Information Square

Start of production of eco-friendly hydraulic excavators with ACERT™ new generation environment-oriented technology

Production has started of CAT® hydraulic excavators equipped with ACERT new generation environment-oriented technology unique to Caterpillar Akashi.

ACERT™ is an innovative technology using advanced combustion control for reducing the harmful substances such as NOx (nitrogen oxide) and PM (particulate matters) contained in engine exhausts. The lineup is being expanded in companies all over the world.

The “Noryoai,” an annual summer festival which attracts many visitors, including local residents, to the plant

“Noryoai” is a big festival held every summer. The plant is always crowded with many guests from the community. The festival opened with a performance by a wind band from a local junior high school. Popular comedians also performed mime and mannequin-comic dialogues on stage, making everyone laugh. Popular refreshment stands and a charity bazaar were also run by employees. “Noryoai” once again closed on a high note.

Tokyo Office
Administration / Marketing Dept.,
Kanagawa, Japan, Phone: +813 5542-0000

Segami Plant
Kanazawa, Japan, Phone: +813 5542-0000

List of Dealers

Access Information

Bus Service
• Take a bus for Funabashi or Hitachi at the bus platform #2 in the rotary on Shin-Shinagawa St, take exit #4, and go to #11 Shinagawa Station Exit, go across the Shuto Expressway, and get off at Shinagawa Station Exit, and go across the Shuto Expressway, about 10 minutes

Taxi Service
• About 10 minutes from Shinagawa Station Exit
• About 5 minutes from Shinagawa Station

CATERPILLAR
AKASHI PLANT
GUIDE

Caterpillar
http://www.cat.com/ja_JP.html

CAT® and its suppliers are the exclusive trademark owners of Caterpillar Inc.

Caterpillar is a registered trademark of Caterpillar Inc.
Advanced Product Quality

Half a century or so has passed since the Y35, the first hydraulic excavator in Japan, was developed. Highly regarded and loved by users everywhere, the hydraulic excavators produced by the Akashi Plant have always had features that have kept them one step ahead of the competition. Driving the resolve to improve hydraulic excavators is the craftsmanship and passion for creating new machines. From the Y35 to the REGA, these are hydraulic excavators built to global standards. From being a pioneer in the field of construction machinery in Japan, it has become a world leader in hydraulic excavators. Our products and tasks may change, but our aspirations remain the same.

History

We have a long history. Now there's a future to build.

The path to the Akashi Plant has followed the history of the evolution of hydraulic excavators. The Akashi Plant was founded as part of the Kobe Shipyard, Shin Mitsubishi Heavy Industries Ltd. (current Mitsubishi Heavy Industries Ltd.) for the exclusive production of construction machinery. The year after the plant was established, the Y35, the first hydraulic excavator was completed and appeared. The Y35 was acclaimed throughout Japan for its high capabilities, and the term "YUKO", origin of the "Y" in the product name, became synonymous with hydraulic excavators. We then entered a series of "accelerated machines" including the M5 series in 1972, in which Cutting-edge technology was combined with the knowhow gained from the Y series, and the REGA, the CAT hydraulic excavator 100 family with global specifications developed in 1982. We have now unveiled the new REGA series, where cutting-edge performance and product quality have been realized through "plant innovation" and advanced production systems, another milestone in the history of the Akashi Plant. The challenges of constantly exploring the possibilities for hydraulic excavators have never ended.

1960
- Started production of the 1st construction machinery plant of the Shin Mitsubishi Heavy Industries Ltd.

1961
- Started production of the Y35, the first hydraulic excavator in Japan.

1971
- Started operation of the 1st series, a new model based on the concept "Lightweight".

1986
- Established the Hydraulic Excavator Development Center (HEDC),

1987
- Merged with Carapilla Mitsubishi Ltd., and formed "Shin Carapilla Mitsubishi Ltd.";

1989
- Cumulative production amounted to 100,000 units.

1992
- Started production of the REGA, the CAT hydraulic excavator 100 family with global specifications.

1996
- Started production of the REGA A Series, obtained "ECO-100" certification, an international standard of product quality management for hydraulic excavators.

1998
- Worldwide sales of 500 units/ha excavators amounted to 100,000 units.

1999
- Obtained "ECO-100" certification, an international standard for environmental management.

2000
- Cumulative production amounted to 100,000 units.

2003
- Started production of the REGA E Series.

2005
- Started production of the "Twin Innovation" project, aimed at mini-refining production systems.

2008
- Cumulative production amounted to 150,000 units.

2011
- Changed company name to "Carapilla Mitsubishi Ltd.,

2014
- Started production of the CAT hydraulic excavator 5 series.

2015
- Cumulative production amounted to 150,000 units.

2016
- Y35 was registered in Essential Historical Material for Science and Technology.
Sophisticated hydraulic excavators are created in the most-advanced production environments.

The Akashi Plant has an integrated manufacturing system modeled for the production of hydraulic excavators. The plant manufactures main components, such as control valve core components and hydraulic systems, as well as fabricated structures. It accomplishes its task as a leading hydraulic excavator plant representing the Caterpillar Group, providing sophisticated products backed with a high level of reliability for our customers, we are undertaking “Plant Innovation”. This aimed at the realization of high manufacturing efficiency, flexibility and product quality. In particular this includes the creation of manufacturing systems for build-to-order production, optimized distribution through our supply, the establishment of feedback systems for product quality improvement with dealers and suppliers, the introduction of advanced manufacturing and product quality control equipment such as computer-controlled machine tools, measuring equipment, welding robots and automated transportation systems. Moreover, we have developed to integrate the whole plant into a single system in order to meet the wide-ranging needs of hydraulic excavator customers and to increase added value.

