

AT PPC WE DON'T JUST WRITE ABOUT CARS. WE OWN WAY TOO MANY OF THEM (ACCORDING TO SOME WOMEN WE KNOW) AND SOMETIMES EVEN GET ONE RUNNING. HERE'S OUR MONTHLY REVIEW OF THE MANY AND VARIED CARS ON THE PPC FLEET

# STAFF CARS

## WILL HOLMAN

CARS IN THIS ISSUE: BMW E34 525TDS



Where there's a turbo, there's a wick. And where there's a wick there's usually a knob for turning it up, although with more modern cars that knob is actually a piece of computer software known as an engine map. This is the case on my BMW 525TDS. All I needed was someone who knew where the knob was and how to turn it up.

So when I found myself chatting to a chap called Paul Busby at Paramount Performance (01753 533633) about remapping supercharged Jag V8s I asked him whether he could do anything with my old Beemer. He assured me that if it had a map, Paramount could remap it. 'Not only that,' he said, 'but if you don't go mad it won't use any more fuel. Another 30bhp shouldn't be a problem.' Having my cake and eating it is one of my favourite scenarios so a couple of weeks later I headed to Slough and into Paramount's workshop.

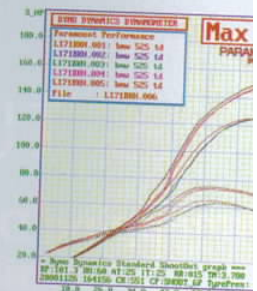
The first thing Paramount's Martin Lane did was check the oil and coolant levels before strapping the car down for a rolling road power run to see what it was making as standard.

A few minutes later we had our

established he then set about pulling the Beemer's ECU out. There are in fact two of them, both in plastic compartment under the bonnet. The second is to control the autobox – or it would be if my car had one. Strange that BMW fitted it even though my car left the factory with a manual gearbox.

Cable tied to my engine ECU was a small, black plastic box. 'That's a fiddle box,' said Jason. 'It just fools the engine into thinking it's colder than it is and the ECU throws extra fuel in as a result. It'll make the car more smoky and that's about it.' He went on to explain that cylinder heads on these engines often cracked as a result of the excessive combustion temperatures caused by these boxes. He removed it and a second power run proved it had no effect on performance at all.

With the BMW's ECU on the bench Jason opened it up and pulled one of the two chips out of it. 'This one controls injector timing, injector pulse rate and fuel pressure.' He replaced this chip with a different one then removed the other one. This was an EPROM – Erasable Programmable Read Only Memory. EPROM chips are erased using ultra-



This chip limits the torque can make according to what car's in – if it could make it torque in first gear it would gearbox pretty quickly. Jason gear torque limit by 9%, second and fourth by 22 and

At this point Jason was help fix a fault on an Audi diesel. 'It's got no power at the mechanic who'd parked Paramount's workshop. Jason a little box and asked him the car's OBD (on board computer). This transmitted the codes via Bluetooth to Jason's unit. He studied it for a moment so punched some keys at

## HOLMAN

Capri Mk 1 V8  
Motor fitted, needs an MoT.  
Des 280SE  
Conversion awaits.  
525tds  
from Fiat 500 metrosexuality.  
Quattro  
version has taken one step forward, 500 back.

## LUNNA

335i Turbo  
got to Toby – it's been broken up and scrapped!  
got 306 TD  
her that keeps Toby busy by breaking daily too.

## ALL

ie 924  
and ready for the PPC track-day.  
blo  
missus – Hooray!

## COMAN

e  
g project. Will it ever see the road? Probably not.  
156 Sportwagon  
yle estate for those whose lifestyle is fixing Alfas.

## KEVIN LEAPER

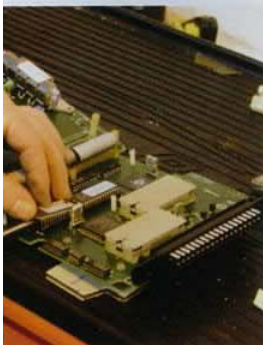
1986 Westfield XI  
Developed a knock on its last (and first) race. Awaiting attention.  
1988 Westfield 7  
Supercharged Crossflow being built now.  
1984 Porsche 928S  
Raced for about 2 minutes, then the engine went bang...  
1997 Lotus Elise  
Key buys a car in good condition shock! Economical daily driver.  
1994 Range Rover TDi  
PPC's official parts chaser, tow truck etc.  
1973 MGB GT  
He's remembered he owns it! T16 conversion now underway.  
1972 Ford Escort Mk1  
Still in need of lots of welding. Lots and lots and lots of welding.  
1978 Ford Escort Mk2  
Saab turbo engine conversion happening right now.  
1964 Jaguar E-type  
He's stopped working on it again! E-mail him to pull his finger out.

## MANKEE CHENG

Peugeot 106 Rallye  
Track-day Pug sees more action than keenest porn connoisseur.

## CHARLIE BROOMFIELD

1981 Rover SD1 27-litre  
Charlie's tank-engined monster is terrorising Lincolnshire.



**1. One chip is replaced the other is reprogrammed.**

**2. Tuning without even getting your fingers dirty.**

**3. On the rollers Paramount found another 30+bhp.**

'It was the boost sensor,'  
Sometimes if you just clear  
des and reset everything the  
fixed.'

ie of these setups. Next time  
my driveway freezing, with  
in my eyes, I'll remember  
atched someone fix a car  
n seeing what colour it was.  
525.

software suitably modified  
d the ECU and turned to  
le adjusted the wastegate's  
n to allow a bit more  
e reconnecting the battery  
p the car. Because of the  
igh fuel pressures modern  
at – typically 1000bar – cars  
d to lose pressure if the  
connected. If you were

to undo the union on a fuel line with  
1000bar in it the resultant jet of fuel  
could slice your arm off.

As a result the pressure takes a while  
to build back up to its proper level. Not  
only that, the ECUs in these cars adapt  
as they go along so we could expect  
whatever power figure we now saw  
on the rolling road to increase slightly  
within 50-100 miles of driving. So what  
did it make?

Well, the first run showed 158bhp (up  
from 128) and the second 160. I imagine  
it's now at at least 165. Not only that but  
the increased torque levels make the car  
much livelier all round. This engine's  
never really felt like a diesel at all to me.  
For a start, it has no low down torque  
to speak of – below 1800rpm there's  
stuff all really. But over 2000 and all the

way to the 5000rpm redline  
it really pulls - and it sounds  
really good when you rev it.  
And that's the problem.

Because it now goes so  
well I find myself flooring  
it and revving it hard far  
more often than I used to  
and so I'm unable to verify  
Paramount's claim that it wouldn't use  
any more fuel, although my feeling is  
that if I drove it as I did before it would  
return similar economy as it did before.  
But it's very hard to do that now that it's  
become a genuinely quick car.

I haven't done any long runs yet.  
When I have I should have a better idea  
of the overall fuel consumption. At the  
moment I'm happy eating my oily cake.  
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