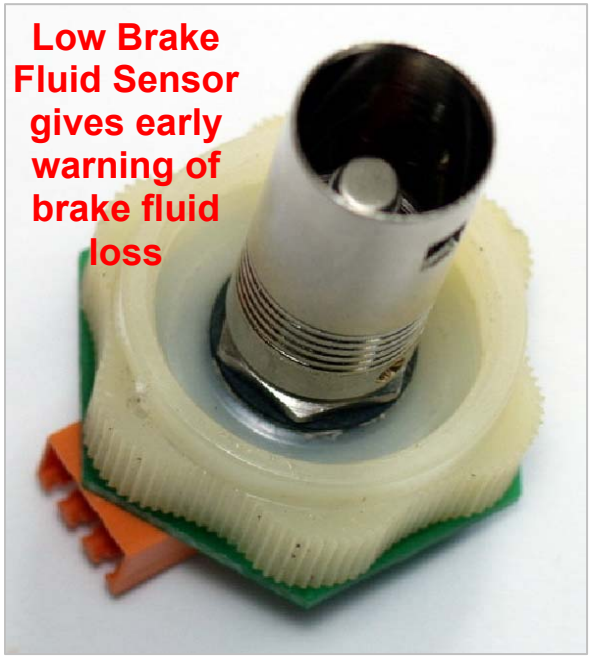
# Low Brake Fluid Sensor gives early warning of brake fluid loss



TE Electronics have developed an ingenious device to monitor the brake fluid level on classic MGs from the sixties and seventies so you have early warning of low brake fluid levels that may cause brake failure. The TE3509 Low Brake Fluid Sensor has the outward appearance of a standard cap on the brake fluid reservoir, but underneath are the sensor and electronics. It is a significant safety enhancement and particularly valuable on cars with single circuit braking systems and remote servos. Over time a servo seal can age and then leak or fail resulting in a total brake failure as all the brake fluid is drawn out of the system by the inlet manifold vacuum.

## It's human nature to think it cannot happen to you – but it can!

Many members who have purchased a TE3509 LBFS have noted warnings of low fluid levels so they could deal with the risks in good time. This is not scaremongering but a real concern for owners of classic cars with ageing brake hydraulics and servos. Several cases of complete loss of brakes from servo failures have been reported recently and they were spine chilling.

It is human nature to think it cannot happen to you, but it can - so why not get a TE3509 LBFS now? It is suitable for an MGB, MGC, MGBGTV8, Midget and Sprite. It is easy to install and comes with clear step by step instructions.

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### TE low brake fluid sensor - a vital safety device

Bob Owen from Berkshire suffered a brake servo failure on his chrome bumper MGBGTV8 and decided he would like a little more warning if the brake fluid loss might occur again! He was well placed to create an electronic sensor as he runs an electronics business. His kit was launched in July 2005 and has undergone extensive testing with fellow V8 enthusiasts. It is seen as a very useful safety measure and is easy for enthusiasts to fit.

The need for this kit is clear - there have been over four cases of total failure of servos on MGBGTV8s which are reported in the V8 Workshop Notes series. By "total failure" we mean a complete loss of brake fluid swallowed by the servo so when you apply the brakes your foot goes straight to the floor with that immediate sensation of horror that you have no brakes other than the very limited retardation provided by a hand brake! If you have had this type of failure, your spine stays cold for ten days or more afterwards!

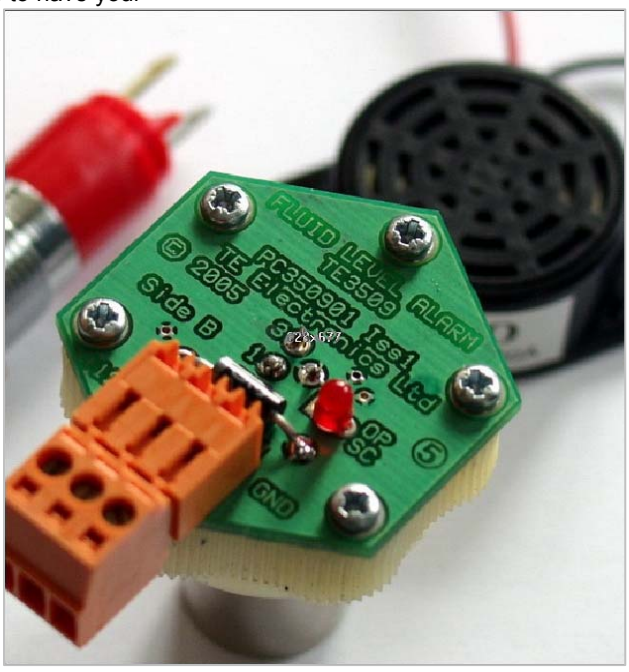
Regular brake checks are essential with classic MGs from the sixties and seventies but as a number of models pass the 30 or 40 year age barrier, it has to be prudent measure to have your servo and hydraulic pipework and hoses thoroughly checked by a skilled specialist. The Low brake fluid sensor provides a reassuring confirmation of a correct fluid level each time you start the car - both an audible bleep and a confirmatory light. Then should the fluid level drop at any stage whilst you are underway on the road, then a flashing light and a bleep come on with gusto giving you the earliest warning that you should stop the car as soon as possible.

The TE low brake fluid sensor kit can be used with 12V negative or positive earth cars and fits both the metal type of Lockheed brake fluid reservoir with either the original metal cap or the later nylon cap we see on V8s. A variant of the sensor has also been produced for the cap on the later see-through plastic replacement brake fluid reservoirs.

## LBFS can be used with negative or positive earth MGs

The kit comes in a pack with all the parts and comprehensive fitting instructions together with a copy of a detailed note which describes an enthusiast's experience fitting one of the kits to an MGBGTV8. The sensor operation is thermal. The sensor element is a small metal cased device 5mm dia by 3mm which is surrounded by a larger metal protective shroud attached to the cap. The alarm goes off within 1.5 minutes if fluid does not surround the sensor. The delayed response makes the unit proof against false alarms from fluid displacement such as might occur when cornering or braking hard.

The electronics are built onto a hexagonal printed circuit board which takes the place of the push-on lid on the standard plastic screw cap. The components are mostly surface mount (ultra miniature) types which fit into the void in the cap. The printed circuit board has a 0.6mm dia vent hole which communicates with the reservoir via a small slot in the sensor connector assembly, simulating the original vent path. The three wires to the unit (chassis, +12V and Indicator) are



connected to a small orange plastic plug so that the cap/sensor is easily removed to examine and top up brake fluid levels. The unit is protected against surge voltages, reverse connection and short circuit of the LED indicator/bleeper or cabling. The aim is for simple and foolproof installation and use!