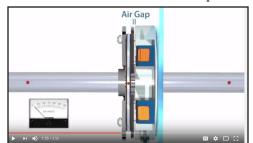
NEW CLUTCH AND BRAKE ANIMATIONS CREATED BY OGURA

Somerset, NJ

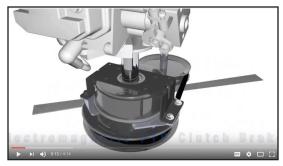
gura Industrial has created two new animations to show customers how some of our more popular electromagnetic clutches and brakes work. The animations can be found on Ogura's website or YouTube channel. These are:

Spring applied brakes - Spring applied brakes are made to hold a shaft from turning when it is not desired for both safety and accuracy. Primary applications for these brakes are in robotics, medical equipment, factory automation and processing equipment. The video shows an exploded view of the component parts of the brake and how the magnetic flux created in the coil, releases the spring pressure that creates torque in the brake. The video also describes the difference between standard holding brakes and zero backlash brakes, and also how overexcitation can decrease response time.



Spring applied brake animation video

Power equipment clutch/brakes – Many outdoor power equipment machines use electric PTO clutch/brakes to engage and disengage a rotating implement. Lawn and garden tractors and zero turn machines use a switch to engage and disengage the cutting blades on a mower deck. A PTO clutch/brake is an electric clutch and a mechanical brake so when the armature is disengaged from the clutch, the armature contacts brake plates which help to slow down the cutting blade. The animation shows the various parts of a PTO clutch and how torque is developed via the use of multiple pole armature and rotors. The animation also shows how the brake torque is developed and also how, by flipping the brake pads, the clutch/brake can extend its total cycle



PTO clutch/brake animation video

NEW INSTALLATION VIDEO CREATED

Somerset, NJ

gura Industrial has created an installation video for spring applied brakes. The video gives step by step instructions for both small and large spring applied brakes as well as zero backlash style brakes. Besides the installation portion, the video also includes the animation on how a spring applied brake works and troubleshooting tips. The video can be found on the Ogura website or on Ogura's Youtube channel.

www.youtube.com/oguraindustrial



New spring applied brake installation video

Ogura Sales Rep Profile

Mike O'Brien, Keller Industrial

ike O'Brien, joined Keller Industrial in January and represents Ogura in Western NY and Meadville/Erie PA.

Mike and Jessica, his wife of 20 years, reside in the Buffalo area. Together, they have three boys: Connor (9th grade), Evan



Mike O'Brien

(8th grade), and Braedon (5th grade). Mike says his family's precious spare time is spent running the boys to soccer, baseball, track practices and games. When time permits, Mike enjoys golf, handball, and working out.

Mike will be working to take the lead role in many existing opportunities already in the works at important accounts throughout the Meadville, Erie, Buffalo, and Rochester areas.

Mike's background includes 17 years' experience as the direct territory manager in upstate NY for Igus's Cable & Carrier division and several years of responsibility for Igus's linear motion products. Mike has a deep knowledge of the industrial end user and OEM automation market throughout his territory. He earned his bachelor's degree from Gannon University in Erie and an MBA from Canisius College in Buffalo.

Ogura is pleased to welcome Mike O'Brien to the Ogura sales force.

OGURA RECEIVES QUALITY AWARD FROM SANDEN

Shanghai, China

ast quarter, at the 2017 Sanden Holdings
Global Supplier Conference, Ogura received
awards for QCD (quality, cost, design) and
C&I (challenge and innovation). From
Sanden's 1,600 suppliers, the QCD and C&I awards are
given only to the top suppliers that exhibit superior
overall cost quality and performance that contribute to
Sanden's overall success. There were a total of 84
suppliers invited to the event. 61 were from Japan and
23 suppliers from outside of Japan. From the suppliers
that were invited, only 14 received the QCD and C&I
awards. Ogura's global QCD activities were recognized
and highly praised by Sanden. President and CEO, Mr.
Kanda, personally handed the plaque to Ogura.

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2017 Quality, Cost and Delivery Award and the Challenge and Innovation Award

OGURA RECEIVES SUPERIOR RESPONSE AWARD FROM PANASONIC

Shanghai, China

n March, at the Panasonic Supplier Seminar, the winners of four awards were announced. The awards given to suppliers were the Superior Quality Award, Superior Quality Improvement Award, Superior Streamlining Award and the Superior Response Award. This year, Ogura Clutch Wuxi (OCW) received the Superior Response Award. (Last year, OCW received the Superior Quality Award.) This award is Panasonic's recognition of Ogura's prompt response for delivery, cost reduction by localization and prompt and effective communication. The communication skills of OCW were highly praised by Panasonic personnel. After the award ceremony, the award was brought back to the plant and given to the employees confirming that it is their hard work and commitment to quality that allows Ogura to be successful.



