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January 2021

MONALEX Manufacturing, Inc.

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Spotlight on the Past:

A Look Back at Our Industry

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Happy New Year, folks. HAPPY NEW YEAR!

Let's hope 2021 is a fruitful one for all of us. Challenges are always welcome in our line of work, but boy, 2020 was a doozy. In all honesty, we could probably nap through the entirety of 2021 and still not be caught up on the rest we could all collectively use right now!

That said, kudos to everyone for hitting 2020 head on. It's all we know how to do. Whatever hurdle is in front of us, we get around, over, or through in any way we possible can. While it was a struggle, the New Year is here, and with it comes a blank slate. Sure, some of residuals of the challenge that was 2020 remains, and, uncertainty is always "in the air," but, we'll head right in and hit it the only way we know how.

Over the last handful of months one thing that has echoed throughout the dialogue we've presented is that of teamwork and of holding each other up as a working piece of the greater whole. Together we're stronger than we are going it alone, and we need to continue to utilize each other's strengths to bolster our own manufacturing capabilities. We hope that as 2021 rolls along we'll all get a bit tighter in developing our networks so we have more of a safety-net if the floor drops out again. Supply chains ought to be shortened and kept closer to home rather than many miles away (i.e.: overseas).

Happy New Year! If you've got a story idea you'd like us to work into the calendar, reach out to us and let us know! We'd love to hear about it, and love telling the tales that highlight the working pieces of our industry! One thing we'd like to work on this year that is new in fresh is spotlight's on individuals working to make our industry interesting and motoring along with innovation and efficiency. If there's someone you'd like us to shed a spotlight on (that can include yourself), please send a note to Chris@thegatewaymag.com.

All our best,

THE Gateway MAGAZINE

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— JERRY JEFF WALKER

SMALL, RESOURCEFUL, AND STRONG: A CONVERSATION WITH MONALEX MANUFACTURING, INC.

This month we sat down with the folks over at Monalex Manufacturing, Inc. out of Douglas, Massachusetts and presented them with a handful of questions that would best place their company in the spotlight. What you're about to read is the meat of that conversation. If you have any further questions, or would like to learn more about Monalex – who are quite excited to announce that they've recently become ISO 9001:2015 certified – their contact information can be found at the end of this feature. Without further ado, please join us in learning all about Monalex Manufacturing, and what they've been working to accomplish within our industry for nearly three-decades...

COMPANY SHOWCASE: MONALEX MANUFACTURING, INC.

PLEASE, FILL US IN ON THE HISTORY OF MONALEX MANUFACTURING:

Tyson (Skip) Brady is the Owner and President of Monalex Manufacturing, Inc. At a young age, Skip began working in the engineering field at a few different companies, but the last job he had before he went into business himself was at a machine shop. His employer there had a tendency to avoid buying necessary tooling, to save on money. Skip thus felt that he was being hindered from making good products, so this was the key motivating force that made him decide to go into business on his own. He bought his very first machine in 1972, and started out on his own with a company he called Danlyn Machine, affectionately named after his daughter.

He owned this company for 20 years, and then eventually relocated and founded Monalex Manufacturing, Inc. in 1992, which he named after his two granddaughters. Family is an important aspect of Skip's life, and he's enjoyed working closely with his family over the years. To this day, his wife Dede works by his side in the office, as well as his daughter Danette, and granddaughter Monika. Skip thrives on the opportunities this industry provides; he loves taking on new challenges. In his words:

> *"I love the challenge of making a part that others might turn down because it seems impossible to make. It's such a good feeling when, as a team, we've stuck with an idea and seen it through, and in the end I have a product that is pleasing to our customers. When I'm able to satisfy a customer with a good quality product delivered on time, I feel that's a true success."*

All of us here at Monalex Manufacturing, Inc. do our best to mirror Skip's enthusiasm for what he does.

COMPANY SHOWCASE: MONALEX MANUFACTURING, INC.

WHAT IS MONALEX MANUFACTURING'S OPERATIVE OFFERINGS? WHAT DO YOU DO?

