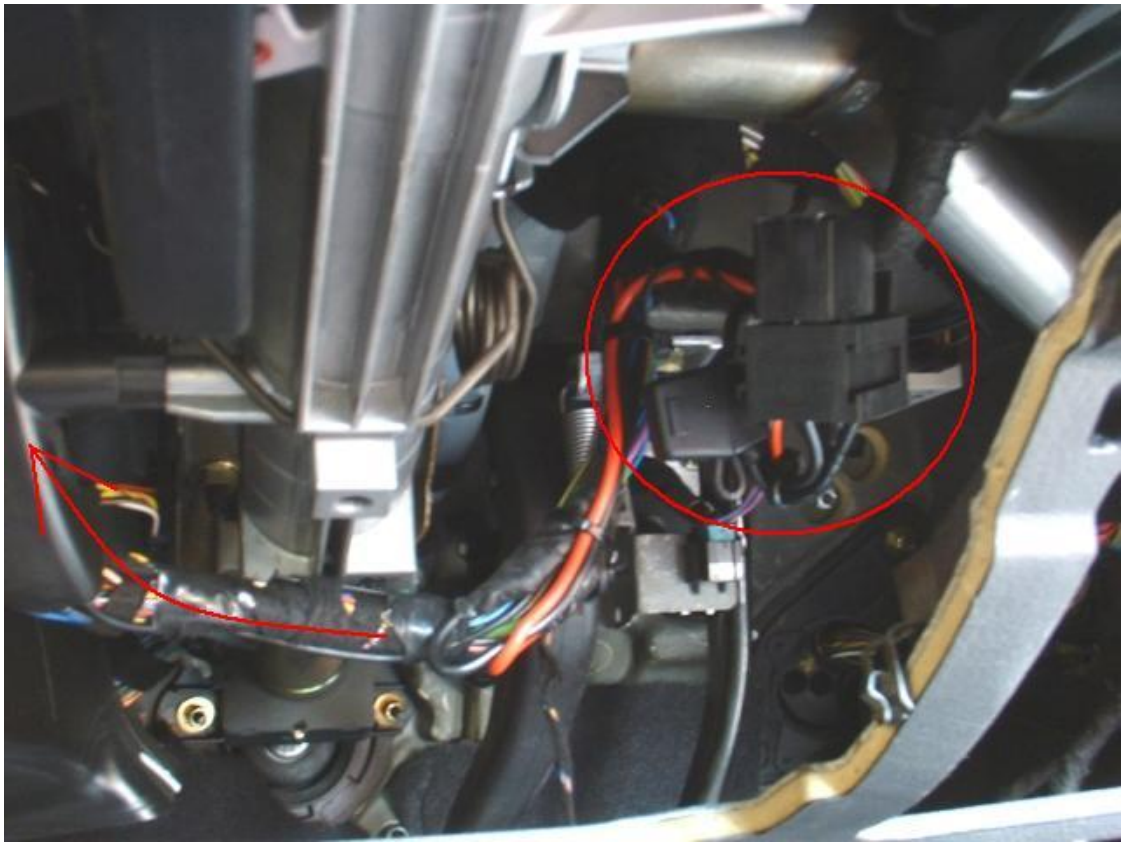
Now to make up the relay connections. Crimp the new red wire (from off the original green wire) together with the fuse holder tail into one 6.3mm female lug, I also soldered this too as it makes for a very large conductor to crimp, tape over if necessary and push on to terminal 87 of the relay/base

Crimp the other side of the fuse holder tail into a 6.3mm female lug, tape over if necessary and push on to terminal 86 of the relay/base. Fit a 2A or smaller fuse into the holder.

Crimp the new black wire (from off the original blue/black wire) into a 6.3mm female lug, tape over if necessary and push on to terminal 30 of the relay/base.

Crimp a longer length of the thinner 0.65 or 1.00mm cable (I used black) into a 6.3mm female lug, tape over if necessary and push on to terminal 85 of the relay/base.

