

Replacement fuel pump options – V8NOTE410

Shortly after getting his MGBGTV8, Tudur Jones went on a six mile "run" in his V8 and had problems with his fuel pump, cured by hitting the body of the pump with a plastic mallet. But on his return was unable to re-start it so he contacted Bob Owen for advice. (Dec 09)

Bob Owen responded saying Tudur's problem was with the contacts in the fuel pump, assuming he had the standard SU pump which the classic ticking Tudur had mentioned in his email indicated. In this situation you have the following options:

Clean and re-set the contacts

The points can fail due to wear; the sparking transfers metal from one face to the other and causes gradual surface corrosion. They may also fail due to a thin film of oxide on the contact breaker points from disuse or infrequent use. The result is the electrical current cannot flow, so the operation of the fuel pump is either unreliable or fails entirely. The minimum cost option is to clean and re-set the contacts. The contacts are located under the black plastic cap of the fuel pump so you will need to remove the cap which is sealed to the body of the pump with both tape and a broad rubber strap. The latter also acts as a shock buffer between the pump and its mounting clamp. Remove those with care so they can be re-used. You then clean the contacts with a Swiss file and/or emery paper. The workshop manual has the setting up procedure – see Section D: Fuel System AKD3259.

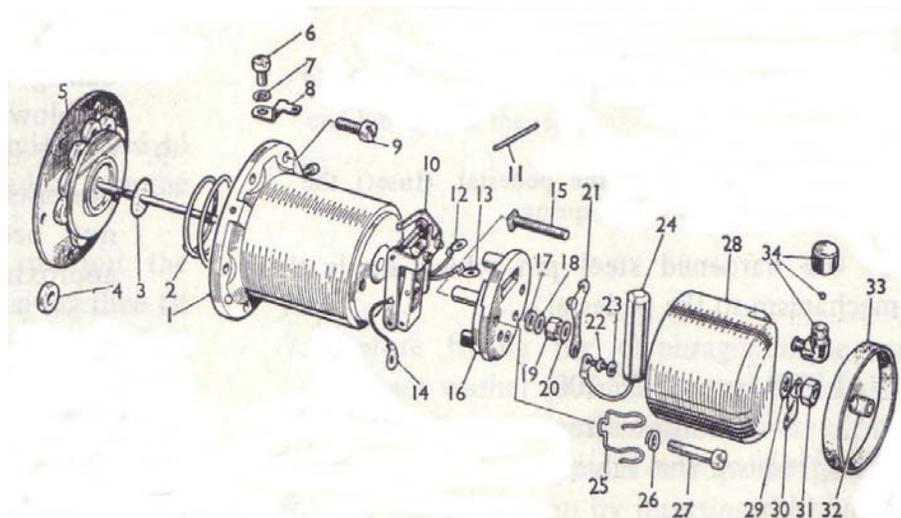
Replace and re-set the contacts

This option will cost a round £10. The manual provides the routine but do remember that even new contacts would need a brief clean with emery paper as they will have oxidised through lack of use. It is also worth replacing the condenser or varistor spark suppressor at the same time.

With both these options, if you decide to have the work done for you by a garage mechanic they need not be classic MG specialists - anyone familiar with any Morris or BMC car from 1930 to 1980 will be familiar with SU fuel pumps. Also your pump may have wear or damage to the valves or diaphragm and so need replacement, but this is less likely than contact set failure. The contacts are switching 4 amps about once every second of running, so have a hard life. Some pumps have capacitor, or later, varistor snubbers wired across the contacts to inhibit sparking and extend life.

Fit a new or exchange pump

Contact sets and new or exchange fuel pumps are available from numerous MG suppliers - see the adverts in Safety Fast - or from SU themselves, now Burlen Fuel Systems following a buy-out by the management. Unfortunately, Burlen do not have the best quality control and Bob and other members have had problems with new pumps. This is usually mis-setting so is cured by re-setting according to the manual. A replacement pump is about £50.



