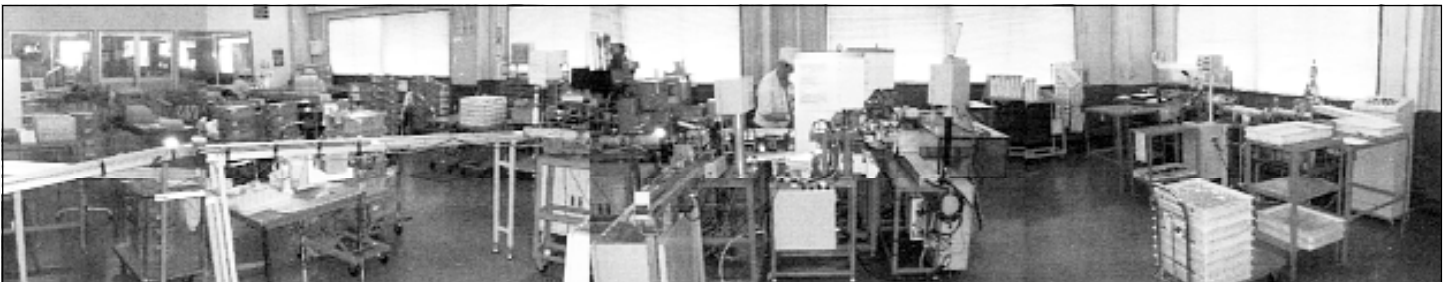


OGURA



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NEW "TIE" PROGRAM IMPROVES EFFICIENCY, REDUCES WASTE



Assembly area with centralized inspection area



Assembly area after inspection equipment was relocated to the line

Kiryu, Japan

At the end 2003 all Ogura managers were trained in a new program, called Total Industrial Engineering, "TIE". The program looks at all aspects of a production operation, starting from supplying forecasts to suppliers, all the way through to shipping and even including testing and measuring. The program was developed by Toyota/Denso. It concentrates on the time it takes for parts to move through a manufacturing cycle. This includes both the worker's time in handling the part and the physical movement of that part through the manufacturing process.

In January 2004 these programs were initiated on one of the micro clutch lines. The

program analyzed how many processes were involved in the manufacture of the micro clutch parts. The analysis showed that some of these processes could be combined and/or relocated to the main production cell.

Inspection equipment used to check the work in process, was previously located in a central area. Parts

were brought to that area to be checked individually. To reduce production time, the inspection equipment was moved from a central location to each point on the line where the parts were being produced. This change allowed the parts to move through the assembly process at a much faster rate reducing overall production time.

The overall changes were that the production layout was redesigned, the batch sizes for parts going through the process was changed and visual flow charts were posted with times so workers would know process times. Besides parts moving through the manufacturing process faster, the change also eliminated the need for one person in manufacturing and one person in assembly.



Managers at TIE training

OIC EMPLOYEE PROFILE

Hiroko Baldwin Administrative Assistant, Engineering

Hi, my name is Hiroko Baldwin and I am administrative assistant in Engineering Department at Ogura Industrial Corporation. My main responsibilities are organizing drawings, making various sales and financial reports for our parent company in Japan, translation from Japanese to English or vice versa, and back up for our Accounting Department.



Hiroko Baldwin

I was born and was raised in Saitama Prefecture, which is neighbor to Gunma Prefecture where Ogura Clutch Japan is located. In Japan, I've worked for Banyu Pharmaceutical Company (now Merck Co. owns 99% of its stock). I was a medical technologist and worked in Teratology Laboratory and later in Clinical Chemistry Laboratory of Safety Assessment Division. At Banyu I met my husband who worked for Merck as a software quality engineer. He went to Banyu in Japan to install Clinical Chemistry Computer System.

My husband enjoys running. He has run in the Boston Marathon 3 times and many other running races as well. I have a 9 year old daughter who enjoys competitive gymnastics. As a family we enjoy bicycling in summer and skiing in winter. But we like flying the trapeze the best. We practice it at Trapeze School in NY and also at Club Med once in a while.

As a working mother, I'm very grateful to Ogura Ind. Corp. for their understanding and flexibility, which allows me to continue working and also be a supportive parent. I'm looking forward to contributing to Ogura's continued success.

Environmental improvement project announced

Kiryu, Japan

Many of the Ogura plants are already ISO14001 compliant. For 2004, Ogura management wants all Ogura employees to go a step further regarding the environment. One of Ogura's slogans is "We love earth, we love people". In 2004 all employees are encouraged to make more suggestions regarding better ways to reuse and/or recycle.

This quarter all managers are

being trained in the ISO14001 management system and purchasing

personnel are being encouraged to deal with companies in the Green Supply network and to use products that are environmental friendly.

All suggestions are grouped together, reviewed monthly and many have been implemented. Ideas like using the back of used

printed e-mails as scratch paper and

turning off the lights in the manufacturing area during lunch helped to reduce waste, energy and the impact on the environment.



