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Chasing Gremlins

Simple things you can do to identify and fix faults

This article is *not* a substitute for professional diagnosis of faults that may occur with your Land Rover. It is, however, a simple guide to some of the more common and irritating problems with suggestions on what to look for and possibly fix to get you going again. Another benefit is that by being able to explain the nature of the problem in simple and succinct terms to the mechanic, it can save a lot of time and therefore money, Additionally, a basic understanding of some of the causes of problems will develop the confidence to ask the right questions and avoid being misled or ripped off, especially if you are forced by circumstances to take the vehicle to a non-specialist workshop.

Please also be aware these are *general* hints and the actual systems will vary from one model of vehicle to another. It is also worth remembering that professional service persons do not respond well to “know it all” types, so it is important to be realistic about how much and what kind of knowledge is helpful and what will actually be counter productive. Conversely, taking pride in total ignorance is inviting cost and inconvenience. Simple observation and clear communication are usually the keys to success.

Some basic tools: Cheap variety-store imports are to be avoided. A medium priced “name” brand from one of the car specialty or hardware chains will be more than adequate. As well as a good wheel jack, at a minimum, essential items include:

- Reliable head-torch. A conventional torch or work-lamp will do but rarely gives light precisely where it is needed:
- A small hammer – preferably a “ball-pein” not a claw type.
- A decent set of screwdrivers, both slot and “Posi-drive”.
- A set of ring/open-ended spanners
- Set of ¼ drive sockets, with extension bars and a ratchet driver
- A cheap multi-meter
- Emery-cloth and/or wire brush.
- Disposable and leather (gardening) gloves
- Paper coveralls – available from paint stores
- Hand cleaner and degreaser.
- Rags

Non-starting. Other than complex electronic faults, the most common involve simple electrical connections or fuel starvation.

- If you can hear the starter solenoid clicking but the starter does not turn, the battery or its terminals are the most likely problem. With the black lead in the “common” and the red lead in the V/Ma slots, turn the multimeter dial to the 20 V range and place one probe on each battery terminal. The readout should generally be between 12.4 and 13.4 volts.
- If the voltage is in the normal range, unbolt the connecting terminals to the battery and clean both posts and terminals with emery cloth, then reconnect and tighten. Check and retighten any cables that may have come loose..
- If the starter solenoid does not click, use the torch to see if the small (usually black) wire has fallen off its terminal. (It will be hanging close by). Use the leather gloves to avoid the heat of the exhaust and push the connection back onto the terminal. This is one of the most common of all starting problems.

- If the starter turns the engine but it will not fire, is the fuel tank empty? Is the fuel pump clicking? The pump may be under the chassis and you should hear it when turning the key to the start position. If you are sure you have fuel in the tank but cannot hear the pump, use the head torch to inspect the wires to the pump. It is quite common for a wire to become dislodged.
- Get the electrical system checked as soon as possible. If alternator failure has occurred or a bad earth is preventing the battery from charging, it is only a matter of time before trouble reoccurs.

Transmission failure. No, this is not a tutorial on rebuilding the transmission at the roadside. However, when the dreaded "transmission failure" message appears, there are some simple thinks to check:

- Turn off the engine, leave it for a minute or so and start it again. If the warning has gone, the problem is most likely a faulty sensor. Get this checked as soon as possible.
- Is there oil in the transmission? Look for fluid leaks under and around the transmission, especially where it is coupled to the engine. Unless it is a major leak (unlikely) the oil level may have dropped to a critical level.
- With the vehicle engine idling and the selector in neutral, pull out the long dipstick (usually right at the back of the engine near the firewall), wipe it clean, replace it then remove it and read the oil level. It should be between the low and high marks. If you cannot see the oil, look again – it can be hard to see. When sure the oil is below the low mark, refill with ATF (nothing else). Most likely this will get you home.

Overheating. When the temperature gauge climbs close to the red line, do *not* drive the vehicle. Serious and expensive damage is inevitable

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- Look under the vehicle, also raise the bonnet and look carefully to see where steam/coolant (if any) is exiting. Do NOT attempt to remove the filler cap at this time. The source of the steam/coolant will probably indicate the source of the failure. Examples include the filler cap itself, a blown hose, a hole in the radiator, or maybe a leak from the water pump.
- Has there been a squealing or rumbling noise from the front of the engine? If so, it is likely the water pump bearings or seals have failed, probably causing a coolant leak but maybe just preventing circulation without coolant loss.
- If there is no obvious source of a leak, look at the fan belt. Failure is more common with V belts than with "serpentine" belts, but the failure of either will result in overheating.
- ONLY after the system has cooled right down close to ambient temperature, remove the filler cap. SLOWLY add water and look carefully around the hoses etc (see above) to determine if the water is coming straight back out again. If not, start/idle the engine and continue filling the header tank until full. Keep looking for leaks
- Assuming the vehicle is mobile get the cooling system pressure tested as soon as possible to prevent further problems.

Headlight failure. Nowhere as common as it used to be, light failure is mostly confined to a defective bulb or a loose/damaged wire

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- If only one lamp is out, it is probably the bulb. Use the multimeter to see if there is a voltage reading between the bulb connection and the earth. If not, the problem is in the wiring.
- If more than one light has failed, check the fuses. A replacement fuse may solve the problem, but if it blows again, a damaged wire is the most likely cause.
- Check for loose, cut or dislodged wires, especially where a stick or rock may have struck the vehicle.

None of the above is going to turn a non-technical person into a competent mechanic. However, one of more of these simple fixes may get you home and there will be great satisfaction (and Kudos) is being able to brag about your success!