

# Business Performance for the Year Ended March 31, 2009

## Materials Handling Equipment

### Main Products

- Lift trucks
- Warehouse trucks
- Aerial work platforms
- Automated storage and retrieval systems
- Automatic guided vehicles

In the materials handling equipment industry as a whole, the global market deteriorated, experiencing an unprecedentedly sharp drop particularly since October 2008. Amid this environment, unit sales of lift trucks, a mainstay product of this segment, decreased for both the TOYOTA and BT brands despite vigorous sales promotion activities worldwide. In addition, a decrease in sales of aerial work platforms and the negative impact of foreign exchange rate fluctuations resulted in a decrease in net sales of ¥143.5 billion, or 18%, to ¥639.6 billion.

## Automobile

### Main Products

- Passenger vehicles (Vitz [Yaris outside Japan], RAV4, Mark X ZIO)
- Diesel engines
- Gasoline engines
- Car air-conditioning compressors
- Electronic components for automobiles
- Foundry parts
- Stamping dies

The automobile industry underwent a rapid market contraction in developed countries while market growth slowed in emerging markets, in which expansion was expected. Amid this environment, net sales of the Automobile Segment totaled ¥755.9 billion, a decrease of ¥213.3 billion, or 22%.

Within this segment, net sales of the Vehicle Business were ¥378.1 billion, a decrease of ¥122.0 billion, or 24%, due primarily to decreases in sales of the Vitz (Yaris outside Japan), RAV4 and Mark X ZIO.

Net sales of the Engine Business totaled ¥156.6 billion, falling ¥22.1 billion, or 12%. This was mainly attributable to a decrease in sales of AD diesel engines, which are installed primarily in the RAV4.

Net sales of the Car Air-Conditioning Compressor Business decreased ¥67.2 billion, or 26%, to ¥186.3 billion, as a result of a dramatic decrease in production at automakers in North America, Europe and Japan.

## Logistics

### Main Services

- Land transportation services
- Logistics planning
- Operation of distribution centers
- Cash collection and delivery and cash proceeds management services
- Data storage, management, collection and delivery services

The overall operating environment remained severe in the logistics industry as the volume of cargo transport continued to decline in the domestic market. Amid this environment, net sales of the Logistics Segment totaled ¥114.8 billion, a decrease of ¥2.7 billion, or 2%. Although sales rose for such specialized service operations as cash collection and delivery and cash proceeds management as well as data storage, management, collection and delivery services, this was offset by a decrease in sales of the cargo transport business of automotive parts.

## Textile Machinery

### Main Products

- Ring spinning frames
- Roving frames
- Air-jet looms

In the textile machinery industry, the markets rapidly deteriorated in China and India, our primary markets, as a result of the economic slowdown in Europe and the United States. Amid this environment, net sales of the Textile Machinery Segment amounted to ¥29.5 billion, a decrease of ¥36.7 billion, or 55%, attributable mainly to a sharp drop in sales of air-jet looms, our mainstay product, to China.

## Others

### Main Products

- Semiconductor package substrates
- Manufacturing equipment

The Others Segment includes TIBC Corporation, a joint venture with IBIDEN CO., LTD., that produces semiconductor package substrates. Amid a deteriorating market environment, net sales of the Others Segment totaled ¥44.2 billion, a decline of ¥20.0 billion, or 31%.



**GENEO-B**  
Electric counterbalanced  
lift truck

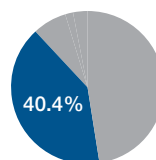


**Traigo**  
Electric lift truck

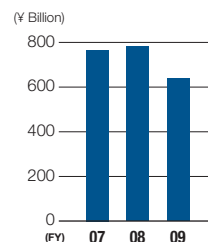


**SB12A**  
Truck mount aerial work  
platform

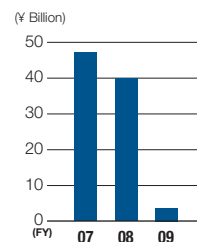
Percentage of  
Net Sales



Net Sales



Operating Income



**Vitz**  
(Yaris outside Japan)



**AD**  
diesel engine

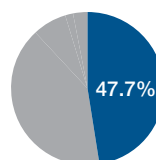


**ES14**  
electric compressor  
(Scroll type)

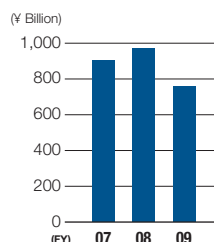


**PCU** direct cooling device  
for the new Prius

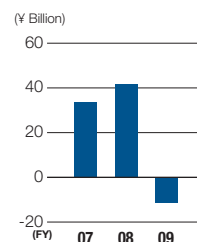
Percentage of  
Net Sales



Net Sales



Operating Income (Loss)



Cash collection and delivery and  
cash proceeds management  
services

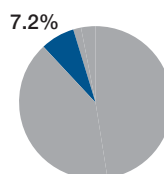


Data storage, management,  
collection and delivery services

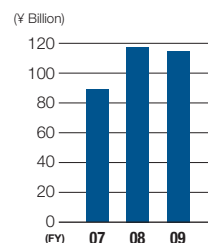


Land transportation services

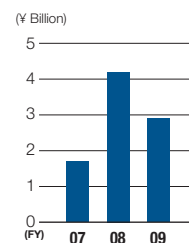
Percentage of  
Net Sales



Net Sales



Operating Income

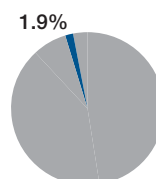


**RX240 series**  
Ring spinning frame

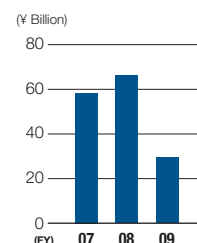


**JAT710**  
Air-jet loom

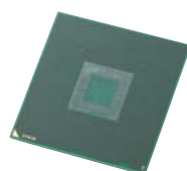
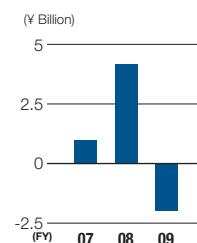
Percentage of  
Net Sales



