

Quality

120%

Aiming for 120% product quality



Material Issues

- Assuring outstanding product quality

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Aiming to Bring Reassurance and Satisfaction to Customers

“We have to aim for 120% product quality. If 99% of the products we make are perfect, that would seem like a pretty good record. However, the customers who become the owners of the remaining 1% will surely consider their products 100% defective. It is unacceptable that even one customer in a thousand – even one customer in ten thousand – should receive a defective product. That’s why we have to aim for 120%.” These words of founder Soichiro Honda define the company’s fundamental approach to quality, or more specifically, what it means to strive to be a company society wants to exist. Determined to meet or exceed the expectations of customers, Honda is taking new initiatives to reach high product quality standards.

To strengthen customer trust by offering products founded on safety and offering a new level of outstanding quality, Honda has created a quality cycle that continuously enhances quality at every stage encompassing design, development, production, sales and after-sales service.

In order to realize the basic principles of “Respect for the Individual” and “The Three Joys” (the joy of buying, the joy of selling, the joy of creating), Honda has stated that being the number one in customer satisfaction in all points of contact is a primary objective of activities. Honda works in partnership with dealers to increase customer satisfaction to allow them to continue handling products with confidence at every stage, from purchase to after-sales service, ensuring that a high level of satisfaction is provided to customers at all times.

Offering a New Level of Outstanding Quality

Over the years, Honda has implemented different activities aimed at realizing products that offer a new level of outstanding quality.

Meanwhile, the industry is heading toward an unprecedented turning point concerning response to the environment, safety and intelligence.

Honda seeks to create new value through open innovation, with examples including motorization of the powertrain, accelerating introduction of driver assistance technology to eliminate traffic accidents and teaming up with other companies, including from other industries, to challenge new forms of mobility that incorporate the Internet of Things (IoT).

Moving ahead, Honda aims to reduce trouble at all points of customer contact alongside evolution in mobility and living in addition to ensuring the utmost quality in products and services provided to customers. The pursuit of quality in each domain allows the evolution of activities that realize a new level of outstanding quality.



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Quality Management System and Quality Enhancement Promotion System

Global Honda Quality Standard (G-HQS) Aimed at Increasing Quality of Honda Brand Products

As Honda's production and parts and materials sourcing expand globally, a shared global quality management system is essential to ensure that all Honda facilities continue to generate 120% product quality. G-HQS established in April 2005 serves as the foundation of this.

G-HQS is a set of fundamental standards supporting quality assurance and improvement activities in all domains based on Honda's Quality Cycle. The aim is to increase the quality of Honda brand products manufactured and sold around the world. Each site complies with G-HQS to enable a uniform quality assurance system across the board and contribute to quality assurance not only in production activities but also in logistics and services.

Honda separates functions such as design/development, manufacturing, sales/service and quality into global and regional, and clearly defines roles and responsibilities when conducting activities to enhance and improve quality in accordance with Honda's Quality Cycle. With G-HQS, goals and regulations concerning quality assurance activities for each function are stipulated globally. The means for realizing these goals and requirements are codified for each region in line with local characteristics. These means are conceived of and codified by each region independently, which enhances awareness of quality improvement and leads to the personal growth of local quality managers. Based on ISO9001* criteria to which Honda production facilities in Japan and around the world have been or are to be certified, G-HQS represents the accumulation of knowledge Honda has gathered independently in producing quality products and preventing previous issues from recurring. It will continue to conform to ISO certification standards.

As of the end of March 2018, 61 of the 67 Honda facilities had acquired ISO9001 certification.

Global Meeting Structure

In order to ensure the strengthening of quality under this quality management system, Honda sets challenges based on quality targets established in company-wide policy, which are then modified to reflect the challenges found in different regions with countermeasures formulated for them. The management of this initiative and information-sharing are conducted regularly at the Global Quality-related Meetings, which include the Global Automobile Quality Meeting, chaired by the Chief Quality Officer (CQO) and attended by persons responsible for departments involved in quality from the headquarters and regions. Each of the Honda businesses, i.e., Automobile, Motorcycle and Power Products, holds its own Global Quality-related Meetings.

In the area of customer service, we have devised an action policy focused on each customer so that we can create value through service and provide a feeling of joy in continuing to use Honda products. Persons responsible for departments involved in quality from the headquarters and regions hold joint Global Aftersales Business Meetings to share this policy and measures globally. Productive measures and initiatives shared at the meetings are set as global benchmark levels to enable the provision of higher quality services on-site.

