

**October 2013**

**President: Stan Shinker  
Vice President: Tom Brokaw  
Treasurer: Mike Sabby  
Webmaster: John Delke  
Secretary: Chris Reid  
Events: Chad & Shawna Linkert  
Newsletter: Bryan Flatter  
Merchandise: Craig Savina**



**Huh? It's October already????? The weather is cooperating, it's getting cooler, and in my opinion we are getting to the best part of the year. Milder weather, completion of projects, the fall colors make it a great time to put on some miles before it's time to pack the cars up for the coming winter. Don't forget about those last nights at your local cruise spots. It wouldn't surprise me to see cars still showing up even after the "final" cruise for the year is done, or go ahead and grab some friends to make your own at a favorite destination. I remember as a kid just driving around town until I saw a group of cars and would roll in to see what was happening.**

**What do you want to see in the newsletters for next year????? Let me know on our forum (screen name "Bowtie") or send an email to [newsletter@northstarcheves.com](mailto:newsletter@northstarcheves.com) so it can get forwarded to me. I'll do my best to fit it in.**

**ANOKA AND NORTH ST PAUL ARE DONE  
FOR THE YEAR, BUT THE HASTINGS  
CRUISE FINALE IS ON 10/5.**

NCC Members,

9/23/2013

I want to take this October newsletter as an opportunity to inform the members that I am not going to run for re-election as the club President. This has been a tough decision for me since the club is an integral part of my life. Having said that, my objective over the past 3 years has been to keep the club on solid ground, and hopefully grow a little in some areas. I hope that our membership feels those objectives have been accomplished. I also feel it's time for someone else to have the opportunity to lead this great group of people, and take the club to the next level.

I want to thank everyone that has helped while I was acting President, and I will continue to be active in the club and support in any way I can.

Best Regards,

Stan

# OFFICER ELECTIONS

Every year at the official October and November club meetings, we nominate members for our club officer positions. Officer elections are then held at the November club meeting. Every position is up for re-election each year and no prior experience is necessary. I have been informed that the current President, Vice-President, and Events coordinators will all be stepping away to allow other members the opportunity to be a bigger part of the club. If you wish to step up and take a more active role, you need to make it known to another member to nominate you. You do NOT need to be present to be nominated, though the current officers may contact you to verify your intent. There is NO absentee voting, so that means you must attend the November meeting to vote. For a full copy of our club's bylaws, please refer to: <http://www.northstarcheves.com/aboutus.html> and click the Bylaws link at the bottom of the page.

## 5<sup>th</sup> Annual Cruise for Troops

Again this year, I had a part in planning a good cruise for a great cause. Even with a 100% chance of rain forecasted, we had over 100 participants, cruised about 100 miles, and raised over \$3400 which will go to Tribute to the Troops which is an organization of grateful

Americans dedicated to preserving the memory of those men and women of our nation's military who lost their lives while bravely protecting our freedom. The cruise took us from Norm's Tires in Roseville, through St Anthony, and then out Hwy 36 to Manning Avenue and up to Taylor's Falls. We had a stop at the Frost Top and then headed back across the north side to the Hot Rod Factory and finished at Maxx Bar and Grill. The final stop was an event in itself with a silent auction and music from the Star Chiefs, the Holy



Rocka Rollaz, and Jack Knife and the Sharps. Next year will be even bigger and I hope more of our club can come out to be part of a fun event next fall.



# History of Automotive Arc Welding Through Lincoln Electric

by **Bobby Kimbrough** on September 19, 2013



The officially accepted birthday of the first gasoline powered automobile, the Benz Motorwagen, is 1886. This automobile came to life at the hands of German inventor Karl Benz (Yes, that Benz from Mercedes-Benz). It's unlikely that Benz would have achieved this industrial turning event without the use of Arc welding, which was founded only a couple of decades prior. From that moment forward, the auto and welding industries have been forever linked, like two plates of steel butt-welded together by the TIG process.

For hundreds of years man could only join metal by the crude and time consuming fusion method, which called for the heating and pounding of metals until they were fused to each other. In the 1860s an Englishman named Wilde began intentionally joining metals by electric welding. In 1865 he was granted a patent on the "arc" process which was only of interest to scientists until 1881 when the carbon-arc street lamp was made. Once the genie was out of the bottle there was no looking back and companies like **Lincoln Electric** entered the welding industry in 1907.



