

# Understanding Maintenance

2011

## Regular brake inspections.

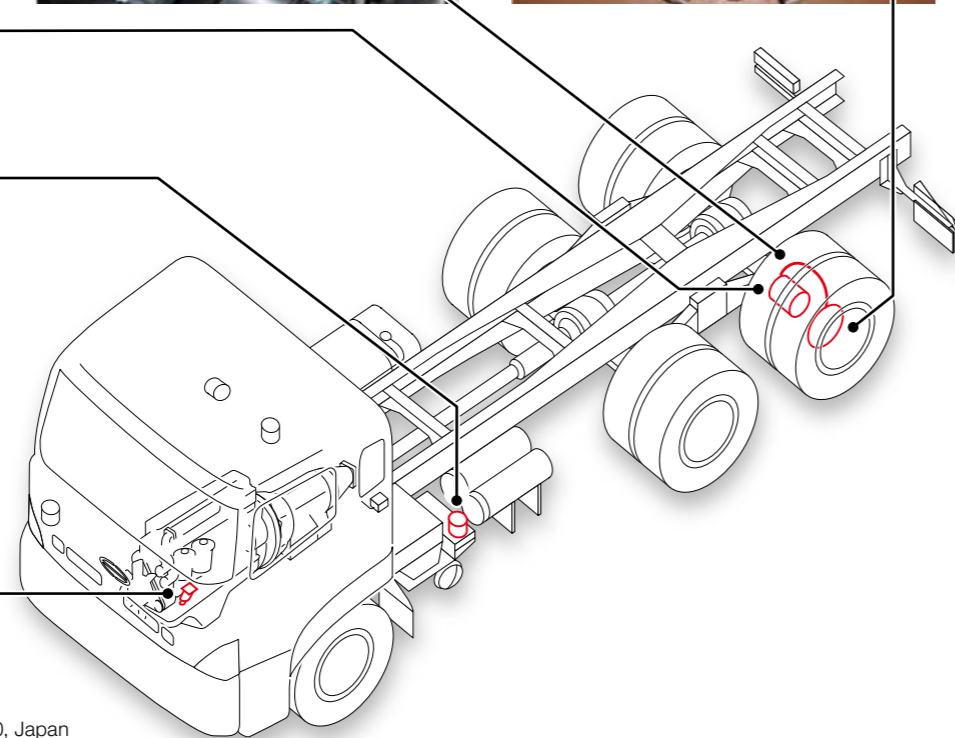
Of the basic functions of automobiles, i.e., “driving, turning, and stopping,” “stopping” is the most important function in terms of safety. For this reason, we would like to discuss the matter of regular brake inspections for trucks.

As described in issue No. 12, daily inspections are critical from a safety standpoint, as well as in terms of avoiding problems on the road and reducing repair costs. In addition to the daily inspections, Hino recommends that customers carry out regular inspections as a form of preventive maintenance at different intervals depending on their operating conditions. In this article, we highlight the HINO 700 Series as an example to provide our readers with a list of main brake parts that we recommend be replaced at the time of regular inspections, and briefly describe potential problems that may arise if these parts are not replaced or maintained properly. First in line are (1) Brake hoses. Brake hoses transmit the pressure required to activate the brakes. Cracked or crimped hoses can lead to air or oil leaks, as well as brake failure. (2) Brake chamber diaphragm. This sends compressed air to the piston in the chamber to activate the brake. Degradation of its internal rubber components due to stretching and compression can result in air leaks or faulty activation, which can in turn result in faulty brake performance. (3) Rubber parts used in brake air valves that regulate braking force by sending or stopping compressed air intermittently in response to brake pedal motion.

These rubber parts become degraded over time from repetitive vibrations, as well as stretching and compression, and this can lead to the seizing of valves as well as air leaks that can cause problems with the brake system.

As a guideline, these three components, (1)-(3), should be replaced every 24 months. (4) Expander. The expander activates the brake shoe to produce braking force. Degradation of grease in the expander and wear to its rubber parts can result in excessive expander wear or seizing, eventually leading to brake failure. This component should generally be replaced every 60,000 km. (5) Air drier desiccant. This part ensures that the air feed is free of moisture or oil. Moisture can enter brake components if the desiccant’s performance is compromised by adhered oil or other causes, and this can in turn result in corrosion and degradation of different parts, ultimately leading to failure of the entire air system. The desiccant should be replaced every 60,000 km or 12 months. When replacing the desiccant, also check for airtightness and make adjustments as necessary.