Global meeting structure

Meeting structure	Business	Meeting name	Times/year
Quality related	Motorcycle	Global Production Strategy Conference	2
		Global Automobile Quality Meeting	3
	Automobile	Global Chief Inspecting Engineer (CIE) Meeting	1
Aftersales business	Power Products	Power Product CIE Meeting	1
	Motorcycle	Global Aftersales Business Meeting	2
	Automobile		
	Power Products		



Global Automobile Quality Meeting



Power Product CIE Meeting

* An international quality control and quality assurance standard set by the International Organization for Standardization (ISO)

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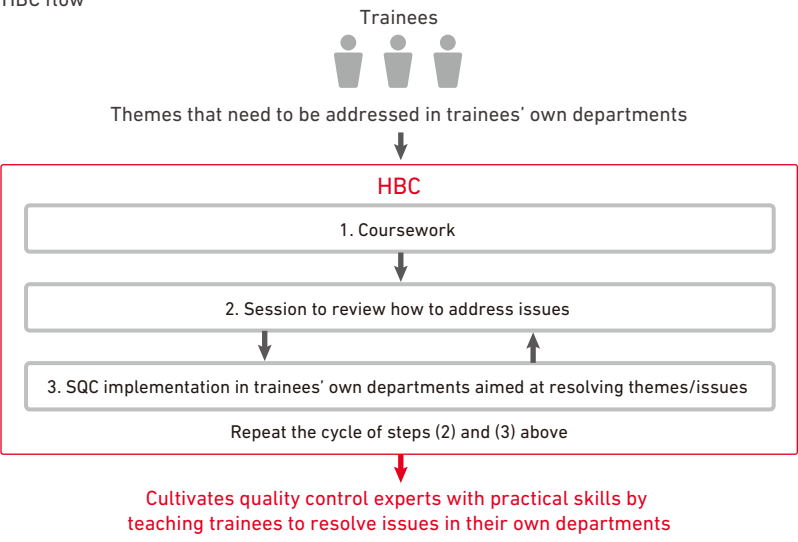
Quality Management Education

Honda offers quality management training based on in-house qualifications and the level of quality control responsibilities with the aim of improving associates' quality assurance skills.

In Japan, Honda offers a training curriculum with four courses divided into basic training and specialized training. As part of this, the Honda QC Basic Course (HBC) is open not only to Honda associates but also to suppliers and focuses on training experts in all aspects of Honda quality management.

Outside Japan, the QC Junior (QC J) Course and the QC Foreman (QC F) Course are offered as basic training.

HBC flow



Best Quality Award

The CQO gave out awards for themes that generate outstanding results through quality-related measures based on policy management with the aim of elevating quality awareness. Divisions in line for recognition include development, production, production technology, purchasing, certification, quality, parts/service and IT. Awards for divisions overseas were introduced in 2012, with the CQO presenting awards on-site. Over the six-year period from FY2013 to FY2018, a total of 49 sites were visited around the world enabling direct communication with associates.

Training curricula content

Category	Course name	Course content	Period
Basic training	QC Junior (QC J) Course	Targets associates six months to one year after joining Honda to learn the basics of quality control techniques.	1 day
	QC Foreman (QC F) Course	Targets associates engaged in production and quality duties to learn the quality control techniques and approaches required for quality assurance activities.	Total of 2 days
Specialized training	Statistical Quality Control (SQC) Course	Targets associates whose principal responsibility is quality control and quality improvement activities to learn professional quality control techniques and approaches.	Total of 2 days
	Honda QC Basic Course (HBC)	Targets associates who are responsible for the core of quality control activities to learn skills that allow them to resolve difficult problems/issues with the aim of becoming quality control experts.	Total of 22 days

*SQC Course and HBC are held in Japan.



Providing education on quality control



The CQO visits sites around the world to give awards face-to-face.



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Honda's Quality Cycle

Honda has created the Honda Quality Cycle that continuously enhances quality at every stage, encompassing design, development, production, sales and after-sales service in order to realize products offering a new level of outstanding quality.