Net Sales

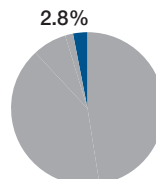


Operating Income (Loss)

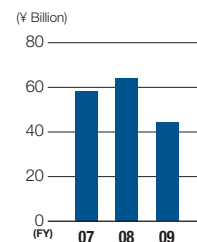


**Flip chip package substrate for PC**  
microprocessor unit

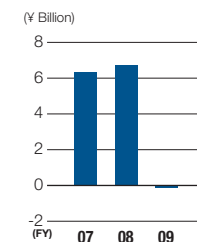
Percentage of  
Net Sales



Net Sales



Operating Income (Loss)



Note: Segment net sales figures do not include inter-segment transactions. However, segment operating income (loss) figures do include operating income (loss) arising from inter-segment transactions.

# Materials Handling Equipment

The World's Leading Materials Handling Supplier—  
Providing Customers with Optimum Solutions

Toyota Industries' Materials Handling Equipment Business engages in the development, production, sales and service of industrial vehicles such as counterbalanced lift trucks with 0.5- to 43-ton load capacities and a wide range of warehouse equipment such as systems for transportation, storage and retrieval of goods.

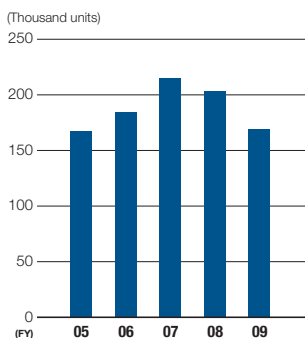
As a leading manufacturer of lift trucks and other materials handling equipment with expertise in logistics throughout the world, we offer a product range that includes the TOYOTA, BT, RAYMOND and CESAB brands under the organization of Toyota Material Handling Group (TMHG) as well as AICHI, a top brand in Japan for aerial work platforms.

Toyota Industries provides complete materials handling solutions, featuring high-quality products and services, cutting-edge technologies and extensive materials handling know-how through our global sales and service network. In doing so, we also remain keenly responsive to a variety of customer needs for logistics.

## Toyota Material Handling Group

Toyota has a solid position for counterbalanced lift trucks in Japan and around the world. In March 2008, Toyota marked an important milestone, reaching cumulative production of its 2,000,000th lift truck. For warehouse trucks, BT is particularly strong in the European market and Raymond is in a leading position in North America. TMHG will continue to carry out aggressive sales promotion activities by leveraging each brand's strong presence in respective regions.

**Lift Truck Sales**



## Responding to Changes in Business Environment

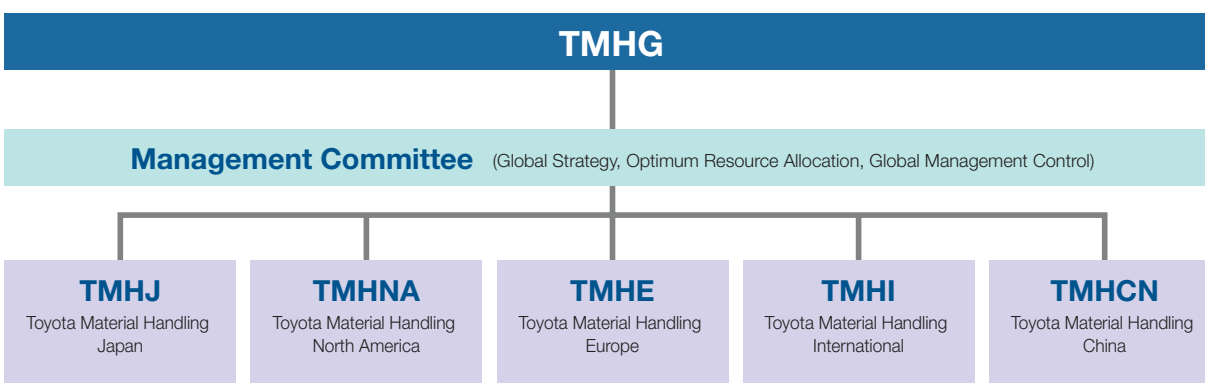
The slowdown in the U.S. economy continued during 2008. Markets that peaked in 2008, such as Europe, Asia and Oceania, began to contract from the second half, a trend that continued through the end of the fiscal year. In this challenging market environment, TMHG experienced lower unit sales in all markets in fiscal 2009.

While the materials handling equipment market is expected to remain challenging in 2009, we will continue to promote streamlining of our structure, including manufacturing equipment and personnel, in line with the level of sales and production.

TMHG is implementing various activities and measures to grow synergies in the group. Examples include joint product development, development of our own key components, strengthening of our production structure through the horizontal deployment of the Toyota Production System (TPS) throughout the entire group, integration of sales structures and the mutual supply of products. These efforts are steadily showing results across a wide range of fields.

Amid the difficult business environment, we will strengthen our management platform and lay the foundation for further growth by accelerating initiatives to maximize synergies.

## Organizational Chart of Toyota Material Handling Group



## Japanese Market

### No. 1 Market Share in Lift Truck Sales

In 2008, difficult conditions continued in the lift truck market in Japan due to the impact of the global economic downturn triggered by the U.S. subprime mortgage crisis. Under these circumstances, unit sales by Toyota Material Handling Japan (TMHJ) in fiscal 2009 declined about 19% from the previous fiscal year to around 32,000 units.