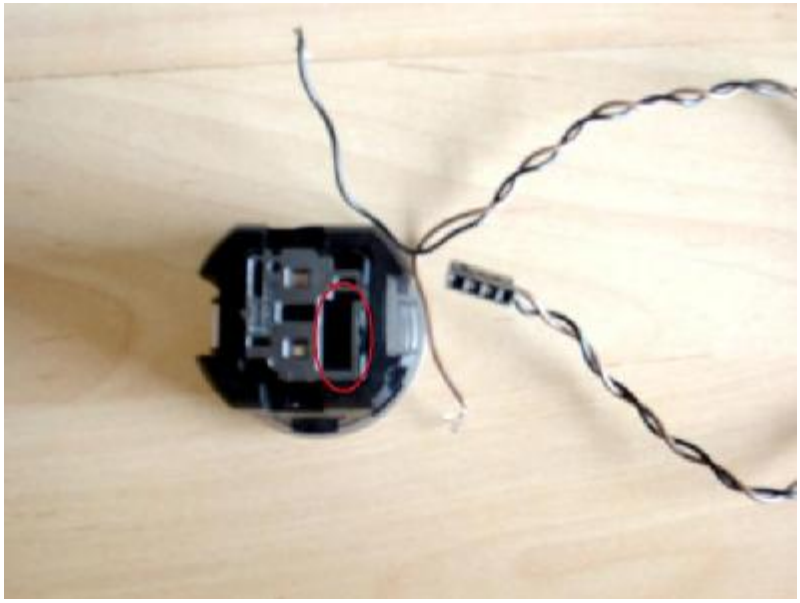
I 'picked up' and soldered an earth from a brown wire under here too, any size will suffice as it's only earthing the relay coil so will be passing less than 1A.



The picture above shows the relay position, blade fuse holder etc, tie/tape up all the loose cables neatly and thread the smaller black and brown cables with the existing loom in the direction of the arrow. There is a small plastic trunking which the loom sits in back up to the ignition switch terminals, pull the cable out at the top. Remove the climate control panel and feed the wires across to the centre of the dash/climate panel area.

"Fortune favours the brave" as they say - crunch time! It's a matter of personal choice where you wish to position the button. I chose the position in the picture above, half way between the radio and right hand edge of the central dash, **make doubly sure there is nothing behind – cables, ducts, dash supports etc etc before drilling with a 35mm diameter hole saw. Go carefully with the drill because if you mess this up now then it's new dash time.** If you also want the button in this position then have the steering wheel turned to the left and at the top of its 'height' and furthest 'in' settings. The 35mm hole is very slightly undersized; I trimmed the hole slightly when done so the Z8 button fits snugly inside.

If you now look at the connections on the back of the Z8 button, see picture below, there are four pins in the slot, only the extreme/outer two of these are connected for the switch contacts. I found that an internal audio cable from a PC CD/DVD drive fits the pins perfectly after trimming the two plug edges slightly.



Now solder the PC CD/DVD drive audio cable cores to the two cores you routed up behind the dash, plenty of tape to insulate when done, pass them through the 35mm hole and push the plug on to the back of the Z8 button, see picture below.

Push the button back into the hole; you may need to trim the holes edges to get a perfect fit as there are some small holding tabs just behind the buttons front silver trim piece. It is a tight fit and this will hold it in the dash without any need for glue etc.

Nearly done now. Vacuum or dust out all plastic cuttings that are around the dash and carpets after the hole was drilled. Push back in the climate display and refit the panel around the pedals, don't forget to refit the clutch pedal stop. Refit the driver's glove box and you're finished. ENJOY!

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Thanks to forum member 'JohnW' for compiling this procedure.

Just because you have to say this: Please remember these notes (albeit described in great detail) are for guidance only. As with anything car related, if you are unsure, please get advice or help from a professional mechanic. We / e36coupe.com cannot and will not be held responsible if you damage yourself or something on your car. Thanks