In addition to these areas related to brakes, there are many more points that need to be checked during regular inspections. These are described in detail in the Owner’s Manual so please make sure to refer to it. We will also be focusing on these different points in future articles so please refer to these articles as well.



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# HINO

## Cares

Issue 014

HINO continues to pursue quality.

## HINO is a “people” brand.

We believe that our technological capability and the high-quality service whose achievement we pursue are the aggregates of the abilities and the passion of HINO’s staff members. HINO is the sum of its “people.”



# HINO's Vision

**Quality, functions, and reasonable price. The optimal balance of various elements including above constitutes the benchmark for Hino products.**

**Yoshihide Maeda,  
SENIOR MANAGING DIRECTOR,  
MEMBER OF THE BOARD,  
Hino Motors, Ltd.**

How will the many manufacturers who produce globally recognized, Japan-made products reply to the question, "What are the strengths of 'Made in Japan' products?" Yoshihide Maeda, senior managing director, member of the board, and head of the Technological Development Division, had this to say: "I believe the product must deliver mission-critical functions, reliable quality, and safety as well as be reasonably priced. That's what I think the intrinsic excellence of Japanese products is." As Mr. Maeda says, there is a reason why Hino has been coming back to the "excellence of Japan-made products." Let's say, for example, that we develop a product that is loaded with a wide range of advanced technologies to differentiate it from our competitors. No matter how advanced and multi-functional the product, if the product is too expensive and difficult to use for a large segment of users, it may not be acceptable in the global market. "What kinds of products should Hino make so that they will be chosen and continue to be used by a larger number of customers around the world? When I took that perspective, I felt a strong need to reconsider our strengths as a Japanese maker of commercial vehicles in a market where we face competing manufacturers from all over the world." In what areas do Japanese manufacturers excel in the global market? The answer to this question—a question that Hino as a company incessantly asks itself—is embodied in Mr. Maeda's comment at the beginning of this article. "It's important to return to our origins or the 'strengths of Japanese products' in terms of technological developments and quality assurance operations, and I believe this is particularly true in the post-Lehman world market," says Mr. Maeda.

"First and foremost, to be a manufacturer that delivers world-class performance, technology, quality, and safety, we must aim to deliver excellent reliability. And we must endeavor to deliver them at a reasonable price." Neither can we produce self-congratulatory products that pursue stylish designs or are packed with excessive technology. Mr. Maeda says that the benchmark for "Made by Hino" products shall be the optimal balance among the levels of various factors such as quality that our customers can rely on, functions that our customers truly need, and reasonable price. "In a nutshell, the ideal product must provide 'good product at



Mr. Maeda is the Senior Managing Director at the engine unit test lab. He was involved in engine development for 25 years as an engineer.

a reasonable price.' I would like to make it our objective to deliver good product at a reasonable price in response to the various needs of customers who require the appropriate specifications for the specific country, location, and conditions in which they will be using their trucks."

"Modularization" is one of the concepts that Hino employs to fulfill this vision. By developing basic vehicle platforms, module plans, and core modules at Hino's headquarters in Japan, and by conducting custom module designing, assembly/revisions, body building/modifications, and other tasks at certain local development centers that are in closer proximity to our international customers to the extent possible, we would be able to develop various types of good product at a reasonable price. Readers may be familiar with this concept as we spotlighted this on the same page in the previous edition. In addition to delivering good product that our customers demand at a reasonable price, for example by contributing to our customers' bottom line for 10, even 20 years by making reliable products with fewer breakdowns, maintaining the quality of spare parts, and pursuing

ease of maintenance, we must not forget to enhance our after-sale and total services as integral components of Hino products, which means we must enhance our supply rate of spare parts so that our customers can continue to operate their vehicles without affecting the performance of our products." Mr. Maeda continues by saying that it is the most important that this vision is shared by all Hino staff members so that our products continue to be relied upon by customers around the world. "Only when we work with people who share our vision and passion for Hino, and are excited about and enjoy working at Hino, I believe we can produce the products that we envision." "People are our most valuable treasure"—This just might be the most important element for "Made by Hino" products that are developed based in our pursuit of customer satisfaction.

HINO sees the path it should take.



This lab reproduces environments in which engines are used to inspect low emissions performance, etc.



