

Isuzu Motors Limited  
April 18, 2005

Isuzu to release new Elf Diesel Hybrids  
- Adding to CNG-MPI, Isuzu beefs up Elf low-pollution lineup -

Isuzu Motors Limited has added a new diesel hybrid truck to its lineup of Elf low-pollution light-duty trucks, starting sales today of the new hybrid truck for selected trucking companies. The new model will be launched on the general market in mid-June 2005.

Isuzu has aggressively tackled development of low-pollution vehicles to protect the global environment from early on. CNG vehicles show the most dramatic performance benefits in large cities, where the air pollution is a serious problem, and on April 4 Isuzu released an Elf CNG-MPI truck on April 4 to satisfy the level of the post new long-term exhaust emission regulations.

The new Elf Diesel hybrid is a low pollution vehicle that achieves low-CO<sub>2</sub> emission levels and high fuel efficiency by fully extracting energy available when the vehicle decelerates. It uses diesel for fuel, needs no special infrastructure, and can be serviced anywhere.

In addition, the Elf Diesel hybrid truck employs Isuzu's original hybrid system, which was optimized for light-duty trucks. The system achieves excellent fuel economy compared to other hybrid vehicles, and delivers the high durability and safety performance required by commercial vehicles at the same time.

Isuzu positions the two new series, CNG-MPI vehicles with excellent low-emission performance, and practical diesel hybrid vehicles requiring no specific fuel infrastructure, as two main pillars of its low-pollution vehicle lineup. Isuzu is aggressively taking on the task of disseminating these new products. The hybrid vehicle has the following features:



Elf diesel hybrid truck

1. The hybrid system is based on the 4HL1 diesel engine. In addition to assisting the engine by adding an electric motor, the Smoother-E automatic shift system allows high-efficiency regenerative energy and automatic shifting in fuel-saving speed ranges. Together with the idling stop-and-start system, these advances deliver world-class (\*) fuel economy. The system achieves fuel economy improvement of 35% (\*) in M15 mode, which is generally used for assessment of the fuel efficiency of a hybrid vehicle, and improvement of 10% to 20% (\*) in normal city driving. Thus, the CO2 emissions regarded as a cause of the global-warming are reduced by 25% in M15 mode.
2. Under the 2003 new short-term exhaust emission regulations, particulate matter (PM) is reduced by 85%, and NOx is reduced by 25% or more, winning the certification as an ultra-low PM emission diesel vehicle (85% reduction) and for its low gas emissions, as an "excellent low pollution vehicle". In addition, it has been listed as a "good low-pollution vehicle" under the eight cities low pollution vehicle certification.
3. For the first time on a domestic truck, a Lithium-ion battery is used that provides approximately 3 times longer life than a nickel metal hydride battery.
4. A PTO-type parallel drive hybrid system is employed, so that even if a failure occurs in the hybrid system, the motor and generator being installed on a shaft different from that of the engine, driving can be continued on just the diesel engine, without interference to the engine driveline.
5. The Smoother-E automatic shift is standard equipment. This system eliminates any need for clutch adjustment or replacement, dramatically reducing maintenance costs, while preventing failures on the road due to clutch problems.

<Sales Goal>Elf Diesel Hybrid Truck: 600 units/year

<Elf Diesel Hybrid Manufacturer's suggested retail price in the Tokyo area>

(\*Attached photo shows a specially equipped vehicle.)

Model	Engine	Maximum carrying capacity	Specifications	Suggested retail price in Tokyo area	
				Not including tax	Including tax
VD-NKR81AN-E6EXY-H (*)	4HL1	2 tons	High cabin, cabin chassis, Smoother-E automatic shift (5-speed), idling stop-and-start	JPY 4,565,000	JPY 4,793,250

(\*) 2 to 3 ton class cab-over type diesel hybrid truck

- Fuel economy values are in comparison to a conventional diesel truck (4HL1).
- Figures based on improvements of fuel economy achieved with start and stop traffic (5 to 10 percent in city driving). Improvement of fuel economy is more moderate when idling/stopping is lessened.
- Fuel economy may not improve on highways or in suburban driving where there is less acceleration / deceleration and idling / stopping.