



PRODUCTIVITY IMPROVEMENTS AT OGURA THAILAND

Thailand

Last year, injection molded coil assemblies began production in Thailand. Production capacity to handle new business was insufficient so changes were made to improve efficiency. The prior assembly line was in the same room where injection molding was taking place, however, the heat and fumes were objectionable, so a new dedicated assembly room was constructed. Additionally, a semi assembly line before injection molding was created to increase production efficiency.

Leadwire lengths are measured, but other checks such as color, bends or abrasions were done visually. A new stripping and sensing machine now automatically measures length and leadwire casing improving inspection quality and reducing inspection time.

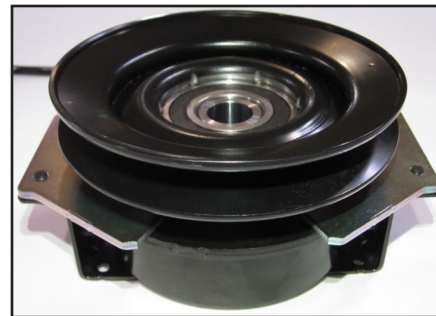
At the end of the process, an operator used to use a stamp to put a date code on different products and then the parts were transferred, but sometimes the pressure on the stamp was uneven or it went to the next operation before the ink was dry so the date code was smeared. A new jig was created to make an even application of this stamp and a drying fan was added to the conveyor belt to make sure there is no smear before the part moves to the next process. ●

NEW CLUTCH SERIES GT1.5 UNVEILED AT GIE EXPO

Louisville, Kentucky

At the 2016 Expo, Ogura unveiled its new model, GT1.5 PTO clutch brake. The new 1.5 series is patented in both the United States and China and offers improvements in both performance and cost versus other PTO clutch brakes currently on the market.

Although primarily designed for high volume residential machines, the new series holds up well in commercial applications. Depending upon blade dimensions and total inertia of a cutting system, the clutches can handle up to 25hp and up to 60 inch decks. These new lower cost, higher performing clutches are available to customers for this current model season. ●



New Ogura GT1.5 clutch series

OGURA INDUSTRIAL RECEIVES ARIENS PERFORMANCE AWARD

Amelia Island, Florida

For the 5th year in a row, Ogura has been given the Ariens Supplier Performance Award. The award is given to their top suppliers that achieve points based upon quality, delivery, cost objectives and technical support.

The award was given during Ariens annual Dealer Summit. Ogura also participated in the mini-tradeshow answering questions on clutches from various dealers. ●



Rod Bolhous, COO of Ariens, Mike Vasko and Frank Flemming of Ogura with James Merwin, Supply Chain VP of Ariens

New Employee Profile

Timothy Malinowski

My name is Tim Malinowski and I recently joined the Ogura Industrial Team as Regional Sales Manager / Product Manager. It is my pleasure and honor to be part of the team.

I live in Grand Rapids, MI with my wife Sara, and our two sons, William and John. I grew up in Trenton (MI) and earned my Bachelors Degree from Michigan State University and my Masters of Management from Aquinas College. I still enjoy learning something new every day, so I find time to read / study all that I can regarding business, technology, and personal life.

Prior to my coming to the Ogura Family, I accepted a Sales Management position with Kawasaki Motors Corp. (Engine Division). Working with Kawasaki was a great experience for me – it allowed me to learn the Outdoor Power Equipment Industry, its customers, its members, and its products. Kawasaki and “the customer” have taught me a great deal. I have worked with a number of great people over the years that fortunately, I will be able to continue to work with in my new role with Ogura.

When not working, I enjoy spending time with my family. Sports, cooking, travel, school activities, and numerous projects around our home keep us all busy. Personally, I enjoy photography, watching old movies with my wife, and of course, a Good Book.

I believe in open, honest, and direct communication. I also believe in finding “the positive” in all that we do. “Win / Win” is just one of the many important business strategies for me. Having played team sports throughout my life, I recognize the importance of “working together” to attain a goal. Reaching the goal is certainly important, but getting there (the journey) is also very special. I look forward to working with you, learning from you, and helping contributing to our mutual success. ●



Tim and Sara Malinowski

2016 GIE EXPO

Louisville, Kentucky

In October, Ogura exhibited at the GIE Expo in Louisville, KY. The show was larger than in past years with the south hall full of equipment exhibitors and Hardscape portion of the show moved to one of the connecting halls. The amount of visitors were up over past years and the overall feel from both the show exhibitors and attendees was that the overall market for lawn and garden equipment seems solid and most companies are expecting increases for 2017. Ogura’s new 1.5 series PTO clutch brake with various pulley configurations received positive comments on its unique patented design.

Booth visitors were consistent throughout the show and booth personnel answered many questions from both equipment manufacturers and end users regarding PTO clutch brake installation and function.

