



Rear parking sensor for a rubber bumper V8 using radar

Finding a way to fit rear parking sensors on his rubber bumper MGBGTV8 was something John Gay wanted to do, so he set about researching the options and the practical ways of undertaking an installation. As an early step he posted a query on the V8 Bulletin Board seeking fellow members' views. Here he explains what he found and the trial fittings he has undertaken.

Fellow members' views from a V8BB query

John Gay's post said "has anyone experience of sourcing and fitting rear parking sensors on a rubber bumper MGBGTV8? I would like to fit them and would welcome any information on fellow members' experience with sourcing and/or installation".

Nic Houslip responded that he had not heard of anyone doing a rear parking sensor modification and felt there might be difficulties because the rubber bumper (which in fact is a kind of plastic) is quite thick in some places and so you might have trouble getting wires through to the sensors.

John Gay responded saying "I will investigate mounting the sensors on brackets screwed to the underside of the rubber bumper. The sensors will be purpose made like "snails' eyes". I have been looking at other cars and it seems there are different sized sensors. But of course the sensors must be located level with the rear face of the bumper".

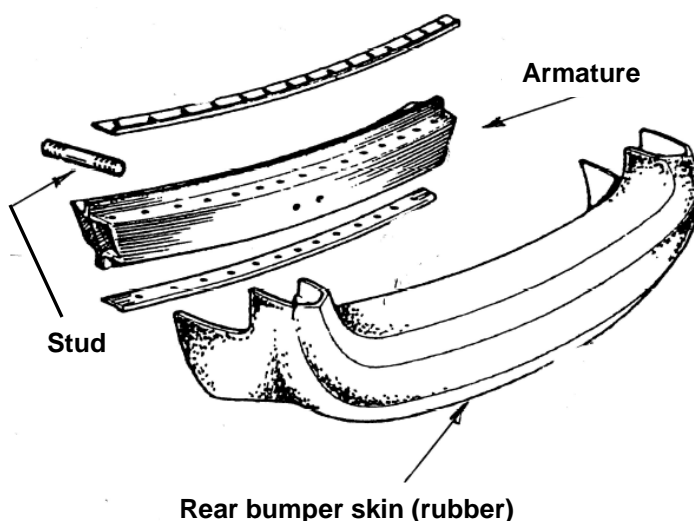
Paul Atkinson added "there are sensor systems which stick to the inner side of the rear bumper and are therefore totally concealed. I bought one these from an ebay seller and it is now successfully fitted to my Jaguar X Type, which has plastic bumpers, and the next time I have the rear overbumper off my RV8 I will fit the remaining kit to that car. They are not individual sensors but a continuous metalised self-adhesive tape which sticks to the inside vertical face of the plastic bumper. The tape is paper thin and therefore will not affect the steel armature. The tape is long enough to run across the width of the overbumper and return along the sides if required. The sensor tape does not use sound as its functioning medium so I assume it emits a radio signal. My kits came with four pages of installation instructions plus advice, although fitting was a very simple job". He added "fitting was simple and required a connection to the reversing light lead. Suitable places (in effect nooks and crannies) need to be found for the small operating unit and the buzzer – there are plenty on an MGB".

Which technology was chosen for the parking sensors?

John was grateful for Paul Atkinson highlighting these devices that "emit **radar signals** from a straight radio aerial positioned parallel to the ground as opposed to **ultrasonic sound signals** from circular transmitters/receivers seen on many rear bumpers".

EPS parking sensors produced exclusively by Proxel

John Gay purchased his **electromagnetic parking sensors** direct from Proxel in Torino in Italy at <https://www.proxel.com/en/>. They are based on an innovative concept that uses **electromagnetic waves** with low energy. When reversing the small control unit generates an electromagnetic field and transfers this to the transceiver adhesive strip that is placed on the inner side of the



