

ROLLING ROAD TEST

1998 2.5 Litre, Land Rover Discovery TDI

Introduction

The test was carried out on the 27th February 2003 at PTS's testing facility in Luton, to look at the effect of Hiclone on power and torque. One Hiclone was fitted into the air induction hose near the engine manifold and a second Hiclone fitted about eight inches in front of the turbo charger. The vehicle was placed on the Rolling Road and the testing programme was run with the Hiclone fitted and repeated with the Hiclone removed.

ROLLING ROAD TEST

1988 2.5 Litre,
Land Rover Discovery TDI

Discussion

The vehicle is fitted with constant four wheel drive and during the test a 'spiking' effect occurred as the power delivered to the rollers through the vehicle wheels, jumped from the forward wheels to the rear wheels and back again. This power shift resulted in the recorded readings having positive and negative 'spikes'. The actual readings have been reproduced in the graphs attached for the sake of good order and trend lines have been added to facilitate interpretation of the results. A significant increase in power was observed throughout the range indicating that Hiclone should have a positive effect on the fuel consumption of this vehicle. Track tests are being carried out to confirm this.

The marked increase in power in the lower ranges is indicative that the Hiclone placed before the turbo charger, is having a positive effect on it. With more power being developed, more of the available fuel is being consumed indicating a reduction in emissions. More tests need to be carried out to look at the emissions. The extra torque developed in the lower ranges is clearly most useful for a utility vehicle especially off road or for urban driving.

Rolling Road Test Results

Road Speed in MPH	BHP without Hiclone	BHP with Hiclone	Percentage difference in BHP	Torque without Hiclone	Torque with Hiclone	Percentage Difference in Torque
30	23.2	24.2	4.3	94.4	96.0	1.7
32.5	24.4	26.1	7.0	93.2	97.0	4.1
35	30.3	31.8	5.0	103.5	109.7	6.0
37.5	34.8	38.6	10.9	110.4	117.7	6.6
40	43.4	47.2	8.8	124.8	134.3	7.6
42.5	52.6	54.3	3.2	138.1	143.1	3.6
45	57.6	56.7	-1.6	143.2	142.6	-0.4
47.5	59.5	60.9	2.4	141.8	145.6	2.7
50	60.4	63	4.3	140	145.6	4.0
52.5	63.8	65.4	2.5	141.5	145.4	2.8
55	66.8	65.4	2.5	143.1	146.0	2.0
57.5	68	69.7	2.5	140.9	143.7	2.0
60	67.3	72.5	7.7	136.9	143.8	5.0
62.5	66.6	66.8	0.3	133.2	133.0	-0.2
65	68	65.9	-3.1	131.9	131.0	-0.7
67.5	64	60.2	-5.9	124.6	121.1	-2.8
70	58.5	64.5	10.3	115.8	126.0	8.8
72.5	63	66.8	6.0	119.6	125.1	4.6
75	62.3	61.9	-0.6	117.8	118.4	0.5
77.5	61.4	58.5	-4.7	115.1	114.3	-0.7
80	46.5	50.7	9.0	98.4	96.6	-1.8