Components Shop

- Machining FMS
- Component assembly line
- Heat treatment area

This shop manufactures the core components of hydraulic control systems, including control valves, hoses, bearings, motors, and drivers. High-quality components produced here are sent to the Caterpillar Group’s hydraulic excavator manufacturing facilities around the world, supporting the strong CAT brand reliability.

Fabrication Shop

- Welding and machining line for large models
- Welding and machining FMS for small and medium-sized models
- Plate forming area

This shop manufactures the main fabricated structures and other hydraulic excavator components, including booms, swing frames and base frames. The latest sophisticated welding and machining equipment is used to produce strong structures. A large, working space is also utilized for high-productivity.

Hydraulic Excavator Development Center’s Building

Assembly Shop

- Hydraulic excavator assembly line
- Painting line
- Performance testing stand
- Shipping inspection area

This is the vehicle assembly shop. Components and structures from each of the various shops are used to assemble the vehicles. The finished manufacturing systems, superbaled models, and other advanced equipment provide customers with products in the shortest lead times. The specific designs of each customer are met, making them almost fully customized products.

Variety and diversity.
Hallmarks of products made in Akashi.

The hydraulic excavator lineup of the range of main products from the Akashi Plant is rapidly diversifying, increasing in terms of size and specification in order to meet market needs and customers’ requirements. We are currently manufacturing 136 standard models*, ranging in class from 1 to 30 tons. Based on the standard specifications, a variety of options can be freely selected by, for example, changing buckets to those for special applications – such as buckets for demolition, tree stump tearing and breaking, as well as mounting long arms (sticks) or wide crawlers, and selecting preferred seats or cab. We have more than 600 types of product, including those with export specifications.

*As of December 31, 2015
Components

It is an overstatement to say that the performance of hydraulic excavators is determined by the quality of control valves used for hydraulic control and operation, and the components used for the swing frame and swing bearing. Automation has been widely applied on the component manufacturing lines in our shop, resulting in high-quality products. The introduction of automatic inspection and quality control features on each line has resulted in both high-quality and labor savings.

Fabrication

Durability is critical for hydraulic excavators. Advanced welding techniques, testing and inspection procedures need to be carried out several times, in addition to machining on a micro level, in order to create durable bodies and structures, and ensure product quality. In our fabrication shop, NC machine tools with automated measuring features, 3D-FMS with arc welding robots, an advanced large-frame machining center, and a large structure line with the largest class of 3D measuring systems in Japan have been installed. Integrated manufacturing of all types of fabricated structures, from small to large models, is carried out at this plant.

Assembly

Even if the model or specifications vary by machine, the manufacturing process is the same, so it works for a single model. To meet the needs of customers who seek more diverse and multifunctional machines, the Aoki Plant installed systems optimized for the manufacturing of a wide variety of products in small quantities at an early stage. In the newly built 280-meter main assembly line, the handling of materials has been dramatically automated by organizing the automated facility to a component supply unit. Product-quality inspections are done for each process, ensuring products of the highest product made by workers who have the product knowledge and skills, and careful checking is carried out on the lines by examiners.

Paint

Our commitment to product quality covers painting. The painting of a swing frame is finished smoothly and an environment-friendly powder coating is used. Moreover, attention is paid to each detail. A constant finish is maintained by individual component painting before assembly.

Powder coating is used for large fabricated structures and a workpiece

Specification sheets on the component lines show the product's performance and product quality.
**Development**

The Hydraulic Excavator Development Center — creating future hydraulic excavator.

Hydraulic excavators distributed worldwide by the Caterpillar Group are developed at the Hydraulic Excavator Development Center (HEDC). In this center, global market information and operation data are comprehensively analyzed by top specialists from Japan and the US, and development concepts are planned. Design specifications are worked out by repeated introduction analyses and inspections by component tests using design tools and a vast amount of accumulated knowhow. Engineering drawings created using these processes are sent to each Caterpillar plant around the world, and the common design specifications used for manufacturing.

**Global Supply**

Akashi Plant quality and technology – the world is waiting.

70% of hydraulic excavators shipped from the Akashi plant are supplied to overseas markets. Areas supplied are growing, and now include countries in Asia, Oceania, Europe, the Middle East, Africa, and Central and South America, as well as North America, home to Caterpillar. The volume of exports grows steadily each year. The Akashi Plant also acts as a base supplying main components to plants overseas. In particular, the plant supplies all the swing frame needed by Caterpillar Group plants all over the world.

**Test & Evaluation**

Uncompromisingly severe proving ground.

"CAT" is a test of confidence. Only products backed up by top quality and performance can signify the label. Prior to shipping to worldwide markets, next-generation CAT hydraulic excavators must undergo various severe tests. Our vehicle proving ground offers uncompromisingly severe test conditions and is the best test site in the world for evaluating product quality. Only products for passing various uncompromising durability tests involving prolonged continuous operations including digging, bump travel, uphill run, and shaking, are approved as Caterpillar products for delivery to customers.

**Responsibility**

We never overlook our responsibilities with regard to quality and the environment.

The more products we produce, the greater our responsibilities with regard to product quality and the environment. This is a commitment. The Akashi plant gained ISO14001 certification, the international standard of quality control, for the manufacture of hydraulic excavators in 1998. We aim for constant improvement in the quality for excellent product quality, applying strict quality control systems from the raw material stage to the finished vehicle. We also obtained environmental conservation certification ISO14001 in 1999. We strive to reduce impacts on the environment from product manufacturing in the spirit of our environment-related policies. We also have a policy of green procurement and develop environmental-conscious products.

![Diagram](attachment:image.png)