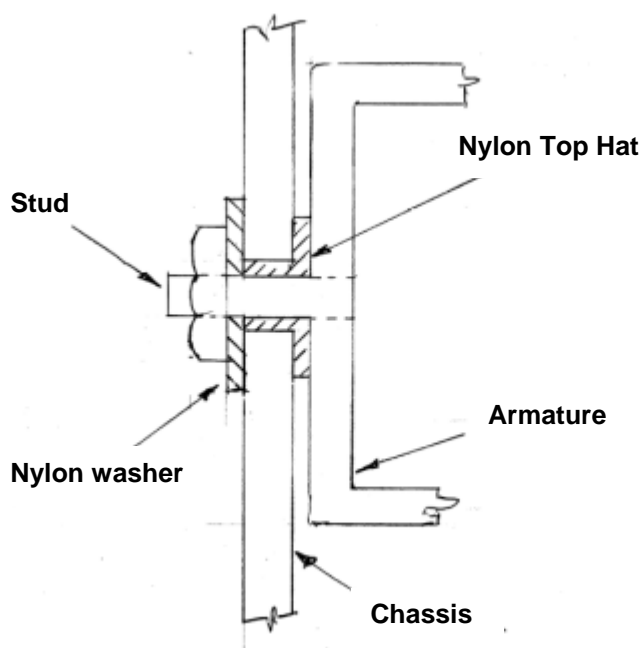
bumper. The strip runs the length of your bumper".

The **magnetic strip sensor**, called an antenna sensor which runs across the width of the bumper, sends out an elliptical electric field to cover the full area around your bumper. The transceiver strip works by creating an electric field unlike ultrasonic sensors that require at least four visible transducers. If those transducers are dirty with a layer of road dirt, that can reduce their detection capability considerably. When an object with a certain mass (for example people, kerbs, cars, walls etc) enters this elliptical zone, a disturbance of the electric field is created and an increase in voltage is detected by the control unit and you are then informed by a series of audible tones how close you are to the object. You can then manoeuvre the car accordingly with plenty of time to react.

Trial fitting the EPS parking sensor kit to an MGBGTV8

An **initial trial** with the kit was made by John Gay which involved the aerial wire being taped to the outside of the rear bumper skin. This mock-up using a spare battery and the cigar lighter socket proved reasonably successful with the aerial showing.





John Gay then moved on to a **second trial** which involved removing the rear bumper and then insulating the armature from the chassis by using nylon top-hat insulating washers and nylon flat washers around the fixing studs. Then the aerial was bolted to the armature at one end **making the armature itself the aerial**.

Fortunately, the rear fog lights do not need earthing via the armature.

John explained that “unfortunately this mock-up made the reversing sensor sound when a sharp slope up was encountered when reversing out into the road. This is because the armature is at a rather low level for optimum operation of the system”. John adds “I am still assessing this but I have inserted a push-button switch (single pole double throw momentary) into the supply to the sensor. That is, the supply is only interrupted when I push the button. Not unlike a bell push. This push button has been located under the voltmeter in the dashboard and allows me to reboot the system from the driver’s seat experimentally”.

John says “the operation of the system is as good as we are going to get. It has the benefit of not being visible”.

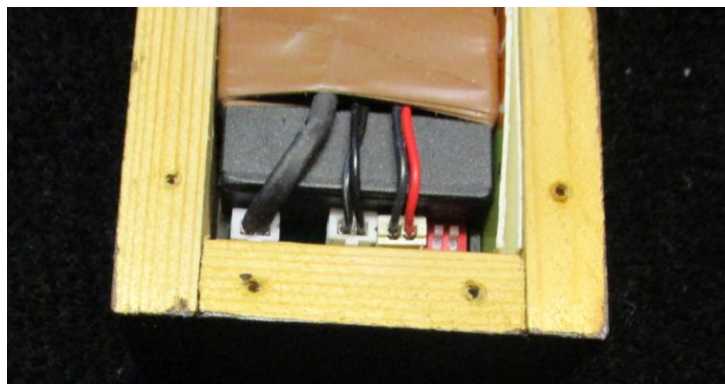
He adds “I had originally hoped to fix a wire aerial to the inside of the rear rubber bumper skin when the rear bumper skin was removed. This had to be abandoned because the “rubber” making the rear bumper skin was found to be stuck to the armature too firmly and would probably mean destroying the 40-year-old rear bumper skin while trying to do so. The rear bumper skin is also reinforced with “rubber” fins on the inside face of the bumper and honeycombs making insertion of a wire very difficult”.

The **power supply for the sensor** is provided by a connection to the reversing lamp supply. To provide an audible alert for the driver when reversing near an obstacle, a buzzer is positioned inside the car. The **buzzer location** was half way up the pillar on the rear edge of the driver’s door.

John Gay notes that “with this installation, I can only comment on its use on my rubber bumpered MGBGT V8. I do not think it is possible to insert a wire beneath the rubber skin. However, my comments on the installation **could well apply to a chrome bumpered V8** with the chrome bumper itself taking the place of my armature”.



Buzzer is a small speaker half way up the pillar by the driver’s door.



Control unit and leads protected by a box.



Push button located under the voltmeter in the dashboard.