TMHJ is committed to providing customers with top-quality, appealing products and engages in aggressive sales and service activities to ensure customer satisfaction after product purchases. Thanks to these initiatives, we maintained a 41.6% share of the Japanese market, marking the 43rd consecutive year that TMHJ has maintained the top-ranked position\*<sup>1</sup> in the Japanese lift truck industry despite the severe business environment.

\*1: Surveys by Japan Industrial Vehicles Association and Toyota Industries Corporation, 2008

### Releasing New Products with Excellent Environmental and Safety Features

In 2008, there was growing public interest in energy conservation and environmental issues spurred by soaring crude oil prices and the start of the first commitment period for reducing greenhouse gas emissions under the Kyoto Protocol. With sales of electric lift trucks now surpassing those for internal-combustion lift trucks, TMHJ worked to strengthen the appeal of its electric lift trucks by making minor model changes to the GENE0-B AC-powered electric counterbalanced lift truck in April 2008 and to the GENE0-R AC-powered electric reach truck in July 2008.

Along with products that contribute to environmental protection and energy conservation, TMHJ also introduced products that contribute to safety. In January 2009, a rear detection system was launched as an optional device for lift trucks to support the detection of persons working behind lift trucks during operation. Toyota Industries continues to contribute to the realization of safety at logistics sites.



GENE0-B



GENE0-R

### Strengthening Product Appeal for Electric Lift Trucks and Other Products

The difficult conditions facing the lift truck market are expected to continue in 2009. Under these circumstances, TMHJ expects the proportion of sales accounted for by electric lift trucks to trend upward due to rising interest in energy conservation and environmental concerns as well as robust business in foods, pharmaceuticals and other industries that require clean working environments. In addressing these trends, TMHJ will make unprecedented efforts to strengthen its development of electric lift trucks and introduce highly competitive products.

Toyota Industries is preparing for the December 2009 launch of a new internal-combustion hybrid lift truck developed by combining a diesel engine, electric motor and battery to achieve a sharp improvement in fuel efficiency.

Based on the watchwords "environment and safety," TMHJ will continue providing optimal materials handling solutions for customers through an extensive product lineup that encompasses lift trucks, warehouse trucks, automated storage and retrieval systems, automatic guided vehicles and aerial work platforms combined with an abundance of know-how and enhanced service structure.

## North American Market

### Leveraging Brand Strengths to Expand Business

The North American market continued to decline due to the slowdown in the U.S. economy. Toyota Material Handling North America (TMHNA) reported sales of around 47,000 units corresponding to a roughly 18% decrease in fiscal 2009.

TMHNA offers material handling solutions through a 2-channel, 2-brand strategy. The TOYOTA brand offers a broad range of electric and internal-combustion lift trucks. The RAYMOND brand is positioned to focus more on electric lift trucks for warehousing and distribution. Both brands have a demonstrated track record of performance and reliability.

Despite a decline in the market, Toyota grew its market share and remained the leading supplier of lift trucks for the seventh consecutive year\*<sup>2</sup>. Raymond also gained market share in the warehouse truck market by having focused on its solutions-based product offering. Combined, the TOYOTA and RAYMOND brands have the largest market presence in North America.

\*2: Survey by Crist Information & Research, LLC, 2008

### Introducing Reach Trucks and Other New Products

In fiscal 2009, TMHNA introduced multiple products to the North American market. Toyota unveiled its new line of 8-Series AC reach trucks, including a single reach model in 3,500- and 4,500-pound load capacities and a 3,000-pound capacity double reach model. Toyota also introduced increased capacity (22,000- to 35,000-pound) internal-combustion pneumatic models. Raymond introduced its sit/stand Model 7600 Reach-Fork® and a new Model 9600 Swing-Reach®, which features AC technology and regenerative lowering for automatic battery recharging. Raymond also launched a Model 8900 pallet truck to enhance its product lineup. To expand its offering beyond lift trucks, Raymond launched its upgraded iWarehouse™ fleet optimization system, which featured a new data analysis and reporting via Web portal.



8-Series



9600 Swing-Reach®

### Pursuing Further Efficiency in Logistics

The North American market is expected to be extremely challenging in 2009. Toyota will focus on the development and sales of electric models, for which market share is growing, and other products and continuing to provide the industry's leading customer satisfaction, quality products and support. Raymond will continue to offer solutions-based innovations that increase customer efficiencies and improve operations. In this way, TMHNA will continuously search for ways to improve materials handling efficiency and operations to assist customers.

# Materials Handling Equipment

## European Market

### Integrating the Sales Network for TOYOTA and BT Brands

During the first half of 2008, the lift truck market in Europe continued to grow, reaching a new peak before declining sharply in the second half of the year in the wake of the global economic downturn. Toyota Material Handling Europe (TMHE) reported unit sales of around 62,000 units for the TOYOTA, BT and CESAB brands in fiscal 2009, representing a roughly 16% decline compared with the previous fiscal year.

Since starting its operations in 2006, TMHE has built a new organization integrating Toyota and BT businesses in most European markets. With its comprehensive offering of Toyota counterbalanced lift trucks and BT warehouse trucks, service and added-value solutions, TMHE is now able to respond to a wide variety of customer requirements.

### Promoting a Switchover to New Models

TMHE has completed a two-year program to enhance its lineup with new products manufactured at its factories in France, Sweden and Italy that address 70% of the European market potential. Initiatives kicked off with the launch in fiscal 2008 of the Toyota Toner. In fiscal 2009, TMHE launched five new TOYOTA, BT and CESAB product series.

