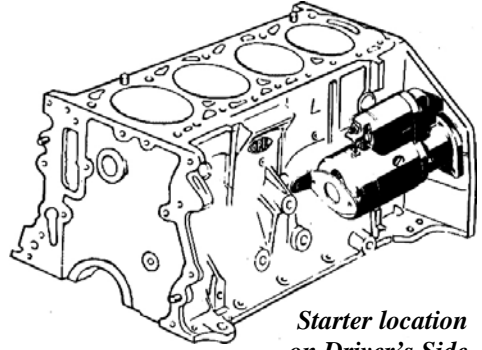


Opel Starter Installation Notes

The “Permanent Magnet” Opel starter design produces dramatically higher torque and starting power within its compact lightweight housing. With “hot re-start” difficulties occurring more frequently (due to ethanol additives in gasoline) this is becoming a popular upgrade.



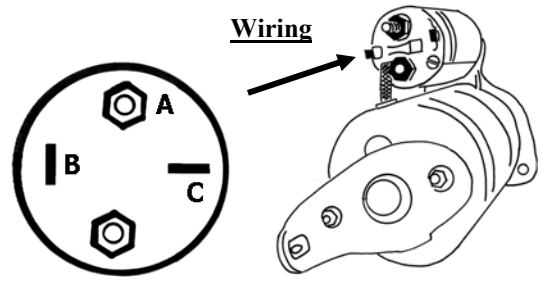
Starter location on Driver's Side of Opel 1.9 Engine

Wiring Notes

Always disconnect the negative/ground connection from the battery prior to starting service work on any part of the electrical system. Then, tag individual wires and draw a diagram of their connections (for reference during reassembly). Be careful as brittle connectors snap easily.

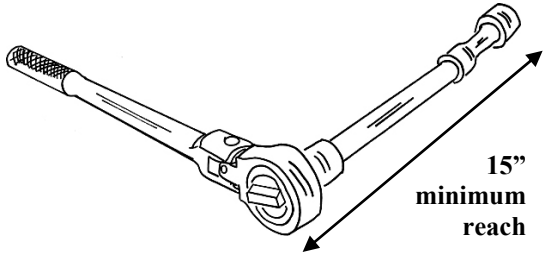
- A = 10-gauge wire (red/white striped, thick), to fusebox
This is the top terminal where the positive battery cable connects
- B = 14-gauge wire (black, thin), to positive terminal on ignition coil which serves as a “bypass” wire (for current during cranking). Sometimes an eyelet has to be added here, to connect to a wire.
- C = 14-gauge wire (black/red striped, thin), to ignition switch in steering column (or “relay output” when added to starting circuit). (Automatic transmissions connect neutral-safety switch here).

(The bottom terminal is hard-wired to the starter motor)



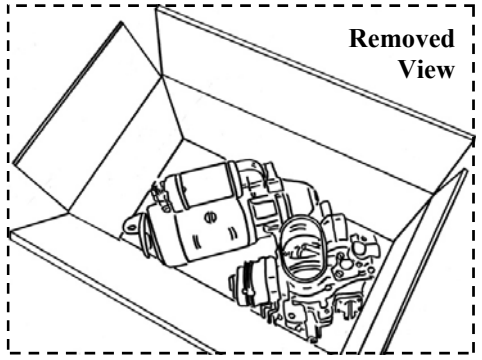
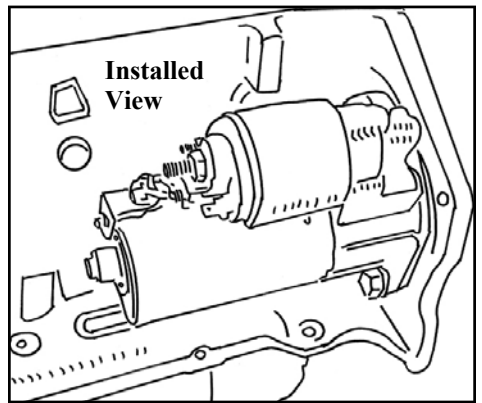
Removal Notes

To turn the hard-to-access 17mm bolt heads on the Opel starter, we suggest using a 17mm socket on a ratchet with extensions that measure a minimum fifteen (15) inch reach. This provides leverage while working around the motor mount bracket, or from under the car. Try not to lose the unique-sized 17mm-head mount bolts, and be aware of the heavy 14lb. weight of the original starter when you pull it away.



