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MG ZS Saloon

Launched in November 1999, the Rover 45 and MG ZS models covered by this manual are a further development based on the Rover 400 four- and five-door Saloon and Hatchback series.

The engine/transmission unit is mounted trans-versely across the front of the car. It is available with a 1.4, 1.6 and 1.8 litre 4-cylinder

petrol engines, 2.0 and 2.5 litre V6 petrol engines and also 2.0 litre turbo-diesel engines.

Petrol engine operation, including fuelling and ignition, is electronically controlled by a Modular Engine Management System (MEMS) version 3 on 4-cylinder engines and a Siemens EMS2000 on V6 engines. Engine emissions are controlled by a comprehensive

range of features, including: an exhaust gas catalytic converter with oxygen sensors, crankcase gas recirculation, and fuel evaporation control.

Diesel engine operation, including fuel injection timing and quantity, is controlled by an Electronic Diesel Control (EDC) system. The high pressure rotary fuel injection pump is electronically controlled by the EDC, and has no mechanical connection to the throttle pedal. Engine emissions are controlled by a comprehensive range of features, including: an exhaust gas catalytic converter, crankcase gas recirculation, and exhaust gas recirculation (EGR).

The transmission and differential are an integral unit in a common housing attached to the left-hand side of the engine. Drive from the differential to the front wheels is via unequal-length solid driveshafts, with constant velocity joints and dynamic dampers.

## Your Rover Manual

The aim of this manual is to help you get the best value from your vehicle. It can do so in several ways. It can help you decide what work must be done (even should you choose to get it done by a garage), provide information on routine maintenance and servicing, and give a logical course of action and diagnosis when random faults occur. However, it is hoped that you will use the manual by tackling the work yourself. On simpler jobs, it may even be quicker than booking the car into a garage and going there twice, to leave and collect it. Perhaps most important, a lot of money can be saved by avoiding the costs a garage must charge to cover its labour and overheads.

References to the 'left' or 'right' of the vehicle are in the sense of a person in the driver's seat facing forward.

## Acknowledgements

Thanks are due to Draper Tools Limited, who supplied some of the workshop tools, and to all those people at Sparkford who helped in the production of this Manual.

**We take great pride in the accuracy of information given in this manual, but vehicle manufacturers make alterations and design changes during the production run of a particular vehicle of which they do not inform us. No liability can be accepted by the authors or publishers for loss, damage or injury caused by any errors in, or omissions from the information given.**

## Project vehicles

The main vehicle used in the preparation of this manual, and which appears in many of the photographic sequences, was a Rover 45, 5-door Hatchback. Also used was the MG ZS 180 4-door Saloon, which has the 2.5 litre V6 engine fitted.



Rover 45 Saloon

## Jump starting

When jump-starting a car using a booster battery, observe the following precautions:

- ✓ Before connecting the booster battery, make sure that the ignition is switched off.
- ✓ Ensure that all electrical equipment (lights, heater, wipers, etc) is switched off.
- ✓ Take note of any special precautions printed on the battery case.
- ✓ Make sure that the booster battery is the same voltage as the discharged one in the vehicle.
- ✓ If the battery is being jump-started from the battery in another vehicle, the two vehicles **MUST NOT TOUCH** each other.
- ✓ Make sure that the transmission is in neutral (or PARK, in the case of automatic transmission).

**HAYNES**  
**HINT**

*Jump starting will get you out of trouble, but you must correct whatever made the battery go flat in the first place. There are three possibilities:*

- 1** *The battery has been drained by repeated attempts to start, or by leaving the lights on.*
- 2** *The charging system is not working properly (alternator drivebelt slack or broken, alternator wiring fault or alternator itself faulty).*
- 3** *The battery itself is at fault (electrolyte low, or battery worn out).*



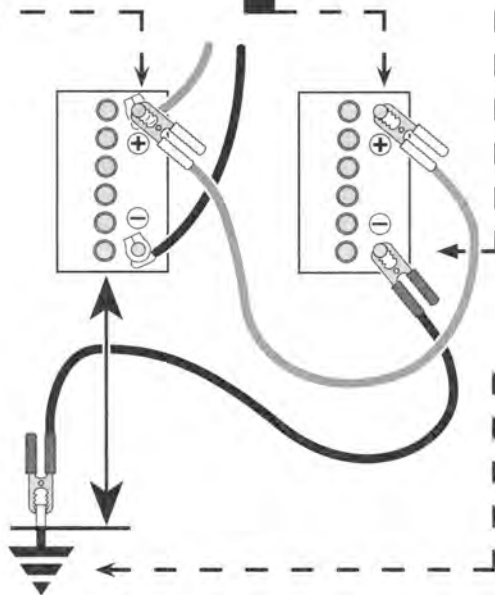
**1** Connect one end of the red jump lead to the positive (+) terminal of the flat battery



**2** Connect the other end of the red lead to the positive (+) terminal of the booster battery.



**3** Connect one end of the black jump lead to the negative (-) terminal of the booster battery



**4** Connect the other end of the black jump lead to a bolt or bracket on the engine block, well away from the battery, on the vehicle to be started.

**5** Make sure that the jump leads will not come into contact with the fan, drivebelts or other moving parts of the engine.

**6** Start the engine using the booster battery and run it at idle speed. Switch on the lights, rear window demister and heater blower motor, then disconnect the jump leads in the reverse order of connection. Turn off the lights etc.