The new Toyota Traigo 48 range of 3-wheel and 4-wheel electric counterbalanced lift trucks addresses a key market sector with 10 compact models.

The new BT Levio powered pallet trucks and new BT Staxio pedestrian powered stackers address Europe's largest industrial truck market segment in terms of units sold. The new BT Reflex reach truck continues BT's tradition of reach truck excellence with five load capacities.



**Traigo 48**

CESAB also launched the new Eco/P high-tonnage electric counterbalanced lift truck, with load capacities of 6.0, 7.0 and 8.5 tons.

The Toyota Traigo 48 and CESAB Eco/P are manufactured in Italy, and the BT Levio, BT Staxio and BT Reflex are manufactured in Sweden.

Sales of TMHE's new products have been encouraging in today's difficult market environment.

The Toyota Traigo 48 and BT Levio both received

the prestigious iF Product Design Award 2009 for design excellence.

TMHE also rolled out a tailored fleet management system called Toyota I\_Site, which gives companies the information they need to cut costs and optimize their fleets.



**Levio**

## International and Chinese Markets

### Engaging in Business in Emerging Countries

Toyota Material Handling International (TMHI) covers the markets of Asia, the Middle East, Oceania, Latin America and Africa, while Toyota Material Handling China (TMHCN) covers the Chinese market. These markets have long experienced increasing demand for industrial vehicles supported by global economic expansion. However, due to the negative impact from the global economic decline that began to spread throughout the world in the second half of fiscal 2009, unit sales of industrial vehicles in the International and Chinese markets dropped about 16% to around 28,000 units.

### Reinforcing Structures for Production, Sales and Service in Respective Markets

TMHI has continued to develop its sales and service capabilities in many international markets, especially Brazil, India and Australia. TMHI has further strengthened its ability to offer a competitive product range to customers by launching the BT Levio powered pallet truck, BT Staxio pedestrian powered stacker and BT Reflex reach truck.

In Brazil, TMHI established a unified sales and service organization that has bolstered operations and provides customers with total support for the full range of products available in the market. This fortified position will enable TMHI to weather the current market slump and emerge stronger.

In India, the ability to provide comprehensive customer support via a single organization was achieved by merging all sales and service operations. At the CeMAT India international trade fair for materials handling and logistics held in August 2008, TMHI exhibited new products and attracted a great deal of interest from various types of customers.

In Australia, TMHI focused resources and started to introduce a new company structure that will improve operations and enhance customer value. Ongoing improvement of operations and strengthening of competitiveness will be pursued to meet customers' expectations toward TMHI as a strong and reliable business partner.

By implementing various measures to strengthen its presence in the International market, TMHI will build a strong foundation to ensure sustainable growth.

China has expanded to become the world's second largest market for lift trucks after the United States, and its importance is rising not only as a production base but also as a market for sales. To respond to customers' needs in this market, Toyota Material Handling (Shanghai) Co., Ltd., a sales company of TMHCN, strengthened its product lineup to encompass the BT and RAYMOND brands in addition to the TOYOTA brand, while strengthening its sales bases. In production, Toyota Industry (Kunshan) Co., Ltd. expanded local procurement and devoted efforts to reducing lead times.

### Making Inroads into Untapped Markets

In 2009, the International and Chinese markets are expected to remain sluggish. In response, we will actively advance into untapped markets and engage in initiatives to enhance convenience for customers in terms of sales and services.



## Topics

### TMHNA: Exhibited at ProMat 2009

TMHNA exhibited new TOYOTA- and RAYMOND-brand products at ProMat 2009, North America's premier materials handling and logistics trade show held in Chicago in January 2009.

Toyota's exhibit featured the North American debut of the Toyota 8-Series AC Reach Truck as well as the Toyota Hybrid Concept Lift Truck. The concept truck was well received and demonstrated the company's global charter to develop innovative technologies and products that are environmentally responsible and economically viable.

Raymond showcased its new marketing campaign featuring custom solutions, with the latest updates on special services such as Leasing and Rental, Service and Support, and Raymond parts. Also presented were Raymond's latest advances in its iWarehouse™ fleet optimization system along with its innovative new products, the Sit/Stand Reach-Fork® and new energy-efficient Swing-Reach®.



TOYOTA booth



RAYMOND booth

### TMHE: Exhibited at CeMAT 2008

With the theme "stronger together," TMHE unveiled its new, integrated organization as a reliable business partner with a comprehensive materials handling lineup at CeMAT 2008, which was held in Hanover, Germany, in May 2008.

For the first time at a leading European fair, TOYOTA and BT products shared the same stage, together with TMHE services and solutions including Toyota i\_Site fleet management system. CESAB displayed a range of products including its new Eco/P high-tonnage electric counterbalanced lift truck.

The Toyota Hybrid Concept Lift Truck was presented for the first time in Europe and received keen interest from customers and journalists.



Toyota Hybrid Concept Lift Truck



TMHE booth

### Preparing to Launch Internal-Combustion Hybrid Lift Trucks

In December 2009, Toyota Industries will launch sales in Japan of the 3.5-ton GENEIO-HYBRID, a hybrid lift truck that combines a diesel engine, electric motor and battery.

For the GENEIO-HYBRID, Toyota Industries independently developed a hybrid system matched to the characteristics of lift trucks by utilizing Toyota Motor Corporation's hybrid technologies. This enables the GENEIO-HYBRID to maintain the same work performance as current 3.5-ton diesel engine lift trucks, while reducing CO<sub>2</sub> emissions and fuel consumption by approximately 50%\* and thereby realizing world top-class fuel performance.

Toyota Industries will continue to lead in developing and commercializing environmentally sound products that contribute to energy conservation and help reduce environmental impact.