Our company is a full service machining and manufacturing shop. We specialize in the manufacture of precision machined parts to customer specifications for OEM's in various industries. Our current customer base includes the following industries: durable and reliable pressure and temperature switches, controls, transducers and sensors for oil and gas; medical, endoscopes; process control instrumentation; aerospace; automotive aftermarket; corrosion resistant and cryogenic valves; just to name a few. We are always looking to expand further within these fields – and we are especially interested in doing more in the medical field.

We are a full service establishment from the procurement of raw materials to all outside service requirements, i.e. painting, plating, anodizing, welding, heat treating, lapping & grinding, etc. While we work with the typical industry materials such as steel, aluminum, plastics, etc., we also excel in working with stainless steel and exotic (hi-temp) materials such as titanium, hastelloy, monel, etc.

Monalex uses state of the art CNC machines, and our manufacturing capabilities are enhanced by the use of Solidworks/Camworks CadCam software.

Currently, we're in the process of selling some older machines, and getting some new machines. We were really excited to add two brand new Smart Machines (CNC Lathes - SL15L and NL3000BL) to our reliable collection of inhouse machines, which happened very recently. These new additions are a tremendous help in fulfilling our high standard of quality, as well as adding to our high volume machining capacity.

Another point of pride is in the fact that we excel in low volume machining, with the expertise of our machine operators working hard to manufacture highly intricate parts of all shapes and sizes. * See pictures!* Our CNC Lathes along with our CNC Milling Machines *See Facilities list* work reliably and efficiently, continuously helping us to achieve the best possible finished products for our customers.

Our Quality Assurance Manager, Jordan Miller, specializes in caring for the inspection of each and every product, and utilizes all the necessary tooling and fixtures to perform such high quality inspections, including the following:

- ***Micro-Vu Vertex 311 Automated Precision Measurement System***
- ***Micro-Vu Spectra 14" Optical Comparator with InSpec metrology software***
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- ***Fowler Trimos V4 Electronic Height Gages***
- ***Mitutoyo SJ-410 profilometer***
- ***Along with countless pin & thread gages, and other hand tools...***

(CONTINUED ON PAGE 7)

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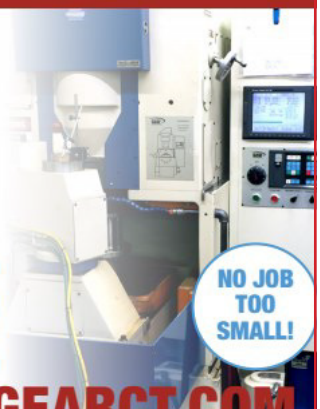

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COMPANY SHOWCASE: MONALEX MANUFACTURING, INC.

We are always looking to grow and adapt to new customers and their needs, which is why we decided to look into getting ISO 9001:2015 certified. We are hoping that this certification will lead us further into the medical field. Getting certified has been a huge accomplishment for us, and we are looking forward to seeing how we can continue to expand our horizons, and where this certification will take us.

FACILITIES LIST:

Monalex Manufacturing's facilities list includes the following:

MILLING: CNC & MANUAL

- ***OKUMA & HOWA 4VA CNC 4 axis machining center. Cap. 28"X, 16"Y, 18"Z***
- ***SUPERMAX FV102 CNC machining center. Cap. 40"X, 20"Y, 20"Z, 20 hp; 10,000 rpm***
- ***OKUMA & HOWA 511V CNC vertical machining center. Cap. 40"X, 20"Y, 20"Z, 20 hp***
- ***HUNDIA KIA VX500 CNC machining center Cap. 40" X 20" X 20", 10,000 RPM***
- ***ACER ULTIMA 3VKHF 2 Axis CNC Millpower vertical milling machine***
- ***SUPERMAX manual milling machine (12" X 30") w/digital readout***

TURNING: CNC & MANUAL

- ****NEW* SMART SL15L CNC 6" chuck; 8" Dia. X 24"lg. capacity***
- ****NEW* SMART NL3000BL CNC 18" Dia. X 43"lg. capacity w/4" spindle bore***
- ***(3) HYUNDAI-KIA SKT21LMS CNC w/live tools & sub-spindle****
- ***(1) HYUNDAI-KIA SKT15LMS CNC w/live tools & sub-spindle****

