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Development of Manufacturing Technology

The most important goal of the Fifth Mid-term Management Plan starting in April 2007 was “to advance our three major brands until they each become the top brands of their respective industries.” One of the biggest topics discussed for the evolution and development of the manufacturing industry is the development, startup, and introduction of new products in order to meet diversified market needs. The Japanese manufacturing industry is moving from “hollowing out”, a phenomenon where production bases were built abroad, to building up industry at home.

Our company’s manufacturing system addresses planning for new products and technology development by gathering engineering staff into a focused technology center. The manufacture of developed products is handled in two ways. Production bases that can meet the characteristics of mass production products are established abroad, while highly sophisticated products, high-mix low-volume products, and quick turn around products are handled by production bases within Japan. We expect that orders will continue to increase for Japan-made products such as servo motors, linear motors, and stepping motors for FA. Therefore, we have started the construction of a new factory “Kangawa Works” in order to concentrate the production of these products in a new base with the goal of becoming the Number 1 motor factory in the industry.

The most essential job of the manufacturing industry is to plan and develop technologies for new products that bring out a customer’s need for the product. When developing a planned new product, we often start from visionary new ideas that go beyond anything created previously, so it can be difficult at times to turn these visions into reality. Desktop inspection simulations are performed along with test evaluations and repeated through trial and error to reach these lofty goals. In the best case scenario, the new product can be realized according to plan and production is started up.

The main rules for company survival in the modern age are to constantly challenge oneself for bold new technology and release new products one after another. The underlying strength of a company lies in its speed and the quality and quantity of new developments. And what is the driving force behind this strength? The answer is “people”. It is important to construct a system that draws the largest possible amount of skill and techniques from these “people” and uses it to connect the development of new products into the design of industrial operations or development of new facilities.

to Become the Industry's Top Brand

When pondering how to build new techniques or skills, remember that the company is made from the people. Building people's motivation leads to an improvement in their skills, providing a solid foundation to increase the overall abilities of the entire company.

Three years ago, the production department for servo motors started a "boot camp" in order to raise employee awareness. These activities have resulted in a large boost to employee motivation, resulting in an expansion of these activities to divisions across the company. The Cooling Systems Division has started using the simple die method for newly developed products. This not only reduces the development time, but it also greatly cuts down on the time required to send samples to the customers and the time required to evaluate functions with the die-pressed products. Establishing this system also greatly improved competitiveness and customer service.

The Servo Systems Division established a self-contained "production guidance system" that operates from the start of the production process on a newly designed product. It simultaneously performs production design while adding the designed abilities and functions to the new product, digitizes work checkpoints, and verifies completion of each process. For quality verification, the "Online Inspection System" was established to automate one of the inspection processes by determining acceptance or rejection of products. This contributed greatly to manufacturing quality and handling of customer deadlines. Furthermore, the division recognized the necessity of passing along skills and improving existing skills in order to strengthen the "people" at the heart of the organization, and so an "artisan" system was established. Therefore, training was started for central employees with the goal of improving the three elements of manual labor (caulking, screw tightening, and soldering) and techniques with numerically controlled machine tools. Also, efforts to develop systems were strengthened in a hope that this will create positive changes to the driving force of the company.

This report collects the technical results from 2007. Through development of new products and achievement of customer satisfaction, our company hopes to lead to employee satisfaction and use this as a foundation for our manufacturing company that continuously develops innovative technology. These efforts are sure to make our company's three brands the top brands in the industry.