

FUEL TANK SENDER MG Midget/Austin Healey Sprite



Part Number: 21A168

About these Sending Units...

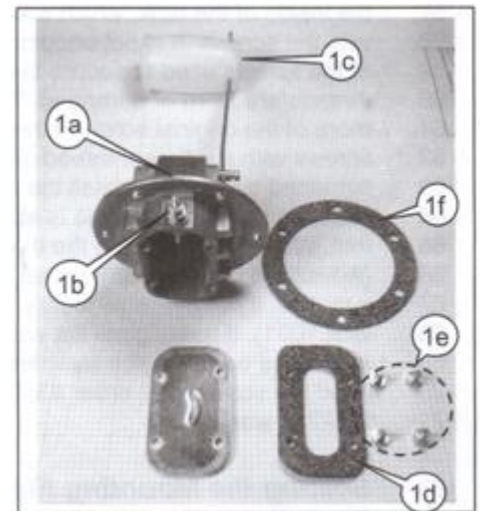
The Smiths 'F' series petrol tank sending units were fitted to a wide range of vehicles. The design is simple and perfectly functional, if a bit dated. The main body (1a) is die cast. The cavity for the resistance coil has a flat cover plate sealed with a cork composite gasket (1d) and secured with four screws (1e). The large round gasket (1f) seals the sending unit to the tank.

The Resistance Coil and the Moving Contacts

The performance of the sending unit is dependant on many factors, but a key component is the coil inside of the rectangular cavity. The coil is made by wrapping a special resistance wire around a non-conducting core. The windings (2a) are evenly spaced and secured so the coil don't slide around or bunch up as the pair of moving contacts (2b) slide across the windings.

What about the Electrical Terminal

The resistance wire is soldered to the head of the terminal screw (1b, 2c) which passes through the body of the sender. The screw is sealed and insulated from the body of the sender by a special nylon bushing (2d). the screw has two nuts, one to secure the screw and a second to secure the wire going to the fuel gauge. As you undo (and re-tighten) the outer nut when connecting the wire, make sure the screw its **self DOES NOT ROTATE!** If it rotated enough, the fine wire soldered to the head of the screw may break and the sending unit will no longer work, from time to time, we get calls of customers concerened because the hollow rheostat cavity will fill with fuel. This is a design feature of the original Smiths sending unit and does not pose as a safety hazard as long as the cover plate is in place and there are no leaks. Always disconnect the battery priot to removing the cover plate from the installed sending unit.



Quality Parts and Accessories for



Triumph House, Sleaford Road, Bracebridge Heath, Lincoln LN4 2NA, England
Telephone: 01522 568000 | E-mail: customer.services@rimmerbros.com

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Testing the Unit Before Installation

Connect the sending unit wire to the screw terminal (1b), and ground the body of the sender to the chassis. Turn the ignition key to the run position, and move the float (1c) slowly through its range of motion and watch the needle on the fuel gauge. The instrument should follow the motion of the float from full to empty. Please note that you cannot use a digital ohmmeter to check the operation of the sender. Unless the meter has a sampling function, the readings will be very erratic and jump for low to high resistance and back as the float arm is moved. An older analog meter can be used if it has a 0-100 Ohm scale. Verify that the tank itself is grounded to the chassis/body; the sender is grounded through the body of the tank through 6 mounting screws. If there are any doubts about the ground through the tank itself, you may run a wire from one of the mounting screws to the chassis

Fitting the Sending Unit

Test fit the sender in the tank without the gasket. The body of the sender has rounded corners (3a) at the flange to make sure the sender will fit the opening in the tank. Check the alignment of the holes for the mounting screws.

Sealing the 6 Mounting Screws

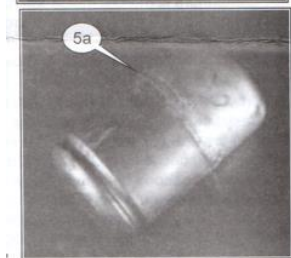
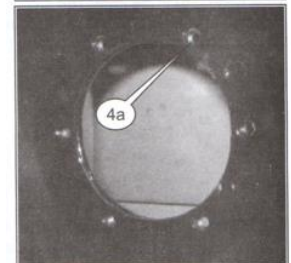
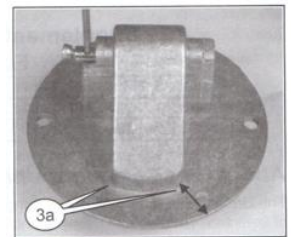
The threaded holes (4a) in the mounting flange go straight through the inside of the tank, which means gasoline will be in direct contact with the screws. It is not uncommon for the gas to weep past the threads of the screws used to secure the sending unit, particularly when the threads are worn or damaged. This frequently happens when one or the more of the original screws have been lost and replaced by larger screws with a different thread pitch. Make sure all 6 screws can be tightened before you install the sender. If a screw cannot be tightened because the threaded hole is stripped out, you will need to correct that. We suggest sealing the threads on the screws with Hylomar AF (Advanced Formulation) gasket dressing which is impervious to gasoline.

Sealing the Mounting Flange

Ensure that the mounting flange on the tank is clean. Place the large round gasket (1f) illustrated on page one between the tank (4a) and the sending unit (3a). the use of a gasket sealer on the round mounting gasket is a matter of personal preference.

Brass Floats

Current production sending units have been white plastic floats.



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