

Lucky number seven (hundred)



This month Vic Oliver tests the new Hino 700 2841 TT SSC 3.9 truck tractor fitted with the ZF Astronic 16-speed automated manual transmission

Trip simulation results

These tables have been generated using **TransSolve** Transport Solutions Software (for a free trial CD, visit www.htm.co.za).

Hino 700 2841 TT												
	Jhb - Dbn				Jhb - Cape Town				Jhb - Pretoria			
	Laden 2 ways		Laden 1 way		Laden 2 ways		Laden 1 way		Laden 2 ways		Laden 1 way	
Parameters												
Payload (tons)	31,5		31,5		31,5		31,5		31,5		31,5	
Distance (km)	1 139,5		1 139,5		2 797,2		2 797,2		113,1		113,1	
Operating Results												
Time taken (hrs:min)	18:42		16:35		38:41		38:01		2:02		1:57	
Ave Speed (km/h)	60,9		68,7		72,4		73,6		55,1		57,2	
Fuel Used (litres)	610,8		260,9		668,5		612,6		29,9		25,3	
Consumption (l/100 km)	53,6		22,9		23,9		21,9		26,4		22,4	
Fuel Price (R/l)	9,00		9,00		9,00		9,00		9,00		9,00	
Productivity Factor	36,1		10,0		23,9		21,9		26,4		22,4	
Ave Distance p.a. (km)	80 314		96 337		122 345		127 094		47 259		61 953	
Ave carried p.a. (tons)	4 438		2 662		629		327		6 051		3 966	
Purchase Price (Rands)												
Truck-tractor	1 035 000		1 035 000		1 035 000		1 035 000		1 035 000		1 035 000	
Trailer	150 000		150 000		150 000		150 000		150 000		150 000	
Interest Rate (%)	9		9		9		9		9		9	
Fixed Costs												
	Rands/annum		Rands/annum		Rands/annum		Rands/annum		Rands/annum		Rands/annum	
Instalments	295 184		295 184		295 184		295 184		295 184		295 184	
Crew	90 480		90 480		90 480		90 480		90 480		90 480	
Insurance	99 540		99 540		99 540		99 540		99 540		99 540	
Licence	14 916		14 916		14 916		14 916		14 916		14 916	
Overheads	55 568		55 568		55 568		55 568		55 568		55 568	
Total fixed costs	555 688		555 688		555 688		555 688		555 688		555 688	
Final analysis												
	R/km	R/Ton	R/km	R/Ton	R/km	R/Ton	R/km	R/Ton	R/km	R/Ton	R/km	R/Ton
Fixed costs	6,92	125,21	5,77	208,75	4,54	883,45	4,37	1699,35	11,76	91,83	8,97	140,11
Variable Costs												
- Fuel	4,57	82,70	3,74	135,35	4,23	822,77	3,35	1 302,03	5,23	40,85	3,63	56,70
- Tyres	0,56	10,13	0,59	21,35	0,62	120,59	0,64	248,75	0,10	0,78	0,30	4,69
- Maintenance	1,11	20,09	1,11	40,17	1,11	215,90	1,11	431,42	1,11	8,67	1,11	17,34
- Toll Fees	1,07	19,36	1,08	39,08	0,37	71,97	0,37	143,81				
Total Costs	14,23	257,50	12,29	444,71	10,87	2 114,68	9,84	3 825,36	18,20	142,13	14,01	218,84

* Productivity = payload (tons) x average speed / fuel consumption (l/100km)

Hino 700 2841 TT SSC Road test by Vic Oliver



To find out how the vehicle actually performed when loaded, it was coupled to a 13 metre long dropside tri-axle semi-trailer loaded with a 24-ton payload.

The test run was from Linbro Park following the N12 to Witbank and back, covering a distance of 281,7 km. Fuel consumption achieved was 40,86 l/100 km or 2,45 km/l. The maximum speed was limited by the driver to 80 km/h and the average trip time was recorded at 66,6 km/h, proving good productivity and a well matched vehicle power-to-mass ratio.

In my opinion, the fuel consumption and average trip time was good considering that the route between the Gillooly's interchange and Benoni is under construction with speed restrictions and very heavy traffic.

The benefit afforded by the automated transmission allows the driver to have full focus and concentration on the road and traffic, while negotiating the very narrow and difficult lanes along part of the N12 freeway that is under construction, and was well tested and appreciated. At times, full driver concentration was needed to keep the vehicle

safe, without being side-tracked by having to select the correct gear.

On the road I found the Hino very easy to drive and the fitment of the two-pedal ZF automated manual transmission to this vehicle adds many benefits to the driver and the operator. The driver has the choice of driving the vehicle in automatic or manual mode, and the gear selection controls are very easy to use.

