

Environmental Performance



Launching production of all-new trucks in Indonesia

Hino Motors has begun selling medium-duty trucks in Indonesia as its first new models specifically made for that market using a modular production system, which the Company has been developing for a long period of time.

The establishment of production in Indonesia marks the first time for Hino Motors to manufacture new vehicle models outside Japan.

Besides producing environmentally friendly trucks in Indonesia, Hino Motors also considered the environment at the manufacturing and distribution stages with the hope of cutting down on the amount of packing materials for parts and reducing CO₂ emissions during their shipments.

In this special feature, we look at this modular production system and how it helped make these environmental achievements possible.

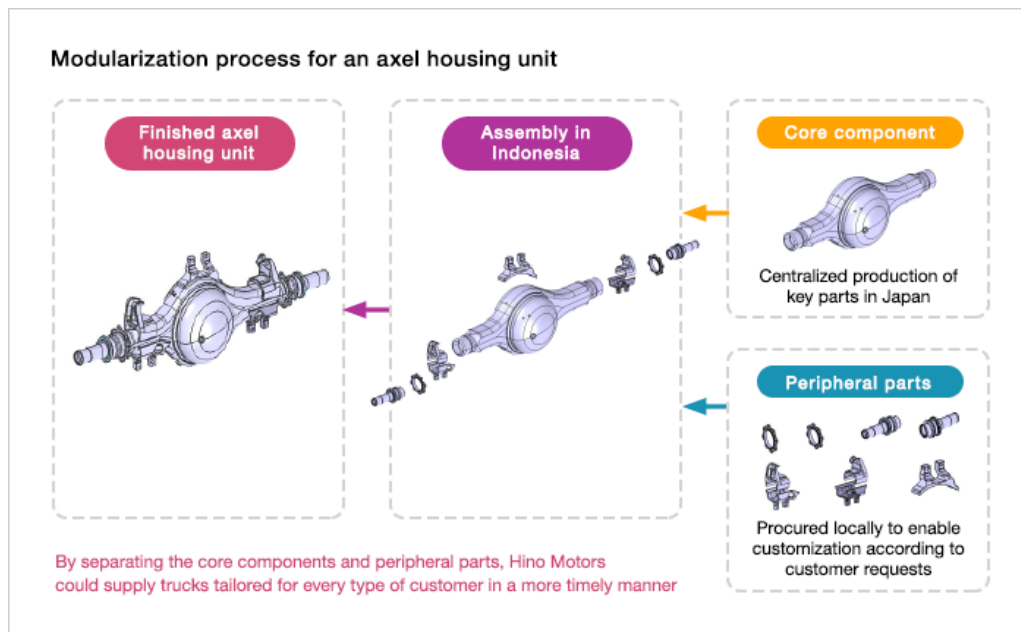
Hino Motors positioned modularization as one of its growth strategy initiatives in its Medium-Term Corporate Plan announced in April 2012.

Trucks and other commercial vehicles are assets used by customers in their businesses, and because cargo and usages vary widely, vehicle specifications are becoming more numerous with respect to their engine types, wheel drive systems, loading capacity, and so on. At the same time, there is a trend toward small-lot production of many kinds of products, resulting in a declining number of single vehicle models produced. Furthermore, with the increasing number of vehicle specifications being created, the number and types of vehicle parts have also been on the rise.

For these reasons, Hino Motors adopted a modularization approach to production. It has enabled the Company to make manufacturing processes and parts shipments more efficient by distinguishing between the core components that are integral to the vehicle and the peripheral parts that can be used to customize the vehicle according to the customer's requests.

Hino Motors has standardized its core components and centralized their production in Japan, while increasing the amount of peripheral parts procured locally. In this way, it could divide up the manufacturing of a wide variety of different vehicle models tailored specifically to the markets where they are sold. This system also allows Hino Motors to shorten lead times and deliver vehicles built according to specifications requested by customers.

