

ROAD TEST MAN 24.400, 11,967c.c.Coach Registered July 2002

Florida Coaches of Halstead in Essex organised and supervised the trial, working with Hiclone Europe Ltd., the suppliers of the product.

It was first decided to monitor the fuel consumption of the Coach over an extended period of time to establish base line data. Once this had been achieved one Hiclone was fitted and the fuel consumption was monitored again and compared with the base line data.

The Coach was operated on both runs in the United Kingdom and on the continent and included two similar long journeys to Austria and various day trips to France under similar traffic conditions using the same drivers.

Discussion

1. Positioning of the Hiclone is very important but in this case it was not placed in the best possible position because it was awkward to fit. It should have been placed as close to the inlet manifold as possible but instead it was placed 25mm back from the inlet manifold, in front of a bend in the air intake pipe. It is likely that an improved result could be obtained if time is taken to fit Hiclone as close to the inlet manifold as possible. Two Hiclones are generally better than one on turbo charged diesel engines and typically a second is placed before the Turbo charger or alternatively about 8-10 inches in front of the first Hiclone. Tests should be undertaken on a chassis dynamometer to work out the best possible configuration for this engine and two Hiclones should be placed in the optimum position and the road test repeated. In other words an optimisation study should be carried out .

2. Although great care was taken to minimise variables that affect fuel consumption, it is apparent that they have not been completely eliminated and that the result obtained is not absolute. An example of the factors not taken into account are the effects of the coach operating at altitude and the seasonality effect. In other words the result obtained is only indicative of the effect of Hiclone and not a definitive result. More tests need to be undertaken to prove the product beyond doubt which are underway at the time of writing (May 2003).

3. The drivers noticed a difference in the torque of the engine and reported that less gear changes were needed on the mountain roads. They were not aware at the beginning of the trials that Hiclone had been fitted, but soon asked questions owing to noticing the additional torque. The most noticeable change was on the M20 (the long hill just after the M26 junction London bound), where the coach did not lose any speed at all, where it normally loses at least 5 km/ h with 45-49 passengers and luggage on board.

"I am so impressed with Hiclone that I have notified the CPT of my test results and I will be fitting Hiclone to the rest of my fleet"

Patrick Keeble.
Managing Director Florida Coaches

Road Rest Results

1st Journey without Hiclone fitted

| Trial Dates | Speedometer | Comments |
|---------------------------------|-------------|----------------------------------|
| 04.01.2003 | 31242km | Fuel Tank Brimmed before test |
| 27.02.2003 | 39603km | Fuel Tank Brimmed at end of test |
| Distance run | 8361km | Fuel consumed 3221 litres |
| Average fuel consumption | | 2.5975 Km/litre |

2nd Journey with Hiclone fitted

| Trial Dates | Speedometer | Comments |
|---------------------------------|-------------|----------------------------------|
| 05.03.2003 | 40305km | Fuel Tank Brimmed before test |
| 24.04.2003 | 49558km | Fuel Tank Brimmed at end of test |
| Distance run | 9253km | Fuel consumed 3251 litre |
| Average fuel consumption | | 2.8462 Km/litre |

Fuel saving as a result of Hiclone intervention: 0.2487 Km/litre or 9.62%

Notes

- During the first test period, the weather in Austria was very cold and the engine was run for a while before the passengers boarded.
- During the second test period in Austria, the bright sun heated the inside of the coach and the climate control (air-con) was used to cool the coach before the passengers boarded and whilst they were in transit.
- All fuel used was Shell Pura or from Texaco Garages on the continent.