This initiative aims to achieve the highest quality through the creation of drawings designed to facilitate manufacturing, as well as develop manufacturing control techniques that limit process variability, by applying and reflecting design and development expertise at the production preparation and production (mass-production) stages.



Honda's Quality Cycle



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Design/Development and Production (Mass Production)

To ensure high quality, Honda conducts comprehensive quality assurance activities from the dual perspectives of design and manufacturing. For example, drawings for objects that will be machine processed include finished dimensions. Even when the same worker uses the same materials, equipment and procedures to produce an item to the dimensions specified on the relevant drawings as part of a given production process, there are inevitably small variations in the item's finished dimensions.

To address this fact, R&D departments consider not only function and performance but also the ease of manufacture and minimization of variations when designing drawings. For their part, production departments implement manufacturing controls to keep variability within applicable standards based on drawings and develop production processes so that all workers can continue to achieve a consistent level of quality.

I. Design/Development

Assuring Quality through Drawings

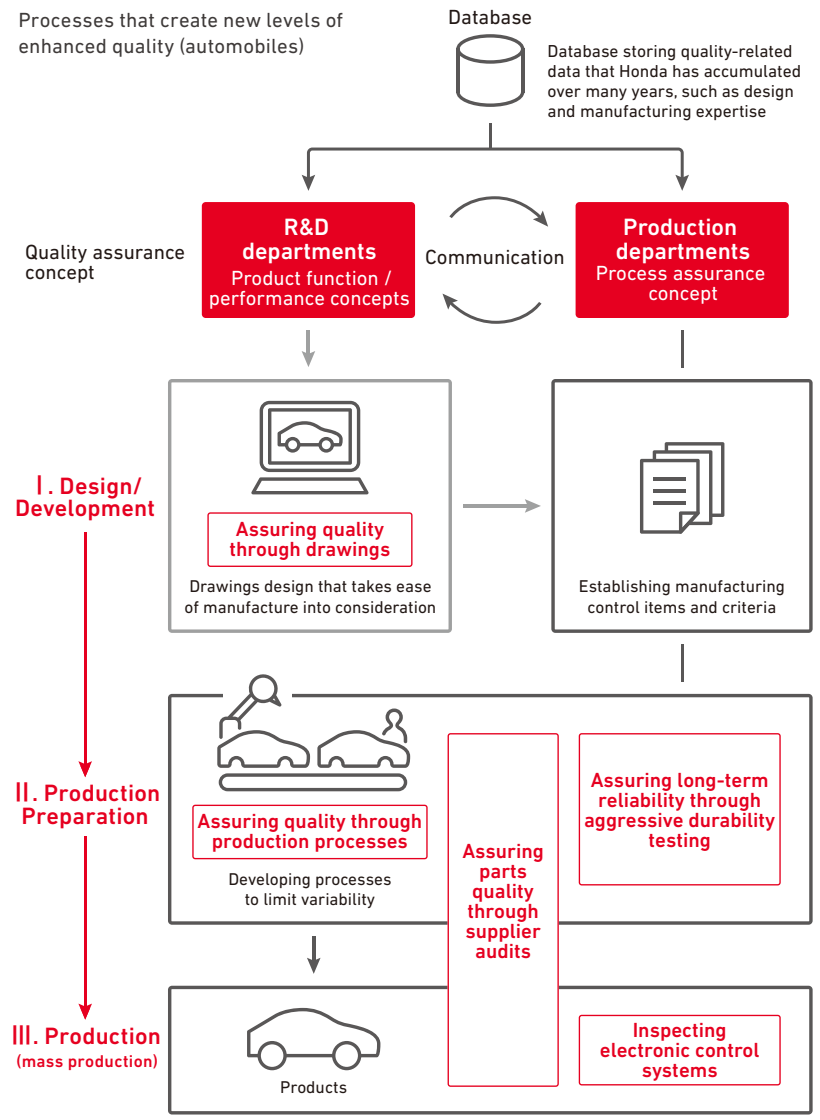
Honda's R&D departments create drawings that take ease of manufacture into consideration in order to limit process variability and prevent human error during the manufacturing process. These drawings serve as the basis of our quality assurance efforts.

Specifically, engineers utilize a database of measures and techniques previously used to prevent market quality issues and other information as they communicate closely with manufacturing departments during the initial development stage. Product function, performance and quality assurance initiatives are committed to writing and are shared to ensure efforts are coordinated with production departments' process assurance activities and to coordinate quality assurance initiatives.