\* Measurement values by Toyota Industries using Japan Industrial Standards (JIS) work cycle



GENEIO-HYBRID

Note: The external appearance of the actual product sold could differ from that shown in the photo.

### TMHI: Held Distributor Conference

Distributors from over 40 countries attended the TMHI Distributor Conference 2008 last October in Sweden. The agenda-packed event included product demonstrations, workshops and a factory tour.

In terms of product highlights, the new BT Reflex reach truck was launched, and the BT Levio powered pallet truck and BT Staxio pedestrian powered stacker were re-launched for TMHI markets.

Participants learned about functions and improvements of the new products and had the opportunity to try them out for future sales activities.



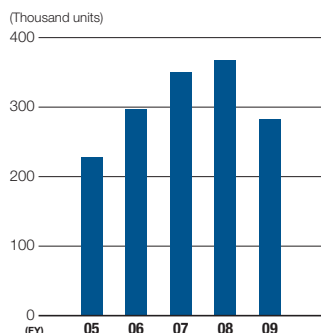
# Vehicle

## Top-Level QCD among Toyota Group Automobile Body Manufacturers

Toyota Industries assembles compact and midsize automobiles of Toyota Motor Corporation (TMC). We currently manufacture the Vitz (Yaris outside Japan), the RAV4 for overseas markets and the Mark X ZiO for the Japanese market.

Toyota Industries' Vehicle Business boasts top-level quality, cost and delivery (QCD) among automobile body manufacturers in the Toyota Group. Other strengths include a flexible production structure such as highly acclaimed production preparation in a short period of time.

### Vehicle Production



### Further Raising QCD

To the present, Toyota Industries strives to enhance production efficiency and quality improvements based on the Toyota Production System (TPS). Consequently, we have received the Superior Quality Performance Award numerous times from TMC in recognition of our outstanding achievements. We will further raise QCD by continuing to carry out improvement activities together with all departments of the Vehicle Business, including non-manufacturing departments.

### Vehicles

### Participating in the Planning and Development of Mark X ZiO Special-Edition Models

While assembling the Mark X ZiO, Toyota Industries also participated in the planning and development of two special-edition Mark X ZiO models: the Mark X ZiO Black Pearl Limited (August 2008 to January 2009) and the Mark X ZiO Aerial (from February 2009).

The Mark X ZiO Black Pearl Limited's entire exterior is adorned with black pearl-tone decorative patterns for an external appearance that radiates a mysterious, sophisticated aura. Meanwhile, the Mark X ZiO Aerial projects a sporty image by incorporating specialized aeroparts such as the front grille, front bumper and side mudguards in addition to customized seat upholstery.

### Initiatives for Realizing Lightweight Car Bodies

Toyota Industries is progressing with the development of plastic glazing, which is highly effective in helping to realize lightweight vehicles.

Plastic glazing uses the raw material polycarbonate, which has approximately half the specific gravity of glass. The use of plastic glazing for a panorama roof enables the weight of a vehicle to be reduced by approximately 9kg compared with when using glass. Lowering the weight of automobile bodies in this manner provides a host of benefits that include reducing CO<sub>2</sub> and other substances of concern that place a load on the environment. Moreover, realizing lighter weights for the upper part of car bodies enables a low center of gravity and enhanced driving performance. Additionally, developing plastic glazing, which possesses a variety of potentials, allows for new styling proposals not possible when using the traditional combination of glass and steel sheet, a benefit that we expect will make an important contribution to the creation of future-generation vehicles.



Vitz (Yaris outside Japan)



RAV4



Mark X ZiO (Aerial)

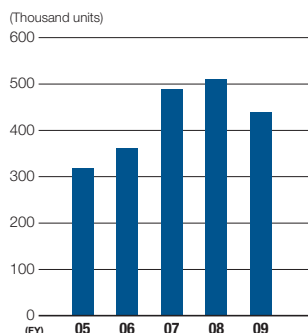


# Engine

## Business Development Centered on the Two Pillars of Clean Diesel Engines and Gasoline Engines

Toyota Industries' Engine Business manufactures both diesel and gasoline engines. Of particular note, in diesel engines we are collaborating with Toyota Motor Corporation (TMC) in the development of fuel-efficient, clean diesel engines, with our involvement spanning all phases of this process from planning and development to production. In gasoline engines, we operate a flexible production structure that deploys automatic guided vehicles to respond quickly to changes in model types and production volumes.

### Engine Production



### AD Diesel Engines—World's First to be Certified as Euro 5 Compliant

In November 2008, Toyota Industries commenced production of 2.0- and 2.2-liter, in-line 4-cylinder AD clean diesel engines developed jointly with TMC.

These engines clear Euro 5 emission standards, the European emission standards that set the acceptable limits for NOx emissions at 0.18g/km and at 0.005g/km for particulate matter. AD diesel engines have become the world's first to be certified as Euro 5 compliant.

Besides achieving cleaner emissions thanks to an approximately 10% reduction in CO<sub>2</sub> emissions compared with the previous model, these AD diesel engines also realize a sharp rise in fuel efficiency in addition to offering enhanced driving performance features such as improved low-speed torque.

Toyota Industries' AD diesel engines are fitted in the Corolla and RAV4 for the European market.

### Production of AR Gasoline Engines Begins

In December 2008, Toyota Industries began producing 2.5-liter, in-line 4-cylinder AR gasoline engines for TMC. AR engines are next-generation engines that are outstanding in terms of high performance, fuel efficiency and low emissions.

In gasoline engines, Toyota Industries boasts notable strengths in carrying out highly efficient production of multiple types of engines in small lots on the same production line. We have now broadened the scope of our Engine Business by starting production of AR gasoline engines fitted in a variety of mass-market vehicles such as the RAV4 for overseas markets.

