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CB-26P Fitting position

Toyota Celica GT4



Early in 2002 Paul Wigzell contacted us to check that the Ecotek CB-26P worked on the Celica GT Four - he was anxious to test it for the members of the GT4 Owners Club of which he is Chairman - after what looks like a very thorough test these are his findings:

"Fitting the Ecotek on the GT4 is very easy as the servo hose is positioned at the top of the plenum chamber on the left hand side as you look at the engine. I cut the pipe about 2-3" from where it joins and inserted the valve into position. Adding a couple of jubilee clips to secure it.

Once in I closed it off completely and started the car up, waited till it got to operating temp and the idle was reading the usual 750rpm. Now all I had to do was unscrew the valve until a rasping noise could be heard. Once happy I had the right position I then turned it back through 90 degrees and locked it off with the locking screw.

Now was time for the test drive. At first I didn't think the valve was working correctly as I could not hear the valve making any noise so I

stopped and checked it was working. I lifted the bonnet and revved the engine; on over run it made the expected rasping noise, so I could obviously not hear it when driving which was good. One way this might have been helped is that I pointed the valve to the front of the car, therefore pointing the noise away from the cabin. Now I knew it was working I carried on driving to see if I could feel any difference in the way the car drove. In the lower gears I couldn't really tell as the engine responds very well to start with, but in 4th and 5th especially on the motorway I could tell the car picked up slightly better before boost came on. So I was happy with this, first test was a success.

As for an emissions test I could see straightaway there was no real drop in the emissions. The tester decided to do it again and I thought that tweaking the valve might help slightly. I opened it up bit by bit to allow more air to bleed in, as I did this the emissions actually rose above 1% CO from 0.65% CO, my previous attempt before the Ecotek gave a final reading of 0.70% CO so the valve

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had obviously failed in this dept. The only reason I can see why this happened is that the ST205 has a MAP sensor in the manifold, so it was detecting the extra air being bled in and compensating for it by adding more fuel?



So now knowing the emissions had not improved I was convinced there would be no MPG improvement. If the same amount of fuel were being used then surely the fuel economy would not change - untrue. The way the valve works to improve throttle response had obviously worked in the same way to improve my fuel economy by agitating the mixture before it enters the combustion chamber. This in turn gives a much better burn of the mixture and therefore improves the response making the car more drivable.

Before the valve was fitted I did two MPG tests on my car both of which gave me 22mpg over an average week of driving to work and back etc. with the valve fitted this test was done again and my average rose to 24 the first week and 25 the second. Giving a good increase (10%+). These driving tests where done by brimming the tank right up to the spout on a Sunday night. The following Sunday night I would return the same pump so I didn't get any variations and brimming to the same level again and reading the amount of fuel I put in.

All in all I think the valve would work better in the emissions department on the ST165 and ST185 with them having air flow meters instead of MAP sensors. This in turn could result in even more savings in fuel economy, as the car would run slightly lean off boost.”

Paul Wigzell