* *all with automatic bar feed*

- ***YCM GT 250B CNC Turning Center w/Fanuc TXP-100FA control***
- ***OKUMA & HOWA ACT20 CNC 10" dia. X 20" (between centers)***
- ***OKUMA & HOWA 2SP-15H CNC twin spindle***
- ***HARDINGE CHUCKER manual chucker w/automatic threading***
- ***VICTOR manual lathe Cap 16" dia X 40" w/digital readout***

** *Unless otherwise stated all machines equipped w/Fanuc Controls*

MISCELLANEOUS:

- ***ACER AGS-1020AHD surface grinder (10 x 20 capacity)***
- ***AMADA horizontal automatic bandsaw (10" round, 10 X 12 rectangle capacity)***
- ***SUNNEN Hone***

INSPECTION:

- ***(2) FOWLER Trimos "Vertical 3" Measuring system***
- ***MICRO VU Vertex Measuring Center Automated Vision***
- ***MICROVUE 14" Optical Comparator w/In Spec metrology software***
- ***HEXAGON METROLOGY (B&S) Microval Model 454 Personal CMM***

(CONTINUED ON PAGE 10)

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Fill us in on Monalex's quality, quantity and quoting practices:

As mentioned, we are newly ISO 9001:2015 certified. What's great about this is that it has helped us really refine our quality systems so that everything runs as smoothly as possible, as we continually strive to provide on-time delivery to our customers. Our quality policy is as follows:

> *"Companywide commitment to the production of quality parts, while giving personal attention to customer needs and continuously improving our use of effective and compliant quality management systems."*

This new in-depth outlook on quality has given us more confidence than ever before when it comes to taking on new jobs and opportunities.

We excel in both low volume and high volume machining, servicing the needs of customers throughout the New England area, and even a few others extended throughout the United States. We are flexible with how our customers would like to receive their items; some prefer to use a "release" method, while others prefer a fixed due date. We are ready to accommodate the unique needs of any customer.

Any last words?:

We're proud of the outstanding service we provide all of our customers! We make a huge effort to respond QUICKLY to customer needs. We have the ability and the resources to make decisions in a pinch if need be, and we strive to keep excellent communication and customer service at all times. When repairs need to be made, we do so as quickly as possible, without sacrificing quality or precision. Our focus and our ultimate goal is always to have 100% Customer Satisfaction.

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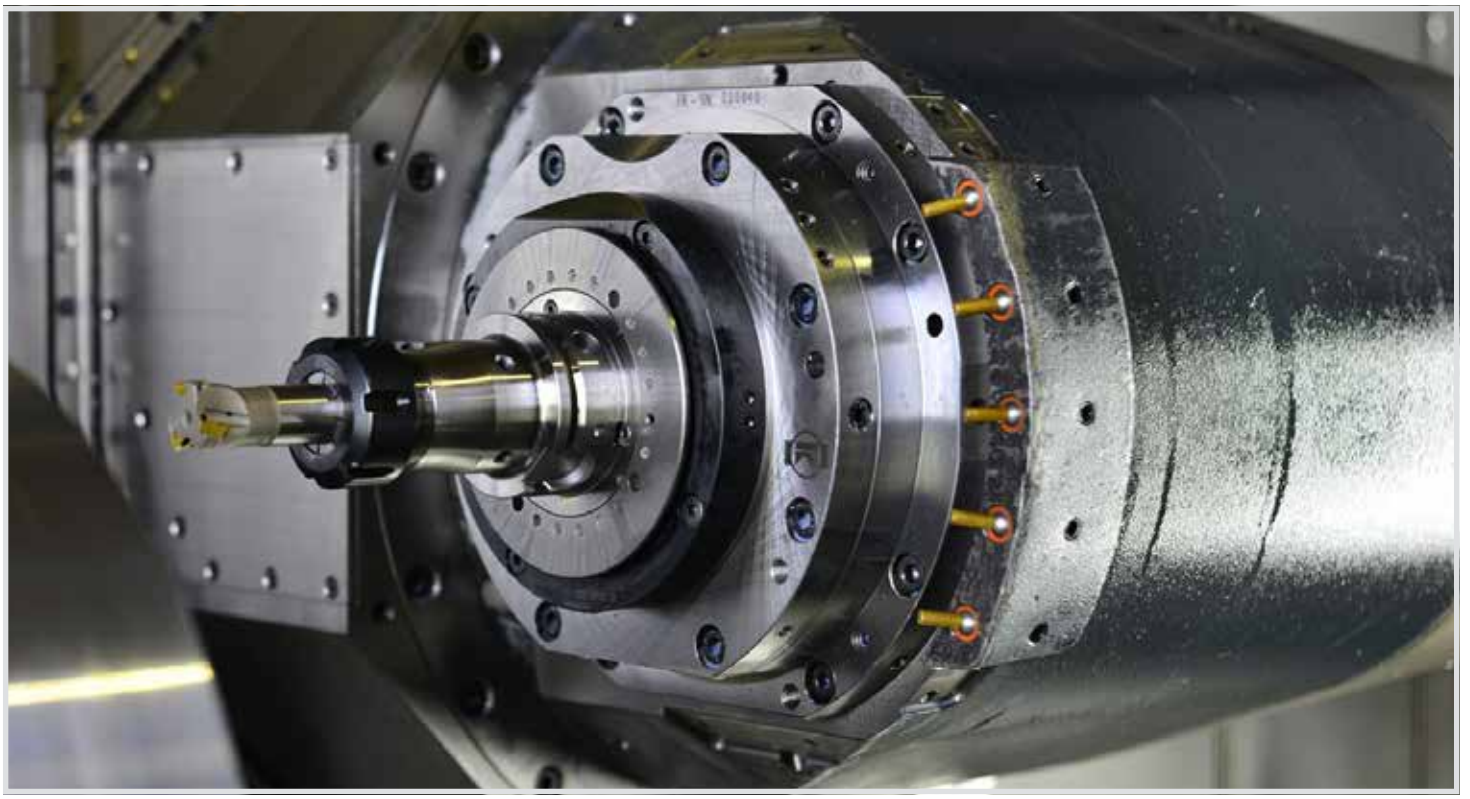
SPOTLIGHT ON THE PAST: A LOOK BACK AT OUR INDUSTRY