Installation Notes

Place starter into position and start its 2 17mm-head mount bolts (some suggest adding “blue thread-locker” to the threads to prevent loosening). You will quickly see that new-design starter does not utilize or require the rear bracket of the older-design starters. Carefully thread the wiring cables & connectors onto each terminal location, using your notes as a reference. (Note: If “B” has a lug connector, add an eyelet) Torque each of the 2 17mm-head mount bolts into place. (Note: Opel’s recommendation is 40 ft. lbs., for its 12mm x 1.75 pitch threads) Reconnect the negative terminal to your battery. Test your starter operation by turning the ignition key. If there is no turning, check for power at “C” terminal. *You should note that not only does the starter crank the engine over much more quickly, but that it features a “modern” sound tone too.*



Proper Storage

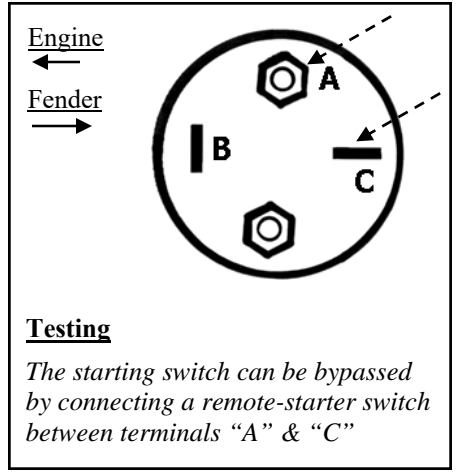
We suggest keeping your old starter, in case you want to re-use it some day (for example, if you want the option of returning an Opel to all-original status). A good idea is to tag it as “working” with its removal date and place it in a box (right next to where we recommend you store your original Solex carburetor).

Opel GT Starting Circuit Notes

In a small number of cases, installation of "Permanent Magnet" type Opel starter reveals an improperly operating Opel GT Starting Circuit. This is a common issue, one we address in part lists and tech notes, and it is reprinted in a summarized version here also.

Diagnosis is simple:

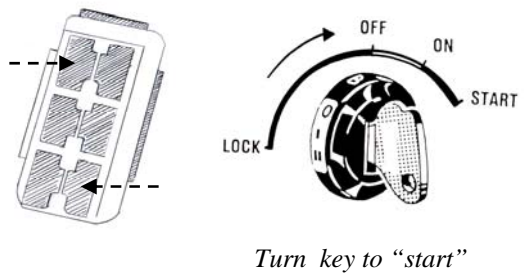
If a newly-installed starter does not turn after it is correctly installed and connected, but it does turn when current is provided directly (by depressing a remote-starter device between the "A" and the "C" terminal), then the next step is investigation of the operation of the GT Starting Circuit.



Testing Your GT Ignition Switch

All GT owners need to evaluate their switch, using an ohm meter. Disconnect the battery, then carefully remove the white plastic plug from the side of the fusebox, then check resistance with the key turned forward (where shown). ("Good" is .5 ohm or less across the black/red start wire & red accessory power wires).

White Plastic Plug
(from Steering Column)
Measure resistance here,
across the black/red
striped wire &
the solid red wire.



NEW GT Ignition Contact Switch

Located within the steering column, this important switch is wired within a circuit that runs a full 30 amps of power ran through it, every time the starter was cranked to start. This causes carbon deposits to accumulate internally within the switch, which over time caused many to burn out.

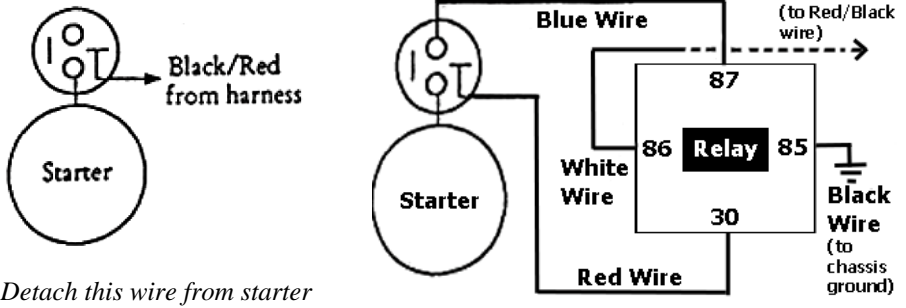
Opel GT Source has reproduced this critical item, to help ensure that your GT will be able to start when you need it. We also strongly recommend consulting our installation instructions (available with purchase of this switch) prior to disassembly of your steering column. Part #5060N



Protective Relay Addition

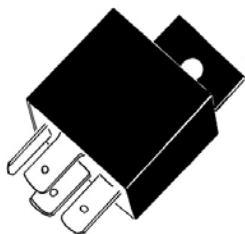
We also recommend protecting this vulnerable switch, by adding an external 30-amp relay within the starting circuit, and wiring it as shown in the diagram (at right).

Remember to always disconnect your battery, before performing any electrical service!



Wiring schematic, for connecting the harness provided with a 30-Amp protective relay, within an Opel GT starting circuit.

The relay can be attached to a section of the firewall (above the brake rod bracket, even with the clutch cable, is a good location)



30-Amp Circuit Relay
(We now provide this relay plus a harness, at no extra charge with every upgraded starter we sell.)