

#### OGURA CONSOLIDATES PLANTS NUMBER 3 & 5 AND INCORPORATES "ONE FLOW PRODUCTION SYSTEM" Kiryu, Japan

n May 2007, Kyowa Precision Machinery, which was a subcontractor of plant number 3, was purchased and became a direct manufacturing plant for Ogura. Until December 2008, it operated as plant number 5. As Ogura shifted some micro clutch production to China, it opened up space in the number 3 plant so in January 2009, the production lines in the number 5 plant were moved to the number 3 plant.

The objective in consolidating these two plants was to create a "one piece flow". The number 3 plant has studied "one piece flow systems" but it was not easy because of the unique models that the plant produced. With over 30 different models of the Hi-MIC and MICS, there were indeed challenges since the "one piece flow system" is most effective when producing one product.

It was determined that the only effective way to do this was to separate the production lines of the MIC and Hi-MIC type clutches because the clutches have different constructions and need different processes and cycle times. By separating the lines, the time the work in process sat and waited for the next process was reduced to a minimum.

The distance that the parts used to travel was 170 total feet. This was reduced to 120 feet, which is an approximate 30% reduction. The next goal was to keep the amount of work in process low to prevent any dead stock in the event of a design change. Part of the bottle neck in doing this was the burnishing process. The prior process used to be done in different

Part of the bottle neck in doing this was the burnishing process. The prior process used to be done in different batches. The machine processed 4 clutches at a time, and one operator was operating 3 machines at the same time. Because of this batch process, it was difficult to expedite clutches that needed to move quickly through the production flow. The change to the process occurred by putting the burnishing area in a centralized location. This change allows the production line to synchronize with the burnishing process to help speed response time for expedited items. The goal with the new layout is to product only what is required for that day. Line employees are also now able to view the production schedule on what is required to be produced

Line employees are also now able to view the production schedule on what is required to be produced on any given day. In the past, since most operations were done via batch, employees lost a feel for what was actually being required by the customers on a daily basis. Now, rather than just making a specific number of one component part, a production board is shown so everyone can see the needs of the assembly area for that day. The new slogan on the board is "Making More Pieces Than What is Planned is a Waste of Resources". In the end, the production changes paid off. It used to take 1.82 minutes to make a MIC clutch. It now takes 1.39 minutes so a 23.6% reduction in manufacturing time has been achieved.



Assembly area before One Flow



Assembly area after One Flow



Work in process holding area (before)



Elimination of work in process (after)

## **KELLER INDUSTRIAL EXPANDS COVERAGE OF OGURA INTO** WESTERN PA.

Pittsburgh, PA





Jim Rhoades

Michael Hupf

he retirement last year of Jim Leininger left the Western Pennsylvania territory open for Ogura. Keller Industrial Products has well represented Ogura for many years, but never for Western PA.

"Timing couldn't have been better for us", said Greg Matthews, Principle of Keller Industrial. He had just hired Michael Hupf to join Jim Rhoades in that area for a "double barrel" approach to growing sales in Western PA.

Jim Rhoades: "I am a Mechanical Engineer with 30 years experience in the power transmission field, including my last position as National Sales Manager for an industrial robotics company. I joined KIP 2 years ago and look forward to helping Ogura grow its business in my territory."

"I am married and have two children. In my spare time I play drums in a local band called the Jim Rhoades Band. I am also a golfer and hunter."

Michael Hupf: "I joined KIP just 8 months ago after holding sales positions from application engineer to national sales manager for servo based motion control companies. Products like Ogura's fit well with my background in that it is both mechanical and electrical in nature."

"I am married and have one son. In my spare time, I like running outdoors, riding my road bike, and listening to music."

Jim's significant mechanical skills together with Michael's complimentary electrical skills, offer Ogura a unique sales team and coverage. Both are positive, upbeat representatives who are Ogura's "Two Tickets to Pittsburgh".

## **AKABORI PLANT RECEIVES FIRE PREVENTION AWARD**

Akabori, Japan

n March 19th, 2009, the Akabori Plant was awarded an award by the Fire Prevention Society of Gunma Prefecture in recognition of enlivenment of volunteer fire prevention activities in Gunma Prefecture. In many communities in Japan, the number of volunteer fire fighters is in short supply. Ogura has employees who are affiliated with the local fire departments and while maintaining full employment at Ogura, they are playing active daily roles in fire prevention.



## **13TH MECHANICAL ELEMENT ENGINEERING EXHIBITION**

n mid June, Ogura participated in the 13th Mechanical Element Engineering Exhibition at Tokyo Big Site. Since 2004, Ogura has participated six years in a row. Although this is a slower time for business, the Ogura booth was still filled with a number of visitors. Ogura displayed many products, such as industrial clutches and brakes, tension controllers, small blowers, and jet coolant/oil mist separator systems.