We started this series a couple of months back, and, as a refresher, we thought it might be fun to, from time-to-time, revisit some old pieces of content that have lived in the pages of the Gateway Magazine at some point in the last 20+ years of the periodical's existence. This will also serve as a welcome departure from all the pandemic prose we seem to have been typing up for the past nine-months... With that departure in mind and in the spirit of taking "a look back," let's move forward (as best we can)! In many ways, the industry has changed greatly, while, in others, it's "business as usual", where we're simply looking to continue the grind and get ourselves from point A to point B in a job cycle.

Today we're going back nearly 15 years to October of 2006 to have a look at "A Gateway Educational Enlightenment Article" that we used to run as space permitted. The pieces were submitted by our readers and invaluable advertisers. The spotlight in October's issue 15 years ago was on Machine Tool Spindles and was originally submitted by Michael Gunski Jr. of Spindle Parts and Services, LLC. So, without further ado, here's the text verbatim (with some minor formatting changes...)



EINSTEIN'S CORNER: A GATEWAY EDUCATIONAL ENLIGHTENMENT ARTICLE – MACHINE TOOL SPINDLES

Many people agree that the spindle is the most important component of the machine, and is often considered the heart of said applicable machine. For those who don't know what a machine tool spindle is, it is more than just a basic motor, or even a shaft with bearings. Instead, it is an extremely precise mechanical assembly consisting of a shaft and housing, tool holding systems, and ultra-precision class ball bearings. The quality and sophistication of the spindle assembly directly impacts the capabilities of the machine tool. With such an important component, it only makes sense that great care would be put into the prevention of failure, and the service of the spindle should an unfortunate failure occur.

Spindle failures on machine tools cannot always be prevented, but some of the following steps can be taken to minimize the amount of failures.

These include:

Visual inspection of machine system: Periodic inspections of the lubrication system and air supply can prevent over (or under) lubricating, as well as internal contamination. In the case of oil lubrication, maintain a clean lube supply. This, along with the application of the appropriate delivered amount of lubrication can have positive lasting effects on the life of the spindle (or negative if you're not monitoring things carefully). Machine air supplies should also be filtered and dried for best results.

Spindle taper inspection: Monitoring of the taper concentricity, surface contact, and gauge line will give you warning of any change to the tool holding surface. A poor taper surface will affect the machine accuracy and ultimately the quality of the manufactured part.