To help support Ogura’s superchargers, Chuck Miller with his supercharged mini-puller manned Ogura’s outdoor booth where he was able to fire up his super charged mini-puller which drew a crowd. The outside booth also displayed a banner celebrating Chuck’s win this year in the US lawnmower racing finals (see Chuck Miller story on last page). One of Ogura’s customers that makes robotic mowers (Evatech) shared space in the outdoor Ogura booth showing their robotic mowers with the Ogura PTO clutch brakes. ●



Ogura booth staff at the GIE Expo

MECHANICAL FAIR FOR STUDENTS

Gunma, Japan

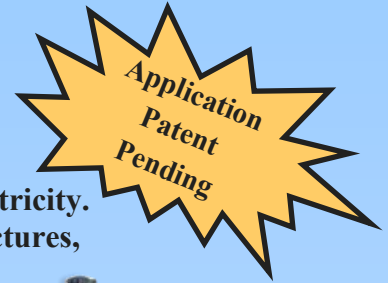
At the Gunma University, the science and engineering department held a mechanical fair designed to generate interest in younger children in the sciences. For the show, Ogura exhibited its new torque sensing mechanism that could pick up both heavy and lightweight objects and apply the proper amount of pressure. The children were very impressed with the fact that the machine was able to pick up and give them cookies without breaking them. ●



Children pick up cookies with the new torque sensing mechanism

Application Story

Studying Water Science Comes From a Great Thirst for Knowledge



It's amazing what NLB Corp. can do with a little water, diesel fuel and electricity. Today's green industries are finding new ways to clean, reuse, repair structures, containment tanks and process pipes rather than replace and scrap them when they rust or corrode.

Oguras powerful 1000 foot pound clutch, the MMC-140E-04, has gained a new following in the professional high pressure water pump industry. These clutches can be used with engines and pumps up to 300 Hp and 40,000 psi for high powered cleaning and demolition work.

Historically, these trailer mounted pressure systems used large heavy mechanical clutches with Pneumatic or hand lever activated clutches to connect the large diesel engines to their triplex or quadruplex convertible water

jetting pumps. These "state of the art"

pumps can blast away damaged concrete from buildings or roadways yet leave their structural rebar sparking and in place. This newly exposed rebar is clean, undamaged, and ready for fresh concrete.

Using only water and reusing rebar in demolition is as GREEN as it gets. This system eliminates the caustic airborne dust normally associated with demolition. Keeping workers safe from toxic airborne contaminants is a must in today's busy workplaces.

Another feature of using Oguras MMC-140 electric clutch is the ability to dry separate the engines drive system from the pump with a simple quick press of a button on the operators lance, saving water and keeping the workplace dryer and safer than previous on-off technologies. These 12 VDC clutches incorporate multi pole technology and use a bi-

directional return spring which works well with the high transient torque spikes present during diesel combustion. Dual oversized ball bearings at both the input (field side) and output (hub side) insure thousands of hours of trouble free use. The oversized spline input drive and Spicer matched universal output coupling insure easy and positive torque transfer. The robust protective plating and stainless steel fasteners lead to many years of adjustment-free and corrosion-free service.

NLB has chosen Oguras high strength, highly reliable MMC clutches to improve an already innovative solution to the dirtiest and most dangerous of jobs.

For more on this patent pending application and a terrific video on this clutch in action, see here:

www.nlbcorp.com●



125 series diesel pumps to 145 HP



Ogura MMC 140 clutch



225 series diesel pumps to 350 HP



CHUCK MILLER WINS US LAWMOWER RACING CHAMPIONSHIP

Gastonia, NC

After a disappointing start (if you remember a broken crankshaft in the last newsletter), to the 2016 racing season, Chuck Miller ended up in either first or second place for all the races he entered in 2016. This put him in 1st place and earned him the #1 pole position going into the nationals at the end of September. The track was very smooth and fast



Chuck Miller, on his Ogura machine, takes home another win

which is ideal for Chuck. Chuck ended up coming in first in the

race and won the overall Stabil Nationals Point Championship in the B/P class.

In 1992, Chuck entered his first B/P class race and won. 24 years later, he continues to race. Over the years, Chuck has taken home 11 titles. He is looking forward to next year as it will be the 25th anniversary of this racing class. ●

BANGKOK INTERNATIONAL AUTO SALON 2016

Bangkok, Thailand

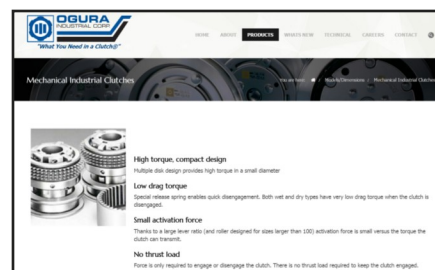
Last quarter, Ogura exhibited in the Bangkok Custom Car Festival for the first time. In Thailand, it is very popular to customize your car and the ORC and Arugos names are very well known so the booth had many visitors. Of primary interest were the new racing clutches that Ogura had available for the Honda Fit/Jazz. ●

MECHANICAL DISC CLUTCHES ADDED TO OGURA WEBSITE

Somerset, NJ

Multiple disc wet and dry clutches have been added to OIC's website. This is not a new product for Ogura, in fact, it is the oldest clutch Ogura produces.

Having the information on the website will allow easy access to the technical information on these clutches for customers around the world. ●



Mechanical Disc Clutches

SUMMER DISTRIBUTORS CONFERENCE HELD

Tokyo, Japan

Last quarter, the 2016 Summer Distributors Conference was held in Tokyo, Japan. Mr. Ogura, Mr. Inoue and Mr. Katou (all from Ogura senior management) attended the conference. Mr. Ogura spoke of the challenge of Ogura's goal to hit 50 billion yen in sales by Ogura's 80th anniversary. He mentioned some of the changes Ogura was making internally to help support distribution efforts. Consolidation of the engineering groups has been a big step to improving response time and blending product knowledge between engineering groups.

The distributors commented that despite a slowing Japanese economy and slowdown in sales of some of their other products, Ogura's business has held level and they look forward to a more positive 2017. ●