GIGA heavy-duty truck undergoes first full redesign in 21 years

On October 28, 2015, Isuzu announced and launched the first fully redesigned GIGA heavy-duty truck in 21 years.

The new GIGA represents an evolution from the pursuit of single-vehicle performance to a true transport system that provides a new level of support for customer operations. It was engineered in response to issues such as labor shortages and the need to lower operating costs, as well as increasing demand for environmental friendliness and safety. Based on a careful examination of customer needs and Isuzu's own vision for next-generation trucks, Isuzu refined the model's performance from five perspectives: delivering a comfortable driving environment; pursuing improved fuel efficiency; pursuing comprehensive safety; ensuring high capacity; and offering remote support via telematics.

Five-star truck: The new GIGA

Delivering a comfortable driving environment

Semi-round instrument panel combines a spacious design with ease-of-use

Giving the instrument panel a semi-round shape creates a roomy driving space notable for ease-of-use. Switches and equipment that are easier to see and operate contribute to safe driving, while helping to reduce driver fatigue. The DIN space was modified to accommodate 7 standard-sized components, as well as dramatically improve the ease with which equipment can be installed. The state-of-the-art cockpit is the result of a meticulous analysis of the movements of drivers of large trucks while driving, and a similarly rigorous study of how best to design the space.

GIGA interior

Pursuing fuel efficiency

Delivering exceptional aerodynamic performance with a form optimized for a van body

The width of the front of the cab has been limited and airflows refined so that air flows around the vehicle's corners. In addition, the adoption of a streamlined shape helps lower drag as air flows toward the sides of the rear body. This design contributes to exceptional aerodynamic performance and improved fuel economy. A front grille with a large opening boosts engine cooling without sacrificing aerodynamic performance.

Improved Engine Combustion Performance

Every facet of the engine was redesigned, from the supercharger to cooling to the fuel injection systems, to boost low-speed torque and combustion efficiency while enhancing combustion performance, which is the key to fuel-efficient operation.

ECON Mode

Thanks to Smart Shift Control, Smart Acceleration Control, and Smart Glide Control, in standard ECON mode the advanced Smoother-Gx automated manual transmission implements fuel-efficient automatic shifting that makes extensive use of the engine's low-fuel-consumption operating range.

Smart Shift Control

The Smart Shift Control automatic shifting control system has been engineered to deliver both drivability and fuel efficiency. It automatically selects the optimal drive gear based on the road gradient and vehicle load to ensure fuel-efficient operation without sacrificing driving feel.

Smart Acceleration Control

Smart Acceleration Control is designed to save fuel by automatically controlling excess torque and acceleration while driving on level roads. Automatic control extends to vehicle acceleration while driving in the top gear to limit acceleration while empty or lightly loaded, so that it more closely tracks performance while loaded.

Smart Glide Control

When the system determines that it is possible to operate at a low level of fuel consumption by taking advantage of the vehicle's inertia while cruising at a constant speed, for example on downhill gradients, Smart Glide Control automatically changes the gear to neutral to limit unnecessary fuel consumption.

Eco Stop

Eco Stop automatically stops the engine while the vehicle is stopped, for example when waiting at traffic lights. In this way, it reduces wasteful fuel consumption by eliminating unnecessary idling.

Pursuing comprehensive safety

Pre-crash braking (collision avoidance/collision damage reduction)

The new GIGA's millimeter wave radar and a camera constantly scan and analyze the area in front of the vehicle while driving. The driver is automatically alerted, and braking control automatically applied, as the distance to the vehicle ahead closes to a dangerous level. If the risk of a collision increases due to a slow vehicle ahead, the system alerts the driver and quickly applies full braking to help avoid a collision. If a collision is deemed to be unavoidable, the system automatically engages the brakes to reduce the speed of the collision and thereby lessen damage.

Lane Departure Warning System (LDWS)

The new GIGA's Lane Departure Warning System (LDWS) uses a camera to detect the white lane markers to the left and right of the vehicle's path of travel, and warns the driver if the vehicle is about to depart the lane with both an audible alert from the left or right speaker, and a warning shown on the multi-information display.

Isuzu Electronic Stability Control (IESC)

Isuzu Electronic Stability Control (IESC) detects driver inputs and vehicle behavior with sensors, and alerts the driver if it detects an unstable vehicle attitude that might develop into a skid or rollover. The engine brake is automatically engaged at the same time to help limit the risk of an accident.

Ensuring high cargo capacity

Minimizing weight increases created by changes during the full redesign.

Remote monitoring via telematics

The new GIGA comes standard with MIMAMORI, a system for remotely analyzing vehicle data in a way that combines telematics with the Internet. MIMAMORI not only provides a variety of useful services to ensure legal compliance and encourage environmentally friendly driving practices, but also enables customers to easily check on the vehicle's condition via the Internet, a capability that is not possible with conventional trucks.

PREISM, an advanced genuine maintenance service that utilizes vehicle data obtained in advance from MIMAMORI, provides robust backup to help customers ensure their fleets operate in a stable manner, in the form of high-quality maintenance that only an authorized dealer can offer.

Launch of the new GIGA CNG heavy-duty truck

In the past, Isuzu has offered various light- and medium-duty trucks and buses powered by compressed natural gas (CNG) for use in short-distance transport applications in urban settings. On December 24, 2015, we launched a new CNG-powered heavy-duty truck that is capable of long-distance transport (i.e., capable of driving between Tokyo and Osaka on a single refuel of its CNG gas tanks.