#### Application Storv

### **NEW PROBE STRETCHES THE LIMITS OF OCEANSCIENCE**

The Oceanscience group had a great idea, but requested a little help from Ogura to make it work. Oceanscience was designing a portable work. Oceanscience was designing a portable Ocean data collection system providing cost-effective, accurate profiles of temperature and salinity from underway vessels. Past designs used expensive disposable probes, or left debris on the sea floor. This is not the way to go in today's cost conscious and environmentally friendly environment. Their goal was to use a compact, lightweight and *reusable* probe. The idea was simple in principle. The device was to have two separate spools, one for payout from the underway vessel and the other for the length of line would wind around the probe itself. This smaller tail spool, whose length would determine its survey depth, would unwind (and lower the probe) as the main spool unwound from the ship that was underway.

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The CTD research measurement system (Current, Temp, Depth)

Making a precisely wound probe is easy to do in the lab or in an industrial environment, but for the machine to be a success in the field, the probe needed to be rewound many times during the same voyage. This meant designing a payout spool and rewind mechanism that could accurately rewind the probe after it was returned from the sea.

Many are familiar with the simple fishing reel and its settings for drag and controlled payout, but this spool needed to be much more controllable and robust. It needed two strong electric motor drives (one to retrieve the heavy probe against strong ocean currents and one for a tail probe rewind system) as well as an adjustable clutch to disengage the motor from the drive to let the probe take the line as it deployed. Most electric clutches could do thejob, but Ogura was tasked with the following additional requirements:

• 25 NM of torque in less than 93 mm in diameter (to meet the systems weight and size requirement)
Low drag torque when disengaged (to prevent overheating and drag while deploying)



*Rendering of probe at depth while vessel is underway* 

- Robust design for repeated shipboard use
- 24 VDC on-off operation, but with the ability to have a smooth adjustable current controlled

to have a smooth adjustable current controlled clutch torque option to help with the smooth rewinding of the tail probe from the main spool The small size, light weight and smooth DC current to torque features offered by Ogura's MDC 2.5 proved to be the main selling points for The Oceanscience Group. Using multiple discs of a robust proprietary friction material, the MDC clutch epoxy filled field assembly is heat and vibration resistant. These features make the MDC series capable of many thousands of engagements at full load and of many thousands of engagements at full load and capable of repeated low torque rewinding operations

of the tail probe for the Oceanscience Group. Proper tension of the Spectra line during winding is critical for life and insures tangle free unwinding during use. The re-winder function is fully programmable for different profile depths and quick turnaround. The Ogura MDC series clutch ensures accurate research quality data collection in this state of the art cost effective environmentally friendly system art, cost effective, environmentally friendly system.



Ogura's MD series of clutches and brakes

Happy Summer From the Staff of Ogura Industrial Corporation



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#### New Products

## MCB5 BRAKE AND MC5 CLUTCH

gura has produced a new model of electromagnetic brake. The new model is called MCB5. The new brake delivers the same amount of torque 4.5 in. lb. as the previous AMB5, but does so at a 20% smaller diameter and a 24% smaller overall width.

The new brake comes standard with a 24 volt coil, but other coil voltages are available. Standard speed capability is 3600 RPM but higher speeds are possible. The brake uses





MC5 with curved

armature springs

MCB5 same torque, smaller size

#### In The News

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a zero back lash spring armature so there is no rattle noise when the brake is disengaged. The bore in the hub/armature comes standard with a key way and 2 set screws. This small light weight brake is RoHS compliant and is ideally suited for both industrial and automotive requirements.

The new MC5 mini clutch from Ogura Industrial Corporation incorporates zero back lash curved armature springs. The curved armature spring design allows for force to be transmitted across the arc of the spring. This allows greater armature travel while keeping a smaller attachment diameter versus a straight leaf spring design. This smaller diameter allows customers to use smaller gears or pulleys in their application without having to go to an intermediate adaptor flange.

The MC5's are available either with or without ball bearings depending upon application speed and vibration requirements. Clutches are available in two torque options of 4.5 in. Ibs and 9 in. Ibs. The ball bearing units can operate up to 3,600 RPM but higher speed modifications are possible. Clutches come standard with lead wires that are UL/CSA certified and both sizes are RoHS compliant.

## LAWN MOWER RACING OFF TO A SLOW START THIS YEAR

The slow economy is forcing a slowdown in lawn mower racing this year. Of the few competitors that are participating this year, few are willing to travel the distances involved in getting multiple races in under their belt. By now, Bobby Cleveland, who is sponsored by Ogura, usually has 4 to 5 races completed. To date, he has only participated in 1 race in which, he took 5th place in the IMOW division. Bobby will continue racing throughout the summer and is hopeful that he can participate in enough races to qualify for the Nationals that will be held this September, in Ohio.

If you don't get a chance to see Bobby at one of his races, he will be showing off some of his Ogura lawn mower racing equipment at the upcoming Louisville Show, October 29th – 31st. Ogura has reserved an outside booth, where Bobby will be able to show off his equipment. Please feel free to stop by and chat with Bobby about lawn mower racing. You can also follow his progress this year on the official lawn mower racing site www.letsmow.com.



Bobby Cleveland getting ready for the race



Bobby gets 5th place in La Porte, Indiana race