II. Production Preparation

Assuring Quality through Production Processes

Besides design drawings, Honda's production departments establish manufacturing control items and criteria for each part, process and operation to prevent product quality issues. Engineers use these manufacturing control items and criteria to verify manufacturing variability as they work to prevent quality issues. Furthermore, Honda develops processes that limit variability by soliciting suggestions for enhancement from the sites where work is actually performed and determining manufacturing control methods for each process.



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Assuring Parts Quality through Supplier Audits

Assuring the quality of procured parts is an important element in delivering high-quality products.

Honda visits its suppliers' manufacturing facilities to conduct quality audits based on the "Three Reality Principle," which emphasizes "going to the actual place," "knowing the actual situation" and "being realistic."

These audit activities are conducted for both the production preparation and mass-production stages of supplier operations. Experts in the development and production of individual parts visit manufacturing facilities and conduct audits of suppliers' quality systems and their implementation.

Honda then works to improve part quality through activities that emphasize communication with suppliers, for example, by sharing audit results and cooperating to identify opportunities for quality improvement.

Assuring Long-Term Reliability through Rigorous Durability Testing

Honda subjects new and redesigned models to a rigorous regimen of long-distance durability testing before beginning mass production to verify that there are no quality issues.

Honda also disassembles vehicles used in the test drives into every single part and verifies that there are no quality issues through a process consisting of several thousand checks. By accumulating data on the issues discovered through these test drives and detailed inspections as well as associated countermeasures, the Company is able to ensure a high level of quality and reliability.



Verification of parts following durability testing

III. Production (Mass Production)



Using Line End Tester (LET) System to Inspect Electronic Control Systems

Use of electronic control systems in vehicles has grown dramatically in recent years as part of an effort to achieve more environmentally friendly designs and improve driver and passenger convenience and comfort. This has created a need for efficient inspection methods to assure the quality of these components.

To this end, Honda has installed Line End Tester (LET), an inspection and diagnostic system developed in-house, at production plants in Japan and overseas.

Although the LET system was initially deployed to perform diagnostics of emissions cleaning systems and parts in order to comply with U.S. emissions regulations, Honda extended the capabilities of the device to accommodate the recent evolution of electronic control systems, allowing its use in shipping quality inspections of all electronic control systems, from switches and instruments to air conditioner, audio, engine and transmission operations. Thanks to these innovations, inspections that have traditionally depended on the human senses of smell, sight and hearing can now be performed quantitatively through communications with electronic control components, dramatically increasing the precision and efficiency with which inspections can be conducted.

Honda is continuing to quantify shipping quality assurance for electronic control systems by working to implement further enhancements in the precision and efficiency of sensory inspections.



Inspection using LET system

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IV. Sales and Service

Honda has established Customer First Operations to realize optimal service operations in markets worldwide. The division has set the key objective of being “No.1 in customer satisfaction in all points of contact” based on a “customer-first” policy.

“No.1 in customer satisfaction in all points of contact” refers to the creation of an environment in which customers feel satisfied with Honda in each and every situation they come into contact with the Company. In addition to fulfilling customer expectations built up through past experience and information, the division aims to be No.1 in customer satisfaction by providing exciting experiences that exceed expectations.

To attain this goal, Customer First Operations will implement three activities, which are realizing a stress-free time for customers, creating new services and expanding businesses that support this platform. They are implementing basic activities to protect the customer so that regional dealers – Honda’s point of contact with customers – can address customer satisfaction enhancement more effectively and efficiently.

Honda Total Care

Honda is providing Honda Total Care in Japan as a membership service comprehensively supporting automobile lifestyles for car users and providing a sense of security.

Members can access information that is useful for car maintenance and management and make appointments for inspections via a dedicated Honda Total Care membership website. In addition, the newly established Honda Total Care Emergency Support Center is accessible with the touch of a button in case of an emergency as a part of the system that enhances customer convenience.

The Honda Total Care Emergency Support Center is a one-stop contact point for the members in trouble such as a road collision or vehicle breakdown. This service thereby relieves members from the burden and confusion of making various contacts to insurance companies and car dealers. The Center is in service 24 hours a day, seven days a week, and it makes smooth arrangements for roadside assistance for members in need and provides support for car operating instructions, among other services.