Panasonic Superior Response Award

Application Story

NEW MOWER MAKES QUICK WORK OF TOUGH FLORIDA GRASS

t one time in our lives, most of us have operated a walk behind lawnmower. For some of us, it's a weekly chore; for others it's enjoyment or a good way to get some exercise. But for a few, it's a business, so dependable, quality equipment is essential to being successful. Commercial lawn care services are dependent upon their mowers for reliability and value. Beyond the dependability and cost factors, features play a huge role in choosing the right piece of equipment for the job. Engine size, deck



Sarlo BigMo 34

width, ease of use, maintenance costs and ergonomics are just a few, and there is no shortage of choices in the market when it comes to walk behind mowers. We are all familiar with the household names and colors - the green, red, yellow and orange machines that we see walking into a big box or neighborhood chain hardware store. One smaller, family-owned company however, has been making an impact in the commercial and municipal mowing industry.

Sarlo Power Mowers, established in 1935, still maintains its headquarters and manufacturing in Fort Myers, Florida. The company pioneered the high wheel mower and is known for advances in mower design, performance, and customer service. Sarlo is the oldest continuously single-owned mower manufacturer in the US and has built its reputation on simple and effective design, quality components and rugged construction. In staying with the tradition of innovation, Sarlo has recently introduced the latest in commercial walk behind mower technology with the BigMo 34.

Like the rest of the Sarlo lineup, it features rugged construction and high wheels. But the BigMo 34 is different in a number of ways. First, it features a fabricated, two spindle deck not previously available, which allows the operator to reduce cutting time while still being able to navigate through gates as narrow as 36". The addition of a hydrostatic drive system provides convenience and durability as well as a more comfortable and efficient operating experience.

Perhaps the most important feature of this mower is the cutting blade design. The patented TwinTrackTM cutting system is a unique method of providing a superior quality of cut. Sarlo Power Mowers' President, Tony Sarlo noted, "The Patented TwinTrack cutting system delivers an extraordinary quality of cut, and introduces a breakthrough blade and spindle design unlike anything else available."





Ogura GT series PTO clutch/brake

To round out the list of impressive qualities of the BigMo34, Sarlo chose the Ogura GT1 model of the PTO clutch/brake line. Mounted directly to the engine crankshaft, the GT1 engages with a pull of a button and transfers motion via a belt drive to the deck spindles, engaging the cutting blades. When disengaged, the integral mechanical brake stops the rotating blades in a timely manner to provide safe operation while allowing the engine to continue to run. Long known for superior quality, Ogura's proven electromechanical design delivers years of reliable and trouble-free performance. Ogura is proud to be partners with Sarlo in providing the industry with time-saying state-of-the-art product at an affordable price.

OGURA INDUSTRIAL CORP.

Happy Summer from the Staff of Ogura

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LAWNMOWER RACING OFF TO A GOOD START

Avon, Florida

gura sponsored lawnmower racer, Chuck Miller, has already finished with three first place and a second place finish in the first four races he has entered for this year. This puts Chuck at the top of the

leaderboard in the BP class points competition.

Chuck also had success with his mini puller in January with a second place pull at the 38th Winter Championship in Springfield, Ohio.



Chuck Miller holding the checkered flag

Our next update won't be until the 3rd quarter newsletter which will be in September, but if you want to follow Chuck's racing activity for the 2017 season, you can check the USLMRA Facebook page https://www.facebook.com/USLMRA

NEW PRODUCT RELEASE HIGH TORQUE MULTIPLE DISC CLUTCH

Somerset, NJ

gura Industrial is pleased to announce a new addition to our product line. Although this product is not new to Ogura, it is new to North America. The HO series is finding new opportunities for machinery manufacturers in North America because of some of its unique features.

This wet type multiple disc hydraulic clutch can produce a tremendous amount of torque in a small space. Static torque ranges from approximately 3,700 lb ft to 18,500 lb ft over four different sizes ranging from



Ogura HO Series

10" in diameter to less than 17" but only having overall lengths of 7" to 10". Because these clutches are used in an oil bath, they have excellent heat dissipation, can handle heavy loads and handle high cycle rates. In case of hydraulic failure, lockup bolts can be inserted to engage the clutch.

OGURA TEAM TO COMPETE IN J-GP2 CLASS RACES

Kiryu, Japan

n March, Ogura announced that they were going to continue to sponsor Mr. Tetsuro Iwasaki for motorcycle racing in Japan. Mr. Iwasaki is both the team leader of "Ogura Clutch with Power Builder" and the rider. He will be competing in the All Japan Road Racing J-GP2 circuit. Last year, Ogura supported Mr. Iwasaki and in 2017, will be his main sponsor.

The All Japan Road Race consists of 9 races held from April through November. Racers are awarded points based upon finish and the racer with the highest points total at the end of the year is crowned champion.

The experience gained from the extreme strain on the racing clutches helps Ogura to improve designs of both industrial and automotive clutches.



Mr. Ogura with Mr. Iwasaki