Combination of Original Technologies and Customers' Requests

Interviewer: Takamasu Kanji

STAPLERS are called "HOTCHKISS" in Japan. MAX has a 75% share of Japan's stapler market, and the company's name is regarded as synonymous with "hotchkiss." Back in 1952, MAX developed the SYC 10, the first small handheld stapler in Japan, and since then has continued to produce the same Number 10 size staple. MAX is also the leading supplier of the electronic staplers installed in office copiers, holding an 80% share of the global market. However, it would be inaccurate to consider MAX as just an office equipment manufacturer. Currently, 60% of MAX's sales come from industrial equipment such as nailers, and the company has embarked on the production of housing environmental equipment such as heaters, ventilators, dryers for bathroom in recent years. Making a wide range of products that at first glance do not appear to be related, though, MAX maintains excellent financial health, with its R&D devoted to produce goods with long product life. We asked Miida Takashi, President and CEO, to tell us the secrets of the company's management success.

How did you begin producing small staplers?

Miida: The company originally manufactured aircraft tail parts. I have heard that amid the post World War II shambles of Japanese manufacturing industry, nothing was left in our company except the sheet metal processing technology. At the time, they say that the company was also producing metal lunch boxes. The company desperately looked for products that could be manufactured with its technologies, and staplers were one such product.

Staplers were imported into Japan, and some were already being produced here. However, until that time, all were large desktop types. Our company developed a smaller stapler as an office tool that could fit in a palm. Fortunately, this product was widely adopted by consumers, and the MAX brand name became widely known.

In Japanese, the word "HOTCHKISS" means stapler and this is almost a common noun. Why did your company choose the word for staplers?

Miida: It is said that staplers imported at the time had the word "HOTCHKISS" marked on them. So those who were running the company might have thought that was the name for this kind of tool in English. There is a theory that the word comes from Benjamin

Photo : Max Co.

Hotchkiss who invented the machine gun, but whether this is true or not is actually still unknown.

How many kinds of staplers are you manufacturing at present?

Miida: We produce staples in 21 sizes, with 44 different kinds of staplers, stating with the small staplers that can fit in a hand and including the largest desktop models. We started to make electronic staplers in 1985. These led to the parts known as "auto staplers" that are installed in copiers and printers.

How are staples made?

Miida: We have a plant that specializes in staple manufacturing. We purchase wire as raw material, stretch it into a variety of thicknesses, give it an electrogalvanization, line up 200 of these side by side and join them with glue. Then we cut them to length according to the needs of each model. Lastly, both ends are bent at a 90 degree angle to form the staples. At first glance, staples might appear to be fairly straightforward supplies, being nothing more than fine wire bent at both ends, but we have developed our own wire stretching and gluing technologies. We have also developed state-of-the-art production systems, enabling all processes to be operator-free wherever possible. This has allowed us to keep production costs down, and we are aiming to maintain a stable supply of uniform, highly reliable products over the long term.

The MAX No.10 staple has had an astoundingly long product life. How have you made improvements to staplers?

Miida: Something that might catch the attention is the fact that the bent part of the staple used to have a bump in it, but newer products are based on a flat clinch. We have made quite a large number of improvements that provide added functionality. For example, there is the type with room for spare staples,

and one with a viewing slot so that you can see how many staples are left. However, it is still possible to put some MAX No.10 staples into the original SYC 10 stapler and use it. Annual sales of staplers, staples and auto staplers total around ¥13 billion at present.

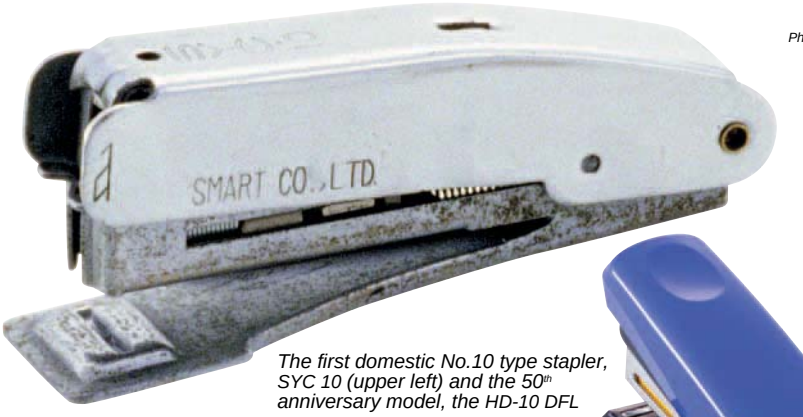
How did the company come to manufacture nailers?

Miida: The first nailer was a spring-loaded hand tacker that came to the market in 1958. Next, in 1962, we developed an air nailer, which used pressurized air in place of a spring. Both of these products were firsts for the Japanese market. As fastening machines, these products can be said to share common technologies with the stapler. Rather than holding pieces of paper together, the technology is harnessed for the purpose of joining pieces of timber. However, one big difference is that the user is a professional carpenter, not a general consumer. For a carpenter, hammering in a nail is the most basic and often repeated form of heavy labor. We thought that if we could reduce the burden on the carpenter, we would succeed in developing the market.