Exploded view of the SU type AUF 305 electric fuel pump. (Source: AKD3259)

Removing the pump is relatively straightforward. On chrome bumpered V8s the fuel pump is mounted on a bracket secured to the heelboard adjacent to the front mounting of the righthand rear spring. It is accessed via the offside rear wheelarch, so for ease of access the car has to be jacked up and the wheel removed. If it's a roadside breakdown and you're of slim build and not too stiff you can get enough access if you drive the offside of the car onto a kerb and slither under from the rear. On rubber bumpered V8s the fuel pump was relocated with the black plastic end cap containing the contacts protruding through the panel at the front of the boot space beneath the luggage platform. Ensure the ignition switch is turned OFF (put the key in your pocket) and ideally disconnect the battery (easy if you have an isolator). Good ventilation is necessary because of the fuel vapour risks – no problem if you're outdoors.

The manual provides the routine but two tips are:

Step 1: Disconnect the fuel union *where the pump feed pipe leaves the tank*. This prevents siphoning of fuel which otherwise will happen when you disconnect the pump, unless your fuel level is low.

If you can, prime the replacement pump with some fuel so when you have reconnected the pump and turn it on, the pump does not rattle away like a machine gun pumping air.

Fit a new electronic SU pump

The electronically activated pump has a printed circuit board with the triggering mechanism mounted on the pedestal replacing the contact breakers. The pump is made by Burlen Fuel Systems and is completely interchangeable with the

Replacement fuel pump options – V8NOTE410

original pump. In operation it also has the familiar ticking sound. A replacement electronic SU pump is about £60. You can also buy the printed circuit board as a separate item and fit it to your existing SU fuel pump – either on the old pump on the car or to any new pump you may have in your spares bag. There were problems with electronic SU pumps in the early days but Bob believe these have now been addressed.

Victor Smith fitted a replacement electronic SU fuel pump in 2007 and it has performed very well. **Gordon Hesketh-Jones**, someone who uses his V8 a great deal, mentioned in V8NOTE311 his replacement electronic SU pump failed, but only after 70,000 miles.

Fit a modern electric pump as an alternative

One of the alternative pumps is an electronic fuel pump made by Facet but you need to check the pump supplied is suitable for the carburettors on a V8 in terms of the fuel supply pressure. Bob Owen indicated he has had no personal experience of other makes of pumps like Facet, but he understands they are very reliable.

Rik Malcorps, a V8 enthusiast in Belgium, mentioned that “one of the first works I did on my car was replacing the fuel pump. The SU pump was leaking, in fact at one of the connections. So I replaced it with a Facet red top pump which I fitted behind the battery support, similar to the modification described by Roger Williams in his book “How to give your MGB V8 power. I also installed a fuel pressure regulator. This was all straight forward and easy to do because I have the comfort of a “pit” in my garage. The only problem was the fuel shower I got when disconnecting the SU pump. I smelled of petrol for several weeks. For this reason I suggest another useful tip to avoid such an unpleasant experience. The solution I found was to seal the filler cap with plastic film.”

Bob Owen concluded by saying “personally, I would stick with the original SU. When properly set it should be good for 50,000 miles without attention and is a classic piece of engineering, like their carburettors - simple, elegant and effective. I would opt for second option – replacing and re-setting the contacts - as the best compromise between time and cost, but if you are getting a garage to do the job for you then replacing the fuel pump with either an original type or an electronic model would be best.

The original type of SU pump also has the advantage of repairability, particularly if you feel able to carry out repairs when necessary by lying under your car on a roadside verge. It may not be fun but you can be on your way in 40 minutes rather than be subject to calling a break-down truck - I speak from experience and now carry spare points but had to re-set a spent set twice on a return journey from Italy - once in Switzerland and a once in France. Unfortunately I have also had to re-set a pump twice in the UK because of Burlen mis-setting of the replacement pump. You can roughly set the points position at the roadside by trial and error, screwing and unscrewing the disconnected set until it pumps frenetically each time it is powered - a bit of extension wire is useful; male to

female Faston terminated. I say frenetic as the pump is dry and the rate is limited only by the inertia of the mechanism. It is of course easier to carry a spare pump but a standard one may still need the points cleaning before it will work if it has lain dormant for several years”.