Retention force: Maintaining the proper retention fore on a machine drawbar is often overlooked by many shops. The fact is, low drawbar pull force because of broken or worn Belleville washers can be detected with a

dynamometer before it affects other components in the spindle. Low clamping pressure can cause premature wear of the spindle taper resulting in decreased spindle accuracy and poor part quality.

Vibration analysis: The paper and power industry have had tremendous results using this technology to predict failure. This type of technology is not as well recognized in the machine tool industry, but it does have its advantages. Several large U.S. manufacturers have used vibration analysis programs to establish baseline information on their machinery. They then make periodic measurements over time and monitor the change to help them prevent catastrophic failure and unnecessary downtime. SPS has simplified this technology to assist smaller shops with implementing basic vibration programs to assist maintenance efforts.

Taking steps to prevent failures on your machine tool spindles can ultimately lead to significant cost savings for the company. The advantages of a comprehensive preventative and/or predictive maintenance program can be tremendous for the manufacturer as long as you clearly define your expectations. Too often companies try and implement a program where they want to shoot for the stars, but don't want to invest fully into the program, or they don't have the support of all the individuals involved. Most people in manufacturing understand there is a fine line between machine maintenance and production. Understanding where that line is in your shop will determine what types of programs work best for your company. Whether you perform periodic retention force measurements or condition trending through ca complete vibration analysis program, the goal with any plan is to try and limit catastrophic failures, control excessive repair costs, and reduce the total downtime of your precision machine tool spindle.

(CONTINUED ON PAGE 20)

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In summation of the look back (which is still true today), you can have the greatest tool on planet earth in your possession, primed and ready for production go-time, however, if you're spindle is "wonky," the tool is going to produce parts that will have you scratching your head and putting holes in the drywall. Your tool is only as good as the spindle it's on in the working confines of your machine. If it's off axis, you're going to get some undesirable results. If it's suffering from some corrosion or other signs of wear, you're going to get some undesirable results. If the motor that fires the spindle isn't being tested and treated, it's not going to drive the spindle correctly, and thus, that other-worldly tool you've had developed and delivered is nothing but a fancy paperweight.

When downtime is not an option, think ahead. It's safe to say we learned a lot of lessons with this very sentiment in mind (from myriad vantage points) in 2020!

As we enter 2021, plan for routine, plan for some annual machine maintenance, be proactive about the operative health of your organization from both human and

(CONTINUED ON PAGE 22)

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machine resource vantage point. There are also all kinds of tools/solutions out there that are analytical, and give you real time machine health analysis right on your handheld device. You can also Google it and get a mile's worth of results for yourself. The trick is finding the right solution that works for your unique need(s).

As it relates to spindle health, SPS (the kind folks that wrote the original piece above) is a company packed with knowledgeable, spindle sharp people that do not consider downtime as an option. They, of course, rebuild spindles that fail, will go onsite to remove or install spindles, and they can do onsite inspection with vibration analysis, among other things. Their real claim to fame is to educate and train customers to keep the spindles you have running right. Their goal is to help reduce the total cost of ownership of customers' equipment.

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The first change you'll notice is the company name. By combining Accurate Metal Sales and their accompanying services with ITS's expert capabilities in welding and fabrication the company will now be known as Accurate Metal Sales & Fabrication, A Division of Industrial Transfer & Storage.

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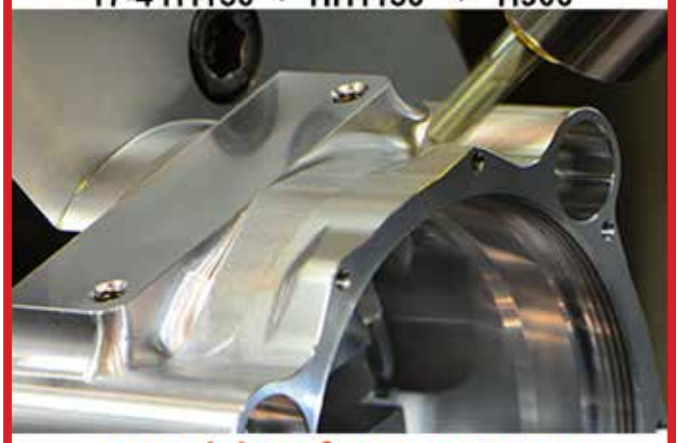