How did the business develop after that?

Miida: After producing the air nailer, we developed a compressor in-house. Then we improved the nail driving power of the unit by increasing the pressure of the compressor from what had been 10 atmospheres to 30 atmospheres. This high-pressure nail driving system was a world first. Many people found it too powerful at first, for housing, and sales were not so good for a long time. Later on, however, with the popularization of the 2x4 method and the use of harder synthetic materials for home construction sites, the reputation of these nailers grew gradually. It took more than 10 years, but now MAX's nailers have a 50% share of the domestic market. Moreover, the product lineup continues to diversify, including screw-fixing tools, plaster board tackers and pin drivers for concrete surfaces.

Photos : Max Co.



The first domestic No.10 type stapler, SYC 10 (upper left) and the 50th anniversary model, the HD-10 DFL

In the field of tools for concrete, MAX has recently developed a product that uses small gas cylinders for its power source, in collaboration with a US company. We are also now selling a hammer drill for professionals powered by the world's first rechargeable lithium-ion battery that we codeveloped with a Japanese battery manufacturer. These tools are suitable for jobs where a proper footing is not obtainable, or where the worker must constantly move about.

A tool called a Re-bar Tier that automatically ties together the many criss-crossing rebars that make up the steel reinforcement for concrete buildings, bridge piers and roads is also our product. MAX developed it from the conception, and it sped up the work about three times faster than manual tying methods. This product took more than 10 years to develop.

These types of industrial equipment account for around 60% of our total sales, and we anticipate that this ratio will increase in the years ahead.

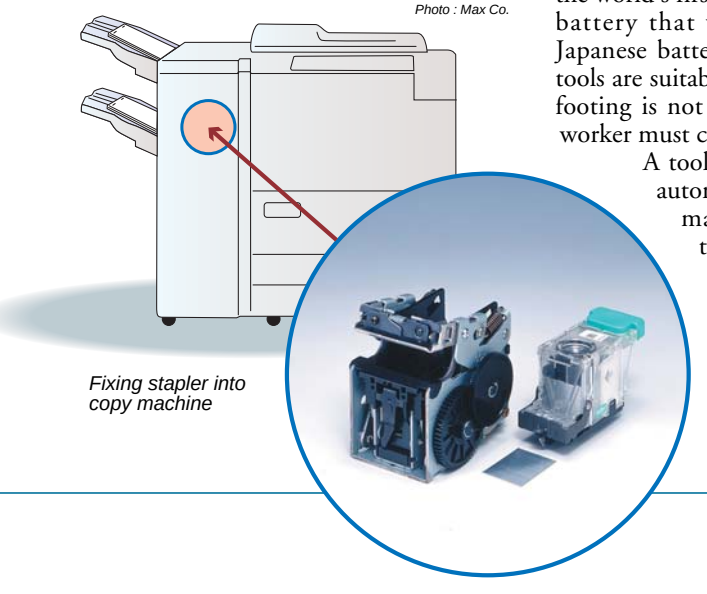
We currently produce 160 different products using a Flexible Manufacturing System (FMS) to make small lots of many different types of products.

At first glance, there would seem to be no relation between your office equipment and industrial equipment.

Miida: It is true that the market for each product range is completely different. However, from the point of view of market demands, all these products share a common functionality: that of fastening. This is part of MAX's corporate tradition, but our employees are very keen to apply our own existing technologies in the pursuit of new products.

The auto stapler is one such example. A person from a US copier maker once told us it would be interesting to fix a stapler in a copy machine. Our development team was greatly encouraged by this idea, and after more than 10 years, we completed the auto stapler in 1985. We received orders from other copier

Photo : Max Co.



Fixing stapler into copy machine

A high pressure nailer, Super Nailer HN-90N1

makers later.

Because each copier maker has its own design philosophies, the specifications for auto staplers, which are only one part of a copy machine, must vary quite considerably from machine to machine. From the manufacturer's viewpoint, this can result in quite a problematic order, and at the same time it is not so profitable. There were a number of competitors making auto staplers early on, but only MAX continued to accept all the needs of the copier makers, which made us the number one supplier.

You have been moving into the field of housing environmental units for last few years. Do they have a connection with fastening technologies?

Miida: This is based on a concept of environmental conservation and our contribution to it. We are taking it up as a new challenge. In the middle of the 1990's, new housing starts in Japan fell quickly from around 1.6 million to less than 1.2 million dwellings per year. The population is also expected to fall, so it was imperative to find new business fields as alternatives to the nailer, which is currently responsible for 50% of our total domestic sales.

Bathroom heaters, ventilators and dryers use an ion-based antibacterial unit from Sharp

Housing environmental equipment is type of product for which we could expect synergy with our sales strength and brand name as a leading nailer manufacturer. The business got under way through the acquisition of a manufacturer to secure the underlying technologies. In the year of acquisition in 2000, the manufacturer had annual sales of ¥3.7 billion, and we were able to expand this to ¥7.9 billion by 2004. We expect that sales will reach ¥11 billion within two more years.

