

▶ **Energotest 2007**

Accelerated Fuel Consumption Tests for Evaluating Potentially Ecoenergetic Technologies

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Partners:



Transport
Canada

Transports
Canada



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Participants:

- Alliance Canadienne de camionnage
- Association du camionnage du Québec
- Advanced Transit Dynamics
- Doggett Enterprises
- Dynamic Fuel Systems
- Econoco
- Freightwing
- Institut du transport avancé du Québec
- Meka Form
- Michelin
- Norcan
- Passinglane
- Transtex Composites

Tested technologies

The following suppliers enlisted their products to fuel consumption tests in the framework of Energotest 2007.

Meka Form (Québec, Canada): fender type aerodynamic device for the drive axle of the tractor (figure 7).





Figure 7. Tested technology: Meka Form, tractor drive axle fender

Test results

Table 3 presents, in alphabetical order, the test results for each supplier, followed by tests requested by the *Ministère des Transports du Québec* and by the in-house tests of Cascades Transport, Robert Transport and FPIInnovations – Feric. The details are presented in Appendix C, in the same order.

The results of emission and opacity measurements are presented in Appendix D, for the four suppliers who had requested these tests. Excepting a certain reduction in NOx levels at idle, these measurements were not showing important differences between the tests performed prior to the installation of the technologies and with the technologies installed.

Table 3. Test results

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Supplier	Technology	Fuel saved (%)
Meka Form	Tractor drive axle fender	1.4

Conclusions

The best performance in terms of fuel economy occurred from the aerodynamic technologies, which showed savings of up to 7%, and from the wide tires, which showed savings of roughly 10%. In general, no significant changes were measured in opacity and pollution levels.

Disclaimer

These results refer only to the vehicles and to the specimens of technology tested according to the procedure and conditions described in this report. FPInnovations – Feric cannot guarantee the reproducibility of these results for particular operating conditions.

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VEHICLE DATA FORM

Technology: Tractor fender
Supplier: Meka Form

Parameters	Vehicles	
	Control	Test
Tractors		
Vehicle test ID	R3	R2
Vehicle fleet ID	102560	102550
VIN	4V4NC9TG95N386569	4V4NC9TH55N386609
Make and model	Volvo VNL 630	
Year	2005	2005
Engine make and model	Cummins ISX	
Rated power	450 hp / 2000 rpm	
Peak torque	1,550 lb-ft	
Transmission	MO 16Z12A-A ZF MERITOR	
Differential ratio	3.9	
Vehicle test weight	8,550 kg	8,600 kg
Tires	275/80 R22.5	445/50 R22.5
Tire pressure (cold)	100 psi	
Trailers		
Vehicle test ID	TR5	TR1
Vehicle fleet ID	212B554	812M516
VIN	2M5921619X705914	2M592161981117064
Make and model	Manac 53'	
No. of axles	2	
Year	1998	2007
Type	Cube Van 9425301 TRA/REM	
Tires	275/80 R22.5	445/50 R22.5
Tire pressure (cold)	100 psi	
Vehicle test weight	24,940 kg	25,030 kg