A newborn HINO 700 Series truck has just finished a series of rigorous vehicle completion inspections.

continue to meet customers' expectations day in and day out. "We perform quality assurance inspections on every individual part and unit that make up our products, and also at each of the manufacturing processes, as well as once the product is finished as a truck chassis. All in all, we inspect over 2,000 items." Just from this number of inspection items, we can see how meticulously and thoroughly Hino implements quality control on its products.

While all sections at Hino come together as a single team to ensure "quality" that we can be proud of in the global market, the two divisions that function solely in the realm of quality are the quality assurance and Quality Control Divisions. In a nutshell, the quality assurance division oversees and manages operations for assuring the quality of Hino products. Meanwhile, the Quality Control Division is the "watchdog" for the quality of products that are shipped from our plants. Our news team had the opportunity to actually see some of the operations that are carried out to ensure quality throughout the entire assembly line for heavy duty trucks at the Hino head office and plant. Throughout the entire assembly process, which consists of 16 sub-processes, we were able to see workers assemble various units into the trucks accurately, carefully, and quickly; units which have previously passed quality inspections in another process. For example, engine units have been tested on inspection facilities called emissions test benches using appropriate inspection methods to verify that they conform to all legal regulations in terms of

emission gas composition and other factors. Additionally, appropriate inspection methods have been defined for each of the parts that make up the various units. For example, 3-dimensional measuring devices and other inspection facilities are used to perform rigorous checks on whether these units conform to their design drawings. Only those parts and units that pass these rigorous quality assurance inspections are allowed to be assembled into a HINO truck. And they must also pass stringent inspections every process of the way during assembly or they will not be allowed to move on to the next process. Even after a truck has completed the entire process, it is still not finished. These trucks must then undergo what is known as finished vehicle inspections performed by inspectors from the Quality Control Division, which include various quality inspections such as brake performance, vehicle speed, tire steering angle, headlight light axis, water leaks and other items. Additionally, the Quality Assurance Division randomly picks a number of trucks from among trucks manufactured that day, and performs detailed quality audits in an entirely separate process. While all of this is to be naturally expected as a manufacturer, we can only doff our hats to this system of quality assurance.

To whom does "quality" belong? "It belongs to our customers," says Mr. Konishi, General Manager of the Quality Assurance Division. "Let's say there is a problem with 1 product out of 10,000 manufactured. While statistically this represents only

## HINO's Technology

Only those products that pass our stringent quality gate are able to operate around the world as HINO trucks.

Satoshi Sakai, GENERAL MANAGER, QUALITY CONTROL DIV.

Hiroshige Konishi, GENERAL MANAGER, QUALITY ASSURANCE DIV., HINO PLANT

Let's say you have in your possession a product that is said to be based on state-of-the-art technology. If this product delivers excellent performance every time it is used, the use of advanced technology will not be the primary reason for its doing so. It is because the product has the "quality" that allows it to deliver its best performance. No matter how advanced the technology, all will be for nothing if the product fails to operate properly or if it easily breaks down, rendering it unusable. Ensuring levels of "quality" that consistently deliver performance that make

customers happy regardless of who uses it is a natural mission for manufacturers. "Yes, our mission is to continue making good products day after day. But to ensure this as a given is actually very difficult," says Satoshi Sakai, General Manager of the Quality Control Division. We were soon to learn what Mr. Sakai meant by "difficult." Hino's products, i.e., commercial vehicles, are productive assets, and as such must help our customers generate profits. Based on the premise that they will be used under harsh conditions, they must be equipped with levels of "quality" that

0.01%, to the customer who purchased that truck, it is 100% of a problem. This is why we at Hino do not cut corners with regard to quality assurance and work hard to reduce the number of problems to as close to 'zero' as possible. And quality not only has to do with our products, but also with our services, as well as the ongoing improvement of the quality of our work processes that enable us to enhance our products and services. If a problem does occur, we must correct the situation as quickly as possible and ensure that the problem never

occurs again. This is ensured by the quality assurance function that we provide." Only because HINO trucks have passed our self-imposed, arduous, and rigorous quality gates, are they praised around the world for their excellent quality.

\* All safety precautions were observed during all photo shoots.

All technology is used to create the best HINO for you.



Assembly consists of 16 processes in all.



Tightening torques of all wheel nuts are recorded for traceability.



Mr. Sakai, General Manager of the Quality Control Division.



The inspection for cabin water leaks is the last of the vehicle completion inspections.