September 1927 – Lamkin Hodge Pipeline. Getting ready to lay the final bead on a bell and spigot joint for this 8-inch line which carries gas from Lamkin, Louisiana to Hodge, Louisiana. This was one of the first major pipelines to be arc welded, and Lincoln equipment was used exclusively for this project.

*"We're going through an interesting period because welding equipment has made a huge leap."* - Greg Colem

The Lincoln Electric Company of Cleveland Ohio began by manufacturing electric motors in 1895. By 1907, Lincoln Electric was manufacturing the first variable voltage DC welding machine. Founder John C. Lincoln started the company with a \$200 investment making electric motors of his own design. John C.'s younger brother, James F. Lincoln, joined the company as a salesman in 1907, by which time the product line had been expanded to include battery chargers for electric automobiles. A welding set is first made by the Lincoln brothers in 1909. In 1911, Lincoln Electric introduced the first variable voltage, single operator, portable welding machine in the world.

Lincoln Electric's Marketing Communication Team leader, Greg Coleman explained the differences in the two Lincoln brothers. "John C was an engineer and inventor with extensive experience in the developing Cleveland electrical apparatus industry. James F., on the other hand, was a charismatic natural salesperson with a history as the co-captain of an undefeated Ohio State football team." As different as the brothers may have been personality wise, they did share the entrepreneurial spirit.

Opting to focus on scientific study, John C. Lincoln turned over the company's operations to younger brother James F. Lincoln in 1914. Almost immediately, James F. introduced piecework pay and established the Employee Advisory Board, which includes elected representatives from every department and has met every two weeks ever since. By 1915, in a progressive effort for its time, Lincoln Electric employees were covered by group life insurance. Lincoln Electric was one of the first companies to cover their employees and pay incentive bonuses.

## A History Recap of Lincoln Electric



**1895:** John C. Lincoln founded the Lincoln Electric Company manufacturing and selling electric motors of his own design.

**1907:** John C.'s younger brother, James F. Lincoln, joined the company as a salesman.

**1914:** John C. turns over the reigns of the company to James F.

**1917:** The Lincoln Electric Welding School was founded. The school has trained more than 100,000 people since its inception in 1917.

**1933:** Lincoln Electric Co. published 1st edition of "Procedure Handbook of Arc Welding Design and Fabrication" with the purpose to have its customers use arc welding efficiently. Today it's considered "the bible of welding."

**1977:** The Mentor, Ohio, electrode plant was started up to produce the company's domestic wire consumables products.

**2005:** Lincoln Electric acquires J.W. Harris Company, a global leader in brazing and soldering alloys, to broaden the Company's solutions capabilities and complement the core product lines.

**2010:** The Lincoln Electric Company celebrates its 115th anniversary year.

### Lincoln Electric and Training

Turn of the century Ohio was a hotbed of automotive entrepreneurs. From Grant Motor Company and Standard Oil to Allen Automobile, Willys, Templar Automobile, Studebaker-Garford, Arrow Cyclecar and the Sandusky Automobile Company, Ohio seemed to be the center of the automotive universe in early 1900's. Along with the automotive industry came all of the industrial wares to help maintain and grow the fledgling car business.



Even 69 years ago, welders were interested in helmets with edgy graphics. Check out this cool "Voodoo" helmet from 1944.

James F. Lincoln knew that training people would leave a lasting impression on these would-be future welders. "He was hoping that the trained welders would remember the Lincoln name somewhere down the line," said Coleman. Starting the Lincoln Electric Welding School was the start of the training process. As of 2010, more than 100,000 people have been trained to weld at this institution. "James Lincoln was really a visionary," says

Coleman. "He wrote three books and started the incentive management principles that we still have in place today."

In addition to the management and training efforts, James Lincoln was a leader that fostered a company culture where employee concerns are heard. "We are continuously working to minimize waste, reduce costs and improve safety for everyone involved with Lincoln Electric. Most of these ideas came from our employees. Even today, long after the Lincoln brothers are gone, we foster an environment where employee concerns are voiced and welcomed."

## The Cutting Edge in Training

As always, Lincoln Electric has kept up with the changing face of welding by moving the learning curve further along. Training has become a significant part of Lincoln's portfolio. "About six to eight years ago, we teamed up with a virtual reality company to produce an accurate environment that simulates what happens at the weld. The VRTEX virtual reality arc welding trainer precisely simulates what it looks like and what it sounds like to weld."