About modular production

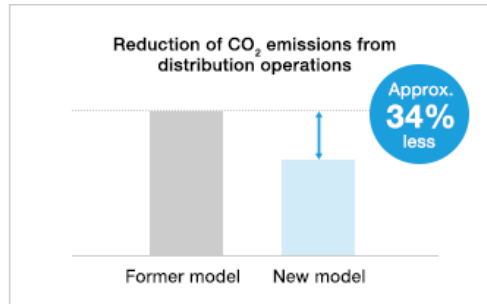
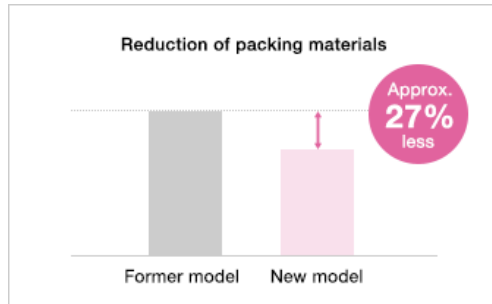


Environmental benefits of the new truck models

1. Environmental considerations at the manufacturing and distribution stages

Hino Motors was able to significantly shorten production lead times for its new truck models by simplifying the categorization of vehicle parts using the modularization approach. It also increased the percentage of parts procured locally from about 30% to 60%. This, in turn, leads to the higher overall efficiency of parts shipments.

As a result, Hino Motors cut down on the amount of packing materials used for shipping parts by about 27% compared to the previous level, and reduced CO₂ emissions from distribution operations by around 34%.

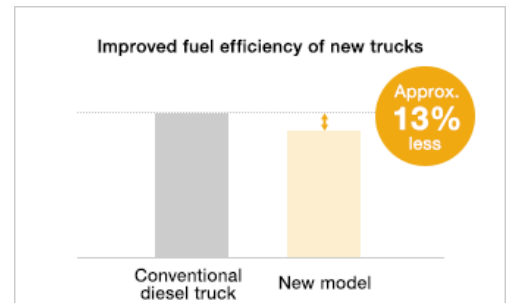


2. More environmentally friendly vehicles

For its new trucks recently sold in Indonesia, Hino Motors is increasing the number that have engines equipped with a common-rail fuel injection system,* which achieves outstanding environmental performance. Consequently, it improved the fuel efficiency of its new truck models by about 13% compared with trucks fitted with conventional diesel engines.

Furthermore, after taking into account distribution-related market trends and customers' needs when designing the trucks, Hino Motors improved the transport efficiency of the vehicles while also making them consume less fuel and emit less exhaust fumes.

* A common-rail fuel injection system is designed to improve fuel efficiency and engine output. It enables complete combustion by injecting fuel in a way that makes it easier to burn, and it electronically controls the timing of combustion to optimize it, thereby reducing the amount of exhaust gases.



Future product development

Following their release in Indonesia, Hino trucks produced using the modularization system are now being sold in Thailand. Over the next few years, Hino Motors will broaden the number of regions and markets where the trucks are available while tailoring the vehicles specifically for each of those areas and marketplaces. Recognizing that its trucks and buses are used by people in countries all over the world, Hino Motors is committed to offering vehicles that are both beneficial to the businesses of its customers and friendly to the environment.

Looking ahead, Hino Motors hopes to continue being the brand of choice among customers by supplying trucks and buses suited for people worldwide in a more timely fashion.

Takeshi Yokoyama

Chief Engineer in charge of research and development on trucks, Vehicle Design Department

I hope our new trucks will be very important in terms of their environmental friendliness. We are making these vehicles using our modularization production system, which we plan to expand worldwide after recently setting it up initially in Indonesia.

In the past, when we worked on modifying a vehicle to suit a customer's needs, since the vehicle had already been produced, there was a lot of waste from an environmental perspective, such as additional materials needed and energy consumed in the remodeling process.

In contrast, this sort of waste is greatly reduced if we can deliver vehicles tailored to customers' needs in a more timely manner by using the modularization system from the outset.

In addition, we can also make distribution much more efficient by mass producing the core components and shipping them in advance.

Awareness of the environment is growing rapidly in emerging countries, and some are considering whether to adopt the latest EURO 4 standards for vehicle exhaust emissions.

Therefore, Hino Motors is promoting modularization so that it can quickly produce trucks and buses that meet the different regulatory standards of each country where it manufactures vehicles.

In the future, we will step up measures to modularize vehicles destined for developed countries, as well. If we can produce a more diverse range of vehicles, I think we will be able to benefit the environment even more.