Hino was one of the first in the industry to introduce an ABS tester. Standing in front of the tester is Mr. Mori, Senior Supervisor of the Quality Control Division.



Mr. Konishi, General Manager of the Quality Assurance Division.

# HINO Owner's Voice

## HINO, because there are reasons to be selected.

Trucks aren't the only things Hino provides. One of Hino's most important objectives is to "create" as many "reasons to be selected" whatever the product or service Hino provides, or where they are marketed, and to "create" relationships based on trust with our customers. In this section, we introduce the companies that operate HINO trucks to our readers. We would like to give you a glimpse of how HINO trucks serve our customers around the world by asking them their reasons for choosing Hino.

\*The customers are introduced alphabetically by country name.

For more detailed stories about the HINO owners, please visit:

[http://www.hino-global.com/products/owners\\_voice/index.html](http://www.hino-global.com/products/owners_voice/index.html)



**Kuwait/ ABYAT Megastore  
Yasser Hassan Abul, Board Member**

ABYAT is the largest retail store in the Middle East, providing a variety of products and services related to residential buildings and real estate development. Since it opened two years ago, the company has used only HINO trucks and now operates a fleet of 20. A board member of the company, Mr. Yasser Hassan Abul, says, "We decided on Hino based on its excellent reputation for economic efficiency, durability, and engine performance. By using HINO trucks, we have been able to improve the efficiency of our business as well as sales. We have no plans at the moment for replacing these with other trucks." One of the company's drivers, Mr. Ayub Basheer Bathan, says, "I like these trucks very much as they are comfortable to drive even over long distances."



**Singapore/ Hup Meng Transport Service  
Tony Chua, Operation Executive**

Founded 35 years ago, Hup Meng Transport Service is one of the key companies that provides logistics services in Singapore. The company currently owns four HINO 700 Series trucks. "We were drawn to the power and design of HINO trucks, and started using them 10 years ago. We continue to use these trucks because of their excellent durability, as exemplified in their sturdy frames that can be used for mounting cranes, for example," says Mr. Tony Chua. "And thanks to the Hino Care Program, we are able to reduce the cost of parts," describing the benefits of Hino's after-sale services. "Hino is a highly reliable brand and their trucks generate profit for our company. We look forward to what the future might bring."



**Saudi Arabia/ Al-Mawad Est.  
Samer Ghalib Zain AL Deen, Owner**

Al-Mawad Est. is a company that specializes in the manufacturing and distribution of marble. Mr. Samer Ghalib Zain AL Deen, owner of the company, relates how Hino has helped his business. "We've only been in business for 10 years, but I've been hearing about Hino's reputation for over 20 years. In 2009, we purchased one HINO 300 Series and one HINO 500 Series. While both trucks travel an average of 200-250km a day, they continue to deliver solid performance. My confidence in these trucks has grown by the day. I'm convinced of the high quality of HINO trucks, and that they are reliable enough to take rough treatment day in and day out. I'm also impressed with the excellent service system where we can receive service within a specific time frame."



## The next HINO Cares is a special on the Dakar Rally 2011.

Hino has won the championship in the Series Production Trucks category, and 1st and 2nd positions in the Under 10-liter category!

The next issue is a special on the Dakar Rally 2011, in which Hino has finished 20 consecutive races since first entering in 1991. Don't miss it!





Borneo Motors became a Hino distributor in 2006.



Mr. Chia Yeow Ping, Parts & Service Manager.

they are better able to keep in touch with the needs of their customers and enhance their services. What do the customers think of the service? Let's find out.

Mr. Tony Chua, Operation Executive of Hup Meng Transport Service, which is engaged in the transport of general cargo in Singapore says, "We acquired HINO trucks about 10 years ago. Our decision to use Hino was based on its brand reliability and the design of the truck. With the Hino C.A.R.E. Program, inspection and repairs have become hassle-free, and our confidence in Borneo Motors has grown. Servicing costs, which are reasonable, are priced into the vehicle purchase, and this ultimately leads to cost savings." We also had the opportunity to speak with Mr. Alfred Hau of Hup Soon Cheong Services Pte Ltd., a specialized

Container Freight Station operator. "The Hino C.A.R.E. Program saves us time and costs. We do not have to worry about spare parts sourcing or payment administration and vehicles are taken care of by Borneo Motors for 2 years. Our confidence in Hino and Borneo Motors has grown since we began using this service," says Mr. Hau.