Honda has also entered into a business alliance with the Japan Automobile Federation (JAF), a first in the automotive industry, to provide the industry’s most expansive*1 roadside service as an optional service.

Honda aims to ensure the industry’s highest level of quality in customer response by strengthening the relationships with customers through these services.

Customer Relations Center

The Customer Relations Center in Japan has a very straightforward slogan: “For the customer.” Its mission is to handle inquiries from Honda customers politely, clearly and quickly, delivering the same high quality in Honda communications as is found in Honda products. The center also responds to survey requests from the Japanese government

and inquiries from consumer advocacy organizations.

The center receives feedback in the form of customer questions, suggestions, requests and complaints 365 days a year, and during FY2018 it processed 239,681 inquiries. To ensure that this valuable information is put to good use in Honda’s operations, the facility shares it in a timely manner with the company’s R&D, manufacturing, service and sales departments in compliance with laws and regulations as well as Honda’s own policies concerning the handling of personal information.



Sharing customer feedback during training at Kumamoto Factory

Customer Satisfaction Survey

Honda conducts a survey around the world on customer satisfaction related to service operations for customers who have received after-sales service from a dealer. In FY2018, the survey was conducted in 26 countries, including Japan and nations in North America, South America, Europe, Asia and Oceania, Africa and the Middle East. The survey method involved a design enabling minute measurements of satisfaction for each part of the service process at a dealer, with the survey findings used to provide guidelines for each dealer. While comparing these guidelines with quality-related initiatives at dealers, activities are being undertaken toward better service quality at all points of customer contact by implementing a plan-do-check-act (PDCA) cycle.

In addition, once a year we conduct a survey comparing Honda with other manufacturers and brands that are the benchmarks in each country, with the results used as a reference as we work to maintain and improve customer satisfaction at an industry-leading level. In FY2018, results exceeded benchmarks in 15 countries*2.



*1 Survey by Honda; as of December 2017
*2 Internal survey by Honda; as of March 2018

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V. Quality Information Collection/ Analysis and Quality Improvement

Honda has established a Quality Center to bring together the various components of our organization concerned with product market quality information to enhance the functions of "preventing quality issues" and "quickly detecting and resolving quality issues when they occur" on a global scale. The facility gathers quality-related data from dealers in Japan and overseas through service departments and customer consultation centers. Measures and policies for preventing quality issues are then developed based on the issues identified from this data and provided as feedback to design, production and the design/production sections for suppliers (parts procurement), among others.

From FY2017, Honda has undertaken restructuring of its organization that includes the integration of service sections and the quality assurance section of Automobile Operations to form Customer First Operations, thereby establishing a structure that enhances the link between service and quality assurance and further strengthens the flow of customer feedback.

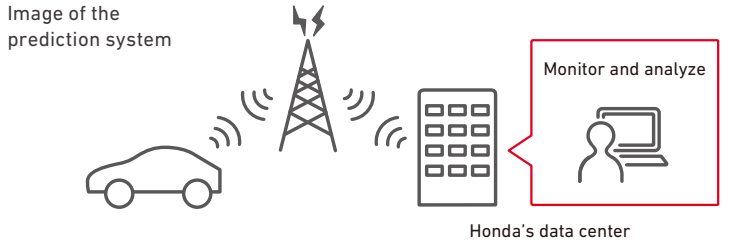
When a quality issue does occur, Honda moves quickly to resolve it, for example, by working closely with R&D and production departments to investigate and address the cause, assisting affected customers and taking action to prevent a recurrence.