Can you explain about your product development management that have allow you to continue producing such a varied range of products?

Miida: We have a total of 1,600 employees in our consolidated operations and there are 170 in the development divisions. I would like to tell you about our "special order prototype design team," which has come up with a new approach to development – probably something that does not exist in other companies.

This team cuts across the development divisions. It dispenses with all the usual formalities involved in an ordinary development process, such as estimating the size of the demand, the scale of the market, market introduction costs and other such calculations. It is a task force that attempts to make a product in response to a client request that is conveyed by the sales division staff. Specifically, it has four weeks to do this, no matter what the request, and regardless of the costs. The team started with five members, but there are now 10 doing this work.

The Gas Nailer, a pin driver powered by small gas cylinders

Of course, we cannot anticipate a profit from such a project, but we intend to continue with this system. I recently heard about a carpenter who had a nailer compressor stolen, not once, but twice. This product costs ¥130,000. Hearing his lament that if it had been a car, it would have had a lock and so could not have been moved, both the sales agent and we were very sympathetic. Normally, something like this goes no further than a few words of consolation about the misfortune suffered. However, our sales staff brought this story back to the special order prototype design team. Four weeks later, we had built a compressor with a lock, and when we showed it to the customer, both he and the sales agent were surprised and deeply impressed. Seeing this, our salesperson was even more astonished, saying "Amazing… such a thing can make our customer so happy!"

Under a normal development system, reflecting customer requests to the next generation model would be the most positive response. I believe that even if we ignore costs, there will be a positive contribution to our product development processes. If customer relationships become closer, we will be able to understand a market need that we had not previously known about, and we may even have the chance to commercialize a product based on an idea that had never made it as far as production.

Photos : Max Co.

Compressor for both high and normal pressure, AK-HL1210E

A hammer drill with lithium-ion battery

Did the decision to set up a "special order design team" have any connection with MAX's historical traditions as a manufacturer?

Miida: Not very many of our products have been built from scratch with nothing at all as an antecedent. Rather, the vast majority have been prompted by a basic concept that already exists, or a fuzzy idea that came to us from a user.

Therefore, while producing unique products, MAX is not so strong when it comes to high-volume, low-cost production and relies on high volume sales, which is the current tendency within manufacturing industry. Nevertheless, once a product is put on the market, we ensure that it will always reflect the expressed needs of our clients. In this way, we are always finding niche markets, and by continuing to improve our products, we now have quite a number that have achieved top market share.

Production recently began moving from Japan to China. What is MAX's experience with this?

Miida: We have commissioned a plant that specializes in auto stapler production in Shenzhen. This is because our copier maker clients have all commenced production in China, which required us to move our production base closer to them. The plant is operating smoothly.

The influences globalization is effecting our own operations. Until now, MAX had not devoted any concrete efforts toward overseas market development. Exports amount for 20% of total sales at present, with industrial equipment mainly going to the United States and Europe while office items go to markets in Asia. For the time being, I would like to increase the export ratio to 23-24%. The development of Asian markets for industrial equipment is a future task.

Have you taken any measures towards implementing that policy?

Miida: Not only as a strategic means of responding to globalization, I place great importance on the need to view the consolidated business as the unit of management, in order to respond to the swift changes that are occurring in the business environment. I also aim for transparency in management, both for the company and in shareholders. On that point, I am quite proud that MAX has twice won the Best Disclosure Award of the Tokyo Stock Exchange.

Do you have any cooperative arrangement with other companies?

Miida: If a firm does not possess its own technologies, it would not be possible to develop new products in collaboration with another company that already has excellent technologies, and it would probably also be impossible to cooperate on a business level. In the field of industrial equipment, we do have a relationship with the DeWALT power tools division of Black & Decker, the largest manufacturer of power tools in the United States. We have begun selling tools in Japan under the MAX brand, having made some improvements for Japanese users. In the United States too, we have undertaken cooperative development of gas nailers with a major concrete tool manufacturer, Powers Fasteners.

Apart from those collaborations, we have also developed a power drill with a built-in lithium-ion battery in conjunction with GS Yuasa Battery and our bathroom heaters, ventilators and dryers use an ion-based antibacterial unit from Sharp. In an increasingly globalized world, I expect that we will continue to benefit from the use of advanced technologies from other companies and to undertake more collaborative development projects.

What is the key to maintaining good business results?

Miida: Throughout its history, MAX has tirelessly sought out niche markets, and has worked hard to be the top maker of its range of products. I feel that this corporate culture is something that we will continue to give great importance to.

Most of the product development staff who join our organization come with the expectation that MAX will allow them to undertake creative tasks. In particular, those from other companies have not been satisfied with their work, having always been asked to cut production costs and reduce development time frames.

Maintaining a development and production environment that lives up to the expectations of such employees, we have to steer a course that represents a good balance between development of new product fields and improvements to existing products. To be frank, I face daily challenges as a manager to address such issues as these head on. **JS**

Takamasu Kanji is an editor and biographer. He is also a senior advisor to the foreign editor of the New York Times.