### Commencing Production of MZ Gasoline Engines

Toyota Industries began producing 3.3-liter, V6 MZ gasoline engines for TMC in December 2008. These engines are being installed in such models as the Highlander Hybrid and the Harrier Hybrid.

### Starting Production of Materials Handling Equipment Engines that Comply with Act on Regulation, Etc. of Emissions from Non-Road Special Motor Vehicles

In August 2008, we began producing the 1DZ-III diesel engines developed by Toyota Industries for the GENE internal-combustion counterbalanced lift truck and for skid steer loaders. This new diesel engine complies with Japan's Act on Regulation, Etc. of Emissions from Non-Road Special Motor Vehicles.

This is just one example illustrating that Toyota Industries significantly enhances the appeal of its engines by developing models matched to the characteristics of each type of our materials handling equipment.

### Expanding Our Role as an Engine Manufacturer

As one choice for powering vehicles to realize a low-carbon society, diesel engines are enjoying increasing acclaim thanks to their enhanced fuel economy compared with gasoline engines as well as lower emissions.

Through developing and producing diesel engines, together with the production of gasoline and industrial-use engines, Toyota Industries will strive to expand its role as an engine manufacturer.

### Engines



AD diesel engine



1DZ-III diesel engine



AR gasoline engine



MZ gasoline engine





# Car Air-Conditioning Compressor

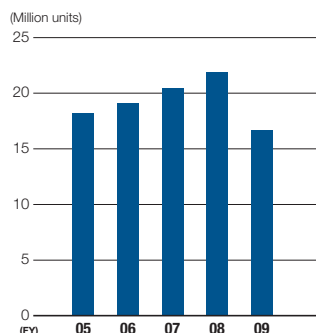
Outstanding Technologies and Superb Quality Have Earned Us the Highest Level of Trust from Automakers Worldwide

Toyota Industries' car air-conditioning compressors achieve world-class quality in terms of reliability at high operating speeds and quiet operation in addition to such environmental-related performance features as fuel efficiency, compactness and weight reduction.

We offer a wide range of variable-displacement compressors that suitably control cooling in accordance with the temperatures inside and outside the vehicle and the state of the vehicle's engine in addition to our line of compact, lightweight fixed-displacement compressors. Both types of compressors have been extensively adopted by leading-name Japanese and overseas automakers and command the global No. 1\* share in terms of sales volume.

\*Survey by Toyota Industries Corporation

## Compressor Sales



Toyota Industries has already integrated inverters into the ES27 compressor fitted in the Lexus RX450h and into the ES34 compressor fitted in the Lexus LS600h. In this manner, Toyota Industries is expanding its series of electric compressors ranging from compact to large-class vehicles, thereby offering a line of electric compressors that can be fitted in a diverse range of vehicles.

All of the aforementioned compressors are fully electrically driven and integrate a built-in motor that drives the compressor. Therefore, these compressors allow the air conditioner to be operated even when the hybrid vehicle's engine is stopped, thus realizing an ideal balance between fuel efficiency and comfort.

## An Industry-Leading Company

Toyota Industries' Car Air-Conditioning Compressor Business has remained the industry leader by continually deploying its unique technological capabilities to develop new products ahead of competitors.

While striving to raise quality, we will maintain our commitment to developing new car air-conditioning compressors that respond quickly and accurately to the needs of customers worldwide.

## Responding to Changes in Business Environment

In response to the decrease in the production volume of car air-conditioning compressors accompanied by the automobile market contraction, we are streamlining the structure, including manufacturing equipment and personnel, at respective manufacturing sites around the world in an effort to improve profitability.

By utilizing internally developed and fabricated production equipment, we strive to accumulate technology and know-how while at the same time carrying out high-quality, efficient manufacturing operations. This versatile equipment also enables efficient capital investment.

In product development, we have been involved in the development of car air-conditioning compressors not only for internal-combustion vehicles but also for electric vehicles from an early stage. In particular, our electric compressors for hybrid vehicles, for which demand is expected to grow substantially, have already been installed in a lineup of TOYOTA hybrid vehicles, including the Prius.

We will further strengthen our product appeal and strive to continue leading the industry in the field of electric compressors as well.

## Development of the ES14 Electric Compressor for the Latest Prius

Toyota Industries developed the ES14 electric car air-conditioning compressor for the new Prius launched in May 2009. By realizing approximately 20% reductions in both cubic volume and weight, the new ES14 is more compact and lighter than the predecessor ES18 compressor.

As another noteworthy technical achievement, we have succeeded in integrating an inverter that previously required installation in a separate location into a car air-conditioning compressor, thus enabling a dramatic enhancement in the mountability of compressors. This inverter was developed by Toyota Industries' Electronics Division.

## Compressors



**ES14 electric compressor**  
(Scroll type)



**ES27 electric compressor**  
(Scroll type)



**ES34 electric compressor**  
(Scroll type)



**10S17 compressor**  
(Swash-plate fixed-displacement type)



**7SBU16 compressor**  
(Swash-plate internally controlled variable-displacement type)



**7SEU17 compressor**  
(Swash-plate externally controlled, clutchless variable-displacement type)

Note: Photos of cross sections of products are used.

# Car Electronics

## Components and Devices that Support Ongoing Advances in Hybrid Vehicles

Toyota Industries develops and manufactures an assortment of electronic components and devices for automobiles. Our development and manufacturing capabilities have been cultivated through our power electronics circuit technologies and electric drive system.

### Development of a PCU Cooling Device for the New Prius

Based on power electronics technology applied in the development of electric lift trucks, we undertook in-house production of electronic components from each business division and have accumulated a vast array of technologies while carrying out development and manufacture of power source devices for hybrid vehicles.

