



**CAPRICORN**

*...it's just easier!*

Other resources in step 6c:

- An informative video where Jeff Smit talks about diagnostics on problem vehicles and explains his APPROACH

## The days of shotgun diagnostics are long gone

What was once a largely mechanical device on wheels, has developed into a multi-level high tech computer on wheels.

The industry has battled to keep up with technology and as a result, there is now a skills shortage in diagnostics and troubleshooting.

Problem analysis and diagnostics in the motor industry has become highly sophisticated and specialised. Most technicians and workshop owners are fully aware of this but, unfortunately, the average motor vehicle owner is not.

This is where the diagnostic process starts – with the vehicle owner.

It is the responsibility of workshops to educate their customers about the diagnostic skills required to resolve tricky issues in order to buy the time needed to work on cars, and to prepare their owners for the now common chain of communication which now must flow between workshop and owner.

The days of 'can you just have a quick look at this' are long gone. In a legacy from a by-gone era, too many motorists still believe that they are entitled to a free quote following a five-minute inspection every time they bring their car in for repair. Those days are long gone as well.

Try inviting a plumber into your house to tell you what might be wrong with your blocked toilet without them first telling you how much the visit will cost, and that any repairs and components will cost more. Try asking your doctor for a quick checkover to make sure you are not coming down with something sinister – you'll get a bill as you walk out the door.

It seems that contrary to the rules which are unbreakable in all other trades and professions, the notion that a car workshop will happily just take a look at a vehicle at no cost is very wrong.

The mantra which must be followed by all workshops is simple – no money = no working on the vehicle.

Diagnostic skills encompass both mechanical and electrical diagnostics.

Regardless of the technical advances, the modern motor vehicle is still a mechanical device albeit with every conceivable electronic system driving and monitoring its every move.

It follows that all problems are not always electronic. Therefore, tools like the vacuum gauge, compression gauge, cylinder leakage tester, fuel pressure and flow tester and gas analyser still have a place in the diagnostic armoury.

With the amount of electrical and electronic circuits in a modern vehicle, technicians must have an understanding of electrical theory and circuits. In saying that, you don't have to become electronic engineers, but you do need to understand these circuits.

Electrical and electronic diagnostics are impossible without the correct diagnostic equipment, vehicle data and information but this is not always easy or cheap.

No workshop can be so generous that it can afford to charge only for labour and throw in the huge investment on diagnostic equipment or data for nothing.

Additional costs must be passed on to customers when dealing with any repair job that demands diagnosis or research, or access to data.

Typical electrical test equipment required for fault diagnosis can include scan tools, electrical connector test equipment, digital multimeters and oscilloscopes and there are many other specialised tools and equipment.

A shotgun approach to vehicle repair is no longer possible. Without a systematic fault finding diagnostic sequence or procedure a technician has little chance of fixing a modern vehicle in a timely and cost effective fashion.

If there are time constraints and technicians are working under pressure to get the car out the door, the shotgun approach is all too often relied on, but this will more often than not only lead to an incorrect diagnosis, and perhaps ongoing issues with the vehicle, that will frustrate the owner and eventually cost the workshop.

**What is your APPROACH? (Watch the video)**

- A Attitude**
- P Patience**
- P Preparation**
- R Research**
- O Organised**
- A Advice**
- C Communication**
- H Habit**

The place to start is [www.tatbiz.net.au/capricorn](http://www.tatbiz.net.au/capricorn)

*Just go for it!*