Listening to these comments, we were reminded of how absolutely critical it is for services to help customers maximize their trucks' up times and reduce operating costs, as trucks are productive assets for our customers. In addition to the Hino C.A.R.E. Program, Hino also offers the new "Super Express Maintenance" program for shortening the turnaround time for required maintenance work.

## HINO's Service at the front

### The "Hino C.A.R.E. Program"—A crystallization of our commitment to pursue ever higher levels of service.

Mr. Chia Yeow Ping, PARTS & SERVICE MANAGER, Borneo Motors

One could say that products and services are two sides of the same coin. Even if a product is capable of delivering excellent performance, high-quality services are indispensable to ensure that customers are able to use the product with peace of mind. It is even more true that products such as trucks—products facing harsh usage everyday—require quick, detail-oriented, accurate, and high-quality services. This is why Hino, a product brand, is equally committed to being a service brand. We have described many times in this publication how Hino constantly focuses on providing services that are based on a customer perspective. In this issue, we would like to introduce our readers to a type of service that was born from this attitude, a maintenance package plan named the "Hino C.A.R.E. Program."

"This is a package program for either 1 or 2 years that customers can purchase at the time they purchase the truck, and includes

for-fee maintenance work at a discounted price," explains Mr. Chia Yeow Ping of Borneo Motors, a Hino distributor in Singapore. The company introduced this service in 2009. "The Hino C.A.R.E. Program is initiated by Borneo Motors. And we are confident that this service provides the best value-for-money servicing package in town. We not only provide competitive pricing, but we assure the quality of our services. For the maintenance of HINO trucks, we use only state-of-the-art facilities, the latest diagnostic equipment, special service tools and Hino Genuine parts. Supported by the world-renowned Hino Quality Service (HQS) philosophy, only qualified Hino technicians handle our customers' trucks. We also offer exclusive price discounts reserved for our C.A.R.E. members if other expenses arise, with up to 40% discounts on parts and up to 30% on labor." Mr. Chia Yeow Ping explains that this service helps their customers reduce costs, and because it creates more points of contact with their customers,



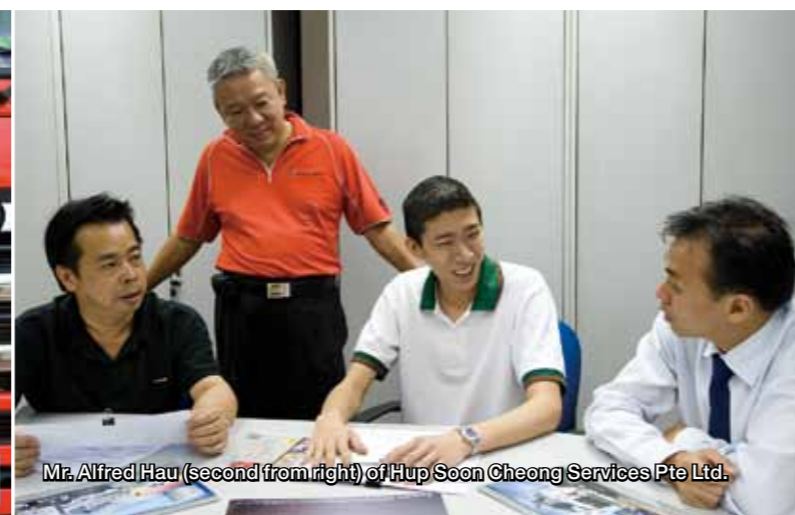
Qualified Hino technicians at Borneo Motors.



The "Hino C.A.R.E. Program" maintenance package plan is popular among customers.



Mr. Tony Chua (left) of Hup Meng Transport Service.



Mr. Alfred Hau (second from right) of Hup Soon Cheong Services Pte Ltd.

"In this service, we prioritize the queue to minimize registration time and reduce service turnaround time, and implement resource planning to enhance operation efficiency." Borneo Motors is the first dealer outside of Japan to implement this service, which is planned to be rolled out to Thailand, Australia, and other countries around the world. We will be providing in-depth information on this service in a future issue.

At the end of our interview, Mr. Chia Yeow Ping said that Borneo Motors' goal was "To become the world's most customer-centric Hino distributor." This commitment is one and the same as Hino brand's commitment to its services.

