

Re: Trust But Verify ...

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On Sat, 17 Jul 2004 19:45:15 +0000, Henry Spencer wrote:

- > *As for the machinery, an important contributing factor is that it's also*
- > *gotten much more *reliable*, so there is much less need for the average*
- > *user to be intimate with the innards. There was a time when most every*
- > *gas station had hoists, tools, and at least one mechanic; now such a setup*
- > *is rare in urban areas and noticeably less common even in rural areas.*
- > *The difference is even more dramatic in electronics, where people routinely*
- > *expect the MTBF to exceed the working life.*

And the machinery has moved more and more towards using electronics (and computers) which has allowed a move from the old open-loop control systems towards closed-loop systems which are more reliable.

For example in the good old days, you set your spark timing by rotating the distributor, and set the gap which would last until mechanical parts wear made the setting go out of tolerance. Spark advance was effected by a simple vacuum diaphragm.

Now spark timing, fuel injection (I won't go into the move from carburetors to FI), and in high performance engines even valve timing is controlled by one or more computers which take inputs from sensors which provide many more parameters.

The result is that good performance can be maintained over a wider range of conditions including those caused by wear and tear. This has gone a long way towards improving the reliability and the need for frequent maintenance.