Whether in automatic or manual mode, correct start or setting off-gear is selected for the driver and the clutch is automatically engaged and disengaged. Gear changing is so fast that the vehicle hardly loses any road speed during the gear change, resulting in fuel saving.

With this transmission there is always perfect communication between engine, clutch and transmission, resulting in extended clutch and drive line life.

Another good feature is the engine brake and transmission interarder. The engine brake and interarder produces high retardation torque and is controlled by a four-positioned toggle-switch lever mounted on the steering column. By using the interarder and the engine brake, together with the automatic change-down gear

feature that is activated as soon as the driver touches the brake pedal, I found that it was not necessary to use the vehicle's foundation braking system during the trip. With very little use of the vehicle and trailer's foundation braking system, major brake maintenance costs can be reduced.

The power output of 302 kW that is produced by the Hino 13-litre six-cylinder, common-rail turbocharged, intercooled engine proved to be adequate for the truck tractor when coupled to a loaded tridem axle semi-trailer. This good power-to-mass ratio enabled the vehicle to maintain a steady speed on most of the test route. The lowest gear that had to be selected once when climbing a hill on the route was 12th gear.

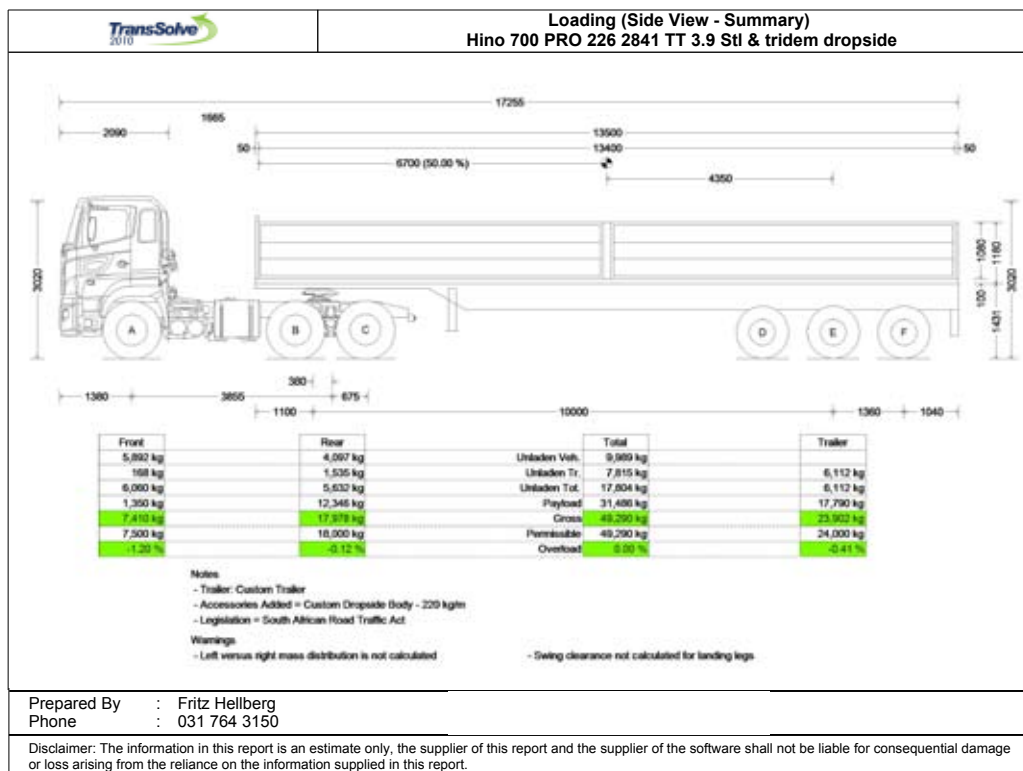
Full air wedge-type drum brakes with ABS are fitted, adding to the safety and durability of the vehicle.

The vehicle is fitted with single reduction rear axles which optimise mechanical efficiency and fuel consumption. The rear axles have inter-axle and cross-axle diff locks as standard equipment, which could prove beneficial in wet operating conditions. The rear differential of 3,9:1 also helps to optimise the fuel efficiency.

A Power Take Off can be fitted to the gearbox if required.

Inside cab noise is low and the cab is well sprung and comfortable. Air-conditioner and radio tape are fitted as standard equipment for driver comfort. A single large bunk bed is provided in the day cab; however the mattress is very thin and uncomfortable. Storage space inside the cab is limited and the passenger seat is not adjustable.

After driving this vehicle on the test run, and studying the benefits that it offers to both owner and driver, I am sure that we will see a lot more Hino 2841 tractors on our roads. ■



*These graphs illustrate the vehicle's operating costs but are not based on the road test.