**HINO... it is where services continue to evolve!**

# Customer Service Activity

**To provide services from the standpoint of the customer. Maintaining consistency between word and deed is our code of conduct that we aim at.**

**Mr. Liang Guangming,  
GENERAL MANAGER, GUANGZHOU YINGJUN TRADING CO., LTD.**

According to GDP figures for 2010, China has now become the world's second largest economy. HINO trucks have been increasingly contributing to our customers in this country, where economic development is proceeding at break-neck speed. In light of this, how is Hino's most important philosophy, "Customer First," being implemented in the real world of after-

sale service in China? In this article, we will be reporting on one of the Hino dealers who works at the forefront of our business where they directly interface with our customers.

Our interview team visited Guangzhou Yingjun Trading Co., Ltd. in the city of Zengcheng in Guangdong province. This Hino dealer

serves around 2,000 customers throughout China, primarily companies located in the Zhu Jiang delta region, Yunnan, Guangxi, Hunan, and Fujian. We asked the General Manager of the company, Mr. Liang Guangming, what he placed the most importance on with regard to customer service. "That would be our 24-hour emergency support service. We have developed a system where no matter what time of day our customers have a problem, we are able to send people to the site to help resolve the issue" says Mr. Liang. This is a consistent objective throughout all countries where Hino operates so that we are able to maximize the up-times of HINO trucks that would contribute to improving our customers' bottom line. Mr. Liang says that in order to fulfill this objective, it is critical for all who work in after-sale service to implement as many specific measures as possible to achieve their objectives. "First of all, we must have an ample inventory of spare parts. Second, we must provide training to our technical staff on an ongoing basis so that we are able to improve their skill levels and hence contribute to our customers. And third, we have a fleet of after-sale service vehicles that allows us to provide quick after-sale service to our customers should the need arise." We believe this "Customer First" philosophy embraced by Guangzhou Yingjun Trading has won the confidence of Hino customers. "Our customers greatly appreciate the series of after-sale and total support services that we provide to the fullest of our

abilities. This is the reason Hino is seen as being different from other companies and is being held in high regard in China. No matter how small the issue, we take our customers' problems seriously and are committed to giving our all in resolving them. 'Always for the customer.' Our code of conduct is about being true in word and deed. It is because of this that we are able to win the confidence of our customers and forge long-term relationships with them" stresses Mr. Liang. "We welcome calls from our customers any time, around the clock."

Our interview team had the opportunity to listen to what some of the company's customers had to say. Guangzhou Huihang Logistics Co.,Ltd. is a transport company operating out of the Lecong Town Daojiao industrial district. "When we purchased our first HINO truck in 2004, we were very happy with its performance and how easy it was to operate. We currently own 31 HINO trucks." Mr. Zeng Jingjie, General Manager of the company, says that HINO trucks are attractive compared to trucks of other makes, not only in terms of their performance, but also in terms of their styling. He says he has "great confidence" in the after-sale services provided by his Hino dealer. He also had some advice for the dealer in terms of improving their operations even further. Listening to what their customers have to say and introducing ongoing improvements to their after-sale services is another important objective.



All mechanics have completed a series of rigorous training sessions and seminars.



Guangzhou Yingjun Trading office building.



In closing we asked Mr. Liang what his visions were for the evolution of Guangzhou Yingjun Trading moving forward, and what benchmarks he has set for areas that require improvement. Mr. Liang responds, "Our primary aim is to drive sales with the quality of our after-sale services. Only by improving our after-sale services can we win the confidence of our customers and expand the breadth of Hino fans in the market. Next, we must place top priority on our customers' needs, and commit ourselves to achieve, '25 days or less turnaround for accident repairs,' 'parts installation service for parts purchasers,' and '3-month after-repair follow-up.' These are all a part of our efforts to put ourselves in our customers' shoes in a real sense, reduce the costs to our customers, and give our customers

the peace of mind of continuing to use HINO trucks. Next, we must further enhance our staff training programs. Our aim is to improve our staff's specialized skills to provide better customer service and greater customer satisfaction. Also, because our staff is constantly increasing as our business grows, another area where effort and improvements are required moving forward is in the continuation of our training programs in a way that leaves nobody behind." In these words, we were able to catch a glimpse of the future of Guangzhou Yingjun Trading continuing as it has been to strengthen its ties with customers and expand its business.

**What we strive to deliver is the peace of mind that HINO is always by your side.**



Staff members of the Guangzhou Yingjun Trading.



Mr. Liang Guangming, President.