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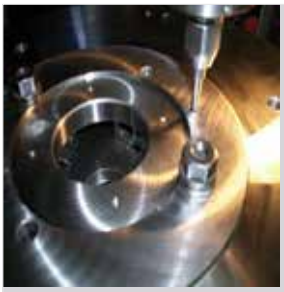

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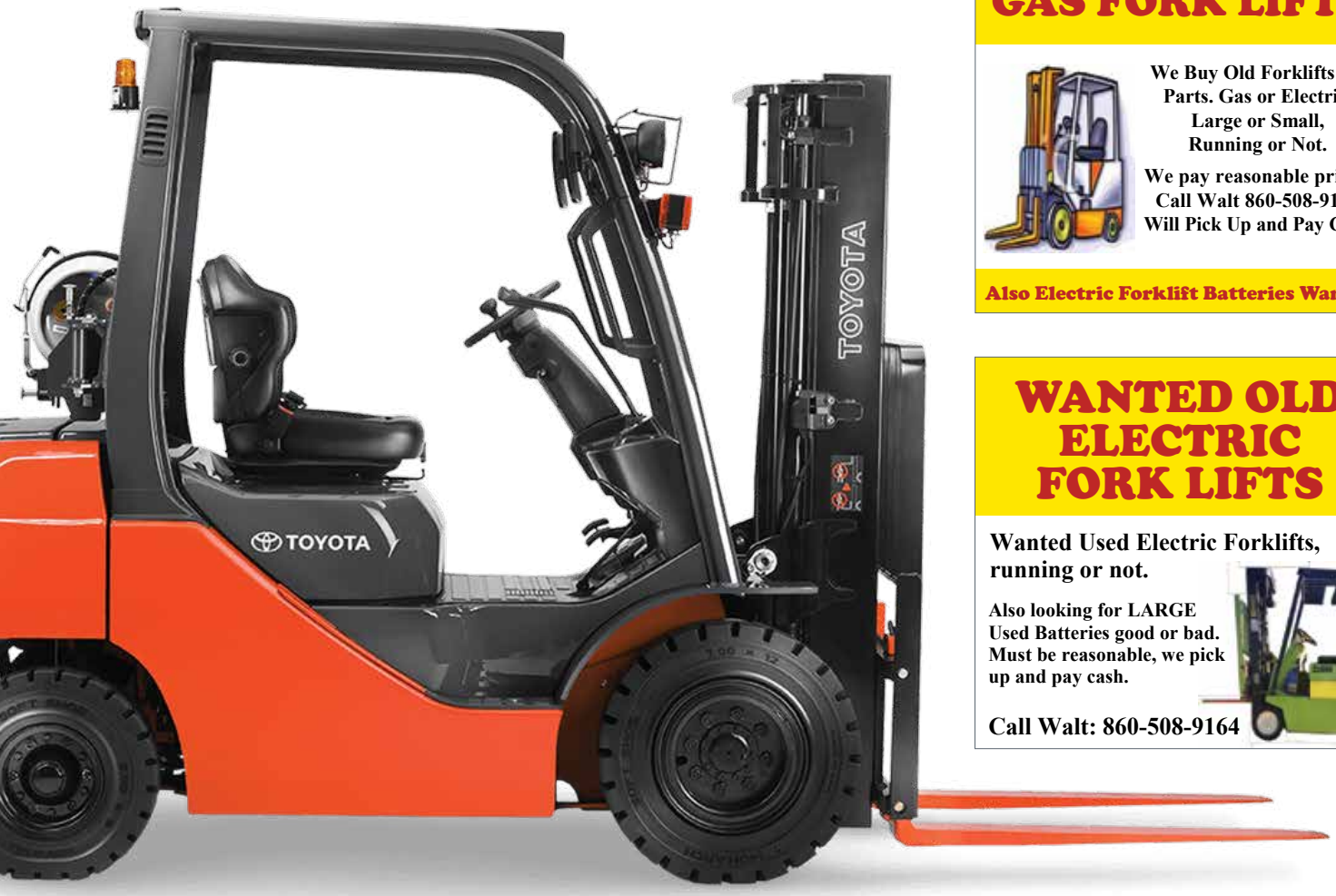

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