Environmental improvement logo

Kart Land gets new web site



Racing at Kart Land

Kiryu, Japan

Racing is serious business at Ogura's Kart Land in Kiryu, Japan. Many of these mini grand prix drivers hope to move on to the real thing one day but, until then, they have to be content with these minis of the motorway.

To provide more information on what is happening at Kart Land, a new web site at www.kl-orc.com was developed. This site gives customers the track layout, the costs and also provides stats on the best track times as well as information on children's carts and the motor sports school for children.

APPLICATION STORY

THE NOT SO ITSY BITSY SPIDER RAN UP THE SIDE OF THE HILL

Hillside mowing can be tedious and sometimes dangerous work. Many mowers, because of their center of gravity, cannot perform well on steep inclines. In addition, many walk behind mowers require a significant amount of manual force when mowing on an incline. A new mower, called the "Spider", is being manufactured

The engine starting, stopping, speed, steering and clutch engagement are done via the remote control . . . The Ogura PTO clutch/brake was used in this application to provide a high amount of torque in a small space.

in Germany. It can tackle this application quite easily (inclines of up to 40° are possible), with no physical exertion. The reason being is because the mower is remote controlled. From the comfort of an air-conditioned truck cab, a worker can

control the mower, whether cutting a drainage ditch or a hillside.

The Spider is a 4-wheel drive, remote controlled mower. It is powered by 17HP gas engine turning at 3600 rpm. The cutting width of the deck is approximately 31.5 inches. The unit's speed can vary from 0 to 4.5 miles per hour (forward or reverse). The speed is controlled by a hydraulic pump driving the four separate hydraulic wheel motors, so the unit has four-wheel

(360°) drive capability. The steering of the wheels is accomplished by high torque, electric motors. The engine starting, stopping, speed, steering and clutch engagement are done via

the remote control. Another unique advantage is the cutting deck height is also controlled via the remote control.

The Ogura PTO clutch/brake was used in this application to provide a high amount of torque in a small space. The clutch/brake is fitted on the engine shaft. The engine shaft also has a pulley that drives the hydraulic pump, which powers the wheels of the mower. The clutch/brake incorporates an integral pulley. The pulley drives a belt, which drives the cutting blades. Any time the switch is thrown to engage the clutch, the battery provides 12 volts to



Ogura PTO clutch/brake

the clutch coil. This coil creates an electric magnet, which allows the clutch armature to be pulled in and contact the clutch rotor. The armature is attached to the pulley on the clutch, which drives the mower blades. If an obstacle or other obstruction is encountered, the switch can be released, disengaging the clutch. When that happens, the armature springs pull back against



Mower being controlled with remote



Spider mower on rough hillside terrain

the brake shroud in the PTO clutch/brake causing a mechanical drag, which helps to slow the blades to a stop.

This remote disengagement function is very useful if the mower is traveling across, or through, an area in which you wouldn't want to mow (water,

gravel road or new plantings).

Because the Spider operates via remote control, there are no size, age, or physical limitations in using this machine. Anyone from a child to an elderly person can control this 400 pound tank. Since the unit is controlled remotely a person that cannot walk, because of a disability or injury, could still cut their grass.

In the near future, Machine Design will be running a more detailed article about this application. In the meantime, if you would like to see on line videos of this machine in action, please visit www.spider-online.com.



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Happy Spring  *from the staff of*
Ogura Industrial

OGURA IN THE NEWS

TOKYO AUTO SHOW

Tokyo, Japan

ORC introduced three new products at the January Tokyo Auto Show. The first one is the new triple plate racing clutch. The second is the new carbon fiber plate clutch and the third is the D1 special clutch. All three products were on display and potential consumers were able to review these and ask questions.

In addition to all products on display, a round table discussion was also hosted with the drivers of the various cars that Ogura sponsors. The overall show was a success with a lot of interest in both the current product line and the new products.



New D1 clutch



New triple plate and carbon clutches



Clutch show booth personnel

OGURA JOINS kellysearch



Ogura banner ad

Kiryu, Japan

To expand Ogura's presence on the Internet and in the UK market, Ogura Industrial has expanded its presence on kellysearch. This expanded coverage gives Ogura approximately 70 priority listings in key product categories. In addition, Ogura banner ads will be run when specific searches are done on key words. A banner ad will also be shown on the enhanced Ogura company page on the kellysearch site. The Lloyds ISO registry logos for Ogura will also be shown on the same page.

TENSION CONTROL PRODUCTS ON DISPLAY

At a recent textile show in Japan, Ogura displayed the related products



Tension control products

used to control tension.

On display were the Ogura PHT units that control tension via permanent magnets and require no external outside power source. Magnetic particle clutches and brakes ranging from 4 in.lb. to 140 ft.lb. were also shown with their corresponding power supplies.