The diversification of fuel sources not only contributes to energy security, but also lowers the CO_2 emissions from inter-city trucking. It helps to reduce the environmental impact of operations thanks to the unique environmental performance of CNG vehicles, which are characterized by lower NOx emissions and close to nonexistent levels of PM emissions.

ERGA heavy-duty bus undergoes first full redesign in 15 years

On August 18, 2015, Isuzu announced and launched the first fully redesigned ERGA heavy-duty bus in 15 years.

Putting smiles on users' faces with ERGA

Barrier-free universal design

Isuzu improved safety around priority seats by orienting them so that they face forward, and adding new handrails. We also added inverted ramps to simplify and speed wheelchair access, and new retractable belts for securing wheelchairs in place to make that process less labor-intensive.

The fuel tank was moved to the upper portion of the left front wheel well to facilitate a flat floor in the interior. This design change allows the priority seats to be oriented so that they face forward and increases the size of the non-step area. As an additional benefit, the vehicle can hold more passengers.

Inside overall view

Inverted ramp

Exterior

Lengthening ERGA's wheelbase without changing its overall length enabled an increase in the size of the non-step area. In addition, shorter front and rear overhangs and accompanying increases in approach and departure angles give the vehicle an ability to negotiate abrupt gradient changes such as steep ramps that is on par with that of a one-step vehicle.

To increase interior height, the ERGA's total height is higher than current non-step models but lower than current one-step models. The result is a bus with a comfortable interior as well as excellent ability to negotiate grade changes.

A new 11.1 m class model is also available for use in high-capacity applications. This model offers a non-step area of unprecedented size.

Engine

The ERGA uses a lightweight, compact 250 hp 4HK1-TCS diesel engine fitted with a two-stage turbo that improves fuel efficiency by bringing the benefits of high-efficiency turbocharging to the entire RPM range.

It also uses a diesel particulate diffuser (DPD) and urea selective catalytic reduction (SCR) to treat emissions.

The ERGA's fuel efficiency exceeds the 2015 heavy-vehicle fuel efficiency standard for vehicles weighing more than 14 tons equipped with an automated manual transmission by 10%, and the standard for vehicles weighing more than 14 tons equipped with an automatic transmission by 5%. The ERGA also qualifies as an Outstanding Low-emissions Vehicle under the 2009 standard adopted by a certification program for low-pollution vehicles endorsed by nine Japanese prefectures and cities.

Refinements to the body structure and adoption of a lower-displacement engine save about 600 kg in overall vehicle weight, while further improving fuel efficiency.

Transmissions

The ERGA is available with either an automated manual transmission (AMT) or an automatic transmission (AT). The AMT preserves manual shifting but eliminates the need to operate a clutch, allowing the vehicle to be driven using just the accelerator and brake pedals. It can also creep forward like an AT. This design enables the bus to be operated by drivers of any age or gender, even those with little driving experience.

Prognosis functionality was added to the control panel for AT-equipped vehicles. This function monitors the condition of the oil and filter, and activates a service indicator to alert the driver at the optimal time to change the oil.

D-MAX pickup truck undergoes redesign in Thailand

On November 13, 2015, Isuzu announced and launched a redesigned D-MAX pickup truck in Thailand.

The new D-MAX is available with either a 1.9- or 3.0-liter engine. The 1.9-liter engine in particular offers a significant improvement in fuel efficiency compared to the 2.5-liter engine used in the previous model. The new models also feature new exterior and interior designs.

A reliable pickup with truck DNA

Exterior

- Design based on the concept of "strong, emotional, and sporty"
- New front design elements including the grille and headlamps
- Newly designed wheels and rear tailgate
- Superior power and speed compared to previous versions
- Excellent fuel efficiency and quietness thanks to a sophisticated aerodynamic design
- Two new exterior colors: Iceberg Silver and Quartz Brazilian

Interior

- Modern design that advances the universal design concept to a new level, along with convenience and comfort
- New leather seats in black are more luxurious than the previous brown
- Meter cluster featuring a "3D shape point" design for additional clarity and sportiness, larger color multi-information display
- Upgrade from exciters to in-roof speakers

Navigation and infotainment

- Isuzu Connect World, a specially designed app that connects the driver, vehicle, and world
- System that pairs with smartphones in the vehicle and provides entertainment media
- More advanced version of Isuzu Insight, which encourages fuel-efficient driving and allows results to be viewed on a smartphone

New engine

- Name: Isuzu 1.9Ddi Blue Power Engine
- Model: RZ4E-TC
- Displacement: 1,989 cc (1.9 L)
- Maximum horsepower: 150 hp
- Maximum torque: 350 Nm

Development concept:
The Power of Less

1.9/3.0 Ddi BLUEPOWER

New D-MAX *(new engine development concept)*
The Power of Less

- ▼ Less Weight
- ▼ Less Friction
- ▼ Less Noise
- ▼ Less CO_2
- ▼ Less Maintenance

1.9 Ddi BLUEPOWER

- ▲ More Power
- ▲ More Torque
- ▲ More Durability
- ▲ More Fuel Efficiency
- ▲ More Environmental Friendliness

(comparison of new and previous engines)

- Horsepower 10% up
- Torque 9% up
- Weight 20% down
- Fuel Efficiency 19% up

Durability

- Engine test bench: 30,000 hours
- Road testing: 1,400,000 km
- Bangkok-Urumqi non-stop durability test: 5,755 km

The new engine has passed numerous tests to confirm its durability.

Emissions

- Lowest CO_2 emissions in its class at 161 g/km
- Also complies with the future Euro6 standard