Trial of Prediction system

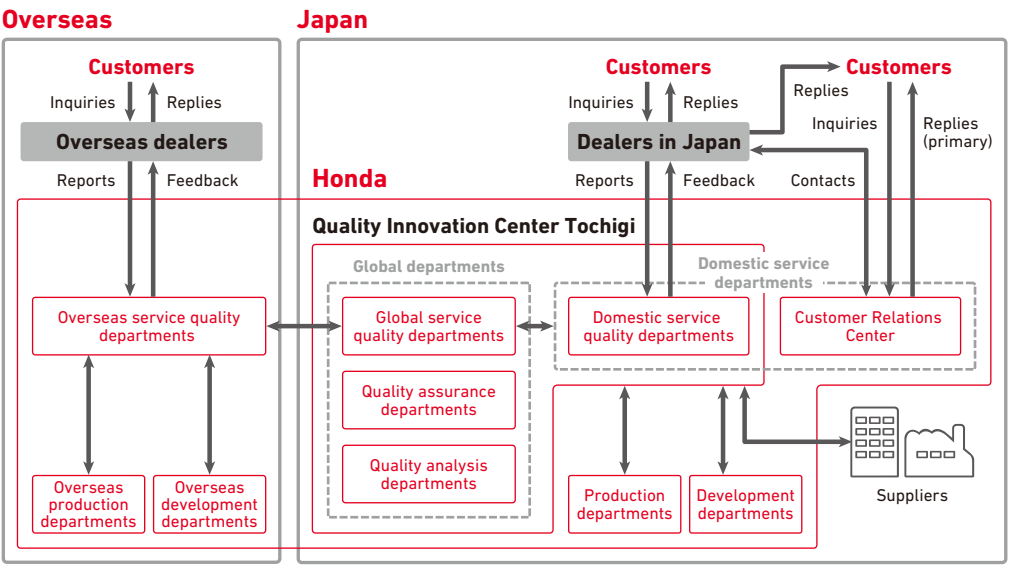
Honda believes in the necessity of a system to provide peace of mind to customers in preparation for new environmental automobiles such as fuel cell and electric vehicles.

With the system, automobile information is sent to Honda's data center using telematics technology and analyzed. Potential warning signs are identified from the result prior to any trouble occurring as a precautionary measure for customers.

Honda will continue developing the system to provide further peace of mind to customers.



Market quality enhancement system (automobiles)



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Quality Innovation Center Tochigi

The Center brings all the organizational components necessary to collate product quality data, analyze issues, consider countermeasures and provide quick and precise feedback to development and production departments together into a single facility.

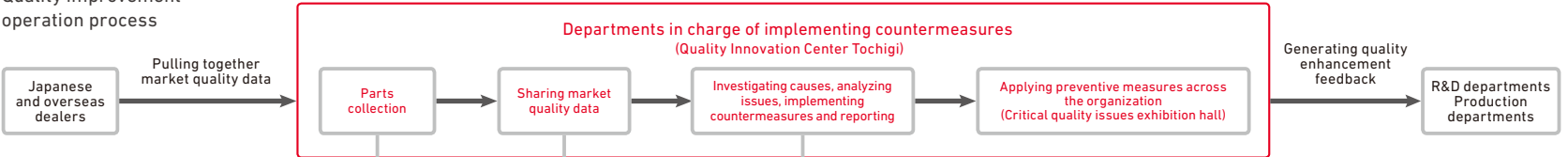
In particular, locating quality and service departments in a single facility allows for effective analysis and development of countermeasures thanks to the ability to share information quickly.

Quality Improvement Operation Process

Quality enhancement operations at Quality Innovation Center Tochigi, Japan, consist of pulling together market quality data and sharing information about collected parts and market quality issues. Personnel analyze collected parts, investigate causes and develop countermeasures and improvements in a timely manner.

Specialized teams with extensive product knowledge are able to obtain detailed data using a range of analytical equipment. The operational process is configured to facilitate objective and appropriate decision-making based on gathered data.

Quality improvement operation process




Parts collection

Parts collected from the market are classified by category and managed to facilitate quick analysis.



Sharing market quality information

Service, R&D and analysis departments gather and share information from the market.




Analyzing materials

Issues caused by materials are analyzed using the latest scientific equipment, including composition analysis and X-ray diffraction analysis systems.




Measuring part precision

Parts' dimensional precision is verified using 3D measurement and the latest roundness measurement equipment.



Testing engine functionality and performance

The functionality and performance of assembled engines are verified on a bench.




Bench environment test

Analyses are conducted in road environments found around the world, from low temperatures to under the scorching sun, to humid conditions, traffic jams and high speeds.



Exhaust gas and mode driving verification

The compliance of exhaust gas components with emissions regulations and proper system operation during mode driving are verified.



Bench vibration test

Actual vehicle vibrations are reproduced on a testing bench together with analyzing issues.



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Critical Quality Issues Exhibition Hall Presents Examples of Key Quality Issues

A critical quality issues exhibition hall was established at the Quality Innovation Center Tochigi in 2009 so as not to forget past experience with market quality issues and to make sure the lessons are passed on by displaying actual items and teaching about the issues.

