

**Haynes**
*shows you how***BMW 3-Series (92-98) & Z3 (96-98) Haynes Online Manual**

Troubleshooting

Engine

Cooling system

Fuel and exhaust systems

Clutch

Manual transmission

Automatic transmission

Differential and driveshaft

Brakes

Suspension and steering

Electrical system

The vehicle owner who does his or her own maintenance according to the recommended service schedules should not have to use this section of the manual very often. Modern component reliability is such that, provided those items subject to wear or deterioration are inspected or replaced at the specified intervals, sudden failure is comparatively rare. Problems do not usually just happen as a result of sudden failure, but develop over a period of time. Major mechanical failures in particular are usually preceded by characteristic symptoms over hundreds or even thousands of miles. Those components which do occasionally fail without warning are often small and easily carried in the vehicle.

With any troubleshooting, the first step is to decide where to begin investigations. Sometimes this is obvious, but on other occasions, a little detective work will be necessary. The owner who makes half a dozen haphazard adjustments or replacements may be successful in curing a problem (or its symptoms), but will be none the wiser if it recurs, and ultimately may have spent more time and money than was necessary. A calm and logical approach will be found to be more satisfactory in the long run. Always take into account any warning signs or abnormalities that may have been noticed in the period preceding the trouble - power loss, high or low gauge

readings, unusual smells, etc. - and remember that failure of components such as fuses or spark plugs may only be pointers to some underlying fault.

The pages which follow provide an easy-reference guide to the more common problems which may occur during the operation of the vehicle. These problems and their possible causes are grouped under headings denoting various components or systems, such as Engine, Cooling system, etc. The Chapter and/or Section which deals with the problem is also shown in brackets. Whatever the trouble, certain basic principles apply. These are as follows:

Verify the problem . This is simply a matter of being sure that you know what the symptoms are before starting work. This is particularly important if you are investigating a fault for someone else, who may not have described it very accurately.

Don't overlook the obvious . For example, if the vehicle won't start, is there fuel in the tank? (Don't take anyone else's word on this particular point, and don't trust the fuel gauge either!) If an electrical problem is indicated, look for loose or broken wires before digging out the test gear.

Cure the disease, not the symptom . Substituting a flat battery with a fully charged one will get you off the hard shoulder, but if the underlying cause is not attended to, the new battery will go the same way. Similarly, changing oil-fouled spark plugs for a new set will get you moving again, but remember that the reason for the fouling (if it wasn't simply an incorrect grade of plug) will have to be established and corrected.

Don't take anything for granted . Particularly, don't forget that a "new" component may itself be defective (especially if it's been rattling around in the luggage compartment for months), and don't leave components out of a troubleshooting sequence just because they are new or recently installed. When you do finally diagnose a difficult problem, you'll probably realize that all the evidence was there from the start.