Previously, our development activities in car electronics have been focused on such auxiliary power source devices as DC-DC converters. Recently, however, we developed a cooling device for the power control unit (PCU), which is a core component for hybrid vehicles and is installed in the new Prius launched in May 2009.

The PCU raises the voltage of the hybrid car battery and converts the direct current into an alternating current using an inverter to drive the motor of the hybrid vehicle. Previously, controlling the heat of the power semiconductor devices that compose the PCU was a major technical issue. By adopting a direct-cooling method utilizing our in-house technologies, however, Toyota Industries supported the realization of a compact PCU that lowers the cooling device's thermal resistance and significantly improves cooling performance. This miniaturization technology has won high acclaim, and in recognition of this achievement, Toyota Industries was presented with the fiscal 2009 Project Award (Technology Category) from Toyota Motor Corporation.

In addition to this cooling device, we manufacture reactors that raise the voltage of batteries and cases that store component parts.

### DC-DC Converter Developed for the Latest Prius

We have developed a DC-DC converter for the latest Prius launched in May 2009. This new converter converts the high-voltage direct current of the main battery to a lower voltage to charge the auxiliary battery and supply power to the lights, wipers, horn and other in-car devices. After our converters were installed in the first-generation Prius, we have steadily expanded our series of DC-DC converters, which were subsequently chosen for the Camry Hybrid and the second-generation and new third-generation Prius.

### Newly Developed DC-DC Converter for Electric Power Steering on the Lexus RX Hybrid

The needs for further fuel efficiency have spurred an ongoing transition from hydraulic power steering to electric power steering in vehicles. In responding to this trend, Toyota Industries has developed and manufactured a DC-DC converter, which converts the voltage of the battery to the voltage of power steering. This DC-DC converter is installed in the Toyota Harrier, Lexus LS460 and the Lexus LS600h. Most recently, our new high-power DC-DC converter has been installed in the Lexus RX450h introduced in April 2009.

### 100W DC-AC Inverter Developed for the New Alphard and Other Vehicles

Toyota Industries has developed a new 100W DC-AC inverter for vehicles including the new Alphard, which was released in May 2008. This inverter converts the 12V direct current of the auxiliary battery into a 100V alternating current and enables the use of maximum 100W home electric appliances in automobiles. Compared with previous products, this new inverter is approximately 36% more compact and 33% more lightweight. Moreover, the inverter significantly reduces the use of substances of concern.

Our lineup of DC-AC inverters ranges from 100W to 1,500W types, which are installed in a wide variety of vehicles.

### Toward the Realization of a Low-Carbon Society

As we focus on further advances in hybrid vehicles, we are carrying out continuous quality-improvement activities, while cooperating with other business divisions to create technologies for compact, more lightweight and low-cost components and devices. To realize a low-carbon society, we are developing products for electric vehicles and plug-in hybrid vehicles, which can be recharged using household power sources. In addition, we are making efforts to build a recharging system including an infrastructure.

#### Car Electronics Devices



PCU direct cooling device for the new Prius



DC-DC converter for the new Prius



DC-DC converter for the new Lexus RX Hybrid



100W DC-AC inverter

# Logistics

## Proposing Efficient Logistics Services Utilizing Our Know-How Cultivated in Manufacturing

Toyota Industries' Logistics Business is composed of three business pillars: planning, design and operation of distribution centers, high value-added services and distribution of automotive parts. High value-added services are provided through two subsidiaries, Asahi Security Co., Ltd. (Asahi Security) and Wanbishi Archives Co., Ltd. (Wanbishi Archives), while the distribution of automotive parts is offered via the Taikoh Transportation Group.

Toyota Industries foresees a rising need for efficient, high-quality logistics and will strive to meet the expectations of numerous customers by making proposals for logistics services that eliminate waste based on the Toyota Production System (TPS).

### Planning, Design and Operation of Distribution Centers

Serving as the core of these operations, the Advanced Logistics Division and Advanced Logistics Solutions Co., Ltd. (ALSO), a wholly owned subsidiary, make proposals for logistics plans and operate distribution centers for corporate customers. To the present, we have provided services to customers in a variety of sectors, including pharmaceutical companies, food wholesalers and supermarkets. We make every effort to go beyond merely providing consigned logistics services. Instead, we work to increase the overall efficiency of logistics by identifying and solving new problems from customers' viewpoints as we implement logistics solutions.

### High Value-Added Services

Asahi Security meets the needs of customers in the retail and service sectors by engaging in the equipment security business and providing cash management outsourcing services such as cash collection and delivery and cash proceeds management services. As another indispensable, high value-added service, Wanbishi Archives provides sophisticated risk-related services that encompass storing, managing, collecting, delivering and confidentially carrying out data destruction for government agencies and companies and providing data backup in the event of disasters.



Asahi Security's cash collection and delivery and cash proceeds management services



Wanbishi Archives' data storage, management, collection and delivery services

### Distribution of Automotive Parts

The Taikoh Transportation Group undertakes consigned transportation for numerous automotive parts manufacturers. These parts are collected according to each delivery destination and



Taikoh Transportation's land transportation services

sorted onto pallets, thereby assuring that automakers are supplied with "what is needed, when it is needed, and in the amount needed." Through cooperation with Toyota Motor Corporation, Taikoh Transportation pioneered the completion of the industry's first automotive parts logistics system consisting of relay (intermediate) logistic bases, which supports the efficient production of automakers through logistics.

### Helping Reduce Customers' Total Logistics Costs

Toyota Industries will continue responding to customer needs for reducing total logistics costs and improving logistics by drawing on its extensive expertise gained through the manufacture and sale of lift trucks, automated storage and retrieval systems and other materials handling equipment as well as by utilizing our TPS know-how cultivated at manufacturing sites.