The hall provides key examples of past market quality issues and targets Honda associates, suppliers, overseas distributors and service-related personnel. Around 1,500 people visit the hall annually for training or as part of a tour.

In particular, training for researchers designing and developing products is being expanded from new recruits and newly promoted managers to also include young associates in their fifth year with the Company and associates from Honda's overseas businesses in order to strengthen activities preventing people from forgetting past issues with market quality.



Rust on the body of a Honda Civic made in 1981



Cracked exhaust manifold of Honda Life mini-vehicle made in 1999



Training for members of an overseas factory

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Analysis in Partnership with Overseas Entities

Overseas production plants play a central role in conducting the same type of quality enhancement activities as Quality Innovation Center Tochigi.

When plants encounter a particularly difficult market quality issue and request assistance, the Center investigates and analyzes the issue and reports the results back to the overseas facility.



Quality Innovation Center Tochigi, Japan

Working with automotive production plants



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Handling of Quality Issues When They Occur

When Honda determines that an issue occurs with a product that requires market action, it quickly reports the issue to government authorities in accordance with individual countries' regulations and contacts owners by means of direct mail from dealers or by telephone to provide information about how they can receive free repairs. Associated information is also provided on Honda's website and through the news media as necessary.

A Global Quality Committee is quickly convened in accordance with G-HQS and decisions concerning market actions are made by its chairperson in consultation with overseas members, including experts from departments involved with quality issues who are capable of making objective decisions.

Number of Global Quality Committee meetings (FY2018)

Segment	Number of times
Automobiles	50
Motorcycles	16
Power Products	8
Total	74

<Airbag recalls>

The repeated recalls for the airbags have caused Honda customers great inconvenience and concern.

Honda has always placed top priority on customer safety and peace of mind and responded with this in mind.

In light of agreed upon revisions to the consent order between the National Highway Traffic Safety Administration (NHTSA) and Takata in May 2016, Honda has decided to replace serially all Takata ammonium-nitrate based driver and passenger front airbag inflators that do not contain desiccant.

Honda will continue to make its utmost efforts to ensure the sufficient supply of replacement inflators to customers and take other necessary measures as quickly as possible.

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Third-Party Evaluation

Honda's design and development, production, and sales and service departments are working together to win the top ranking in the Initial Quality Study (IQS) for automobiles conducted by J.D. Power, an independent evaluation organization, as an indicator of customer satisfaction, which constitutes the results of the quality cycle.

Results of the 2017 IQS for automobiles

J.D. Power Asia Pacific

Country	Brand	Ranking
U.S.A.	Honda	No.20
	Acura	No.19
Japan	Honda	No.2

Country	Segment	Model	Ranking
U.S.A.	Small Car	Fit	No.3
	Midsize Pickup	Ridgeline	No.3
Japan	Mini-vehicle	N-WGN	No.1
	Minivan	Freed	No.1
China	Midsize SUV	CR-V	No.1
	Midsize Upper	Accord	No.1
India	Midsize	City	No.1
	Premium Compact	Jazz	No.3
	Entry Midsize	Amaze	No.3
Thailand	Compact SUV	HR-V	No.1
		BR-V	No.3
	Entry Midsize	City	No.2
		Jazz	No.3
Midsize	Civic	No.2	

* Includes top three vehicles in major markets from January to December 2017

Sources:

- * J.D. Power and Associates 2017 U.S.
 - Initial Quality Study SM (based on responses from more than 77,515 owners who purchased or leased a new vehicle as surveyed from February to May 2017)
- * J.D. Power Asia Pacific 2017 Japan
 - Initial Quality Study SM (based on responses from more than 22,924 owners who purchased a new vehicle as surveyed from May to June 2017)
- * J.D. Power Asia Pacific 2017 China
 - Initial Quality Study SM (based on responses from more than 23,993 owners who purchased a new vehicle as surveyed from March to July 2017)
- * J.D. Power Asia Pacific 2017 India
 - Initial Quality Study SM (based on responses from more than 8,578 owners who purchased a new vehicle as surveyed from May to September 2017)
- * J.D. Power Asia Pacific 2017 Thailand
 - Initial Quality Study SM (based on responses from more than 4,866 owners who purchased a new vehicle as surveyed from May to September 2017)