#### Topics

#### Expanding the Use of Rail Transport of Completed Lift Trucks

In 2002, Toyota Industries became the first lift truck manufacturer to use rail transport for shipping completed lift trucks. To the present, we have shifted from sea to rail transport for our under-2-ton, small lift trucks. This shift gained further momentum in December 2008 when we commenced rail transport for shipping 2- to 3-ton, mid-sized lift trucks deploying 31-foot containers, as we made strides toward further reducing the environmental load from our logistics and enhancing logistics efficiency.

Our switchover to rail transport yields a host of benefits, chief among these, an approximately 40% reduction in CO<sub>2</sub> per lift truck shipped as well as a maximum 8-day reduction in lead times.

Looking ahead, we intend to further expand our use of rail transport and work to reduce CO<sub>2</sub> emissions and delivery times.

#### Asahi Security Begins Operating the Shin-Misato Center

In May 2009, Asahi Security began operating its new Shin-Misato Center in Saitama Prefecture as a center for its mainstay business of cash collection and delivery services for the retail industry.

The Kanto area, which includes Tokyo, accounts for approximately 50% of sales generated in our cash collection and delivery services for the retail industry, and we foresee high growth rates for these services in this area. Easily accessible from both the Joban and Tohoku expressways, the Shin-Misato Center will allow us to raise our level of customer services in the growing northern Kanto market area, and we anticipate this will make an important contribution to our future business results.

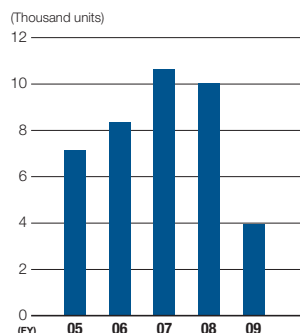


# Textile Machinery

## Contributing to the Global Textile Industry through Our Technologies and Ingenuity

With a history dating back to the invention of an automatic loom (weaving machine) by Toyota Industries founder Sakichi Toyoda, the Textile Machinery Business is a world leader in the textile industry backed by an integrated structure that encompasses development, production, sales and service. Toyota Industries has consistently drawn on its technological capabilities honed throughout its long history and its tireless application of ingenuity to offer textile machinery that responds to the needs of customers. We operate a global service network consisting of 11 bases and an outstanding after-sales service structure to assist customers worldwide in raising productivity and quality.

### Air-Jet Loom Sales



### Supported by a Wide-Ranging Product Lineup and a Global Supply Structure

Our textile machinery can be generally divided into two categories, namely, spinning machinery that spins bundles of fibers from cotton into yarns and weaving machinery for weaving yarns into fabric.

The Spinning Machinery Business meets a broad range of customer needs by offering an extensive lineup of spinning machinery, including ring spinning frames and roving frames capable of both providing superior productivity and spinning high-quality yarns.

Overseas, Kirloskar Toyoda Textile Machinery Pvt. Ltd. (KTTM), our subsidiary in India, manufactures and supplies ring spinning frames, primarily for the local market, and serves as an important part of our global product supply structure. In fiscal 2009, we began sharing with KTTM a new technology developed by the Kariya Plant for spinning high-quality yarns with minimal fuzz. The sharing of this technology significantly enhances our ability to respond to the needs of the local market for high-grade yarns.

The Weaving Machinery Business has commanded the world's No. 1\* share in unit sales for its mainstay air-jet looms for 11 consecutive years since 1997. However, in fiscal 2009 unit sales of air-jet looms experienced an unavoidable sharp decline due to the severe impact of the "once-in-a-century" global recession. Particularly noteworthy, sales in China, the largest market for these looms, were adversely affected by a combination of factors that included a decline in exports of textile products to the United States in addition to the Chinese government's revision of the tax system and credit-tightening policies. Nonetheless, there are hopes that tax refunds implemented at the beginning of 2009, combined with economic-stimulus measures, will spark a quick recovery for air-jet looms in China.

\*Statistics from the International Textile Manufacturers Federation (ITMF)

### Aiming to Be Global No. 1 in Textile Machinery

Toyota Industries expects that the volume of textile consumption will increase over the medium and long terms in line with a rise in the world's

population. In response, we will work to raise the productivity and operability of our textile machinery. For air-jet looms, in particular, we will pursue technologies for weaving high value-added fabrics while raising environmental-related performance such as energy-saving and low-noise operation.

On the sales front, in addition to focusing on China, we will actively cultivate new markets such as Russia and central Asian countries. We will also enhance our service capabilities by strengthening training for local staff at service centers in China, Indonesia and other countries to offer highly focused after-sales service while also carrying out Internet sales of spare parts. By taking these measures, we will respond to customer demands and aim for the global No. 1 position in textile machinery.

### Topics

In 2008, Toyota Industries exhibited its textile machinery at international trade fairs held in China and India, the world's two largest markets for this machinery. Toyota Industries' booths featured the largest number of air-jet looms and other products on display at both trade fairs and appealed our cutting-edge technologies to numerous visitors. Demonstrations of producing high value-added fabrics such as wool and Jacquard design towels as well as high-quality yarn attracted visitors from around the world.

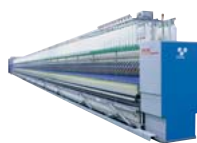


ITMA ASIA + CITME 2008  
held in July in Shanghai, China

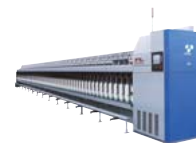


INDIA ITME 2008  
held in November in Bangalore, India

### Spinning Machinery



RX240 series  
ring spinning frame



FL200 roving frame

### Weaving Machinery



JAT710 air-jet loom