According to Coleman, "The system allows for scoring of the weld. It will measure angles, speed, and stick out measurements to score the weld. All this is done without wasting consumables. No more using metal stock, gas and welding wire when practicing."

Lincoln Electric recommends that virtual reality training be used as a supplement to actual training in the weld booth or application environment and should not be considered a replacement for traditional training methods.

In May of 1939, Exhibitor's Service Company in Pittsburgh, Pennsylvania, purchased a Lincoln SA-150. Here, a welder works on a 20-foot frame salvaged from a truck that was damaged in a fire. According to company representatives, the SA-150 paid for itself the first week in the shop.



The VRTEX system is used in many locations and different industries in the current environment as a way to save costs during training. Not only is the device effective for learning different welding processes, Coleman explained that it also validates a welder. "The system can also be used to verify that a welder is proficient in the various welding processes. Without wasting any resources, a company can check that a welder can do what he says he can do."

## What's on The Horizon

Lincoln Electric has always been committed to arc welding, "That's not going to change," says Coleman, "We are going to keep pushing the learning curve on arc welding and welding consumables." Coleman explained, "We are involved in many of the latest processes like fiber hybrid laser welding, which retains the use of a welding consumable in the process." Either the Laser cladding process or the hardfacing process can be applied to a new part during production to increase its wear resistance, or it may be used to restore a worn-down surface."

In addition to the laser welding process, Coleman told us about the company's work in cutting metal. "We've made some solid acquisitions like Torchmate. Torchmate CNC Cutting Systems has been bringing affordable CNC plasma cutting tables and other automation solutions to manufacturers worldwide for over 30 years."

## Keeping Up With Metal Alloys

"We're going through an interesting period because welding equipment has made a huge leap," stated Coleman. "Equipment has changed from transformer/rectifier based systems to inverter-based systems for multiple processes with different waveforms," he added. "The use of software to optimize arc characteristics for aluminum GMAW has been taken to a new level at Lincoln Electric, we call this Waveform Control Technology," he added.

The "next level" Coleman mentioned is Lincoln Electric's technology that allows the welding system to learn what the user or employer considers a high quality weld for a particular application. "The machine is able to learn exactly what the user considers an acceptable weld, then the machine has the ability to grade the welds based on the information provided by the user," explained Coleman.

This Waveform Control Technology and the "user-defined" tailoring it provides, can be found in software embedded in Lincoln's Power Wave inverter power sources. The Power Wave can be utilized in pre-programmed waveforms for welding aluminum or engineers can create their own tailored, waveforms using Lincoln's Wave Designer Software. These waveforms, which are created on a PC, can be programmed into the Power Wave.



Manipulating wavelengths was not always a concern or option in the past. A young boy watches as his father (John Taylor) gets ready to make repairs with his gas engine-driven welder at the farm of Lawrence and John Taylor in December of 1949.

Being able to control and manipulate the waveforms allows weldors to adjust to different metal alloys to provide a solidly joined welded seam. "This is a long way from the first Lincoln Electric welders that were the size of a Pinto and used bare solid welding rods," said Coleman.



## Conclusion

Manipulating the waveform can have a predictable effect on travel speeds, final weld

bead appearance, post weld cleanup and welding fume levels. For

example, on thin, .035-inch, aluminum base materials, the user can reduce heat input, reduce distortion, eliminate spatter, eliminate cold lap, and eliminate burn-throughs with the use of Waveform technology. This has been done repeatedly in applications that can benefit from pulsed GMAW. Welding programs can be created that will apply to a very specific range of wire feed speeds and currents or they can be created to follow a very wide range of material thicknesses with a broad range of wire feed speed.

Fabricating a bend in a 12-in. gas line at the KMA Oil Field in Wichita Falls, Texas, in October 1938. The work was being done on a river crossing for the gathering system between some oil wells and the Phillips Petroleum Company cracking plant.

Another of Lincoln Electric's subsidiaries, Techalloy, a Maryland based company, produces nickel alloy and stainless steel welding consumables for automotive exhaust systems, high temperature and anti-corrosive chemical and pharmaceutical industry applications and oil and gas industry fabrication maintenance and repair. The company's products are considered industry standards in power generation and nuclear applications. Techalloy maintains a leading position as a supplier for power plant weld overlay operations. As automotive manufacturers switch to different or newer metal alloys, Techalloy comes up with new products to meet the welding needs of fabricators.

Different metal alloys have many different attractive attributes that make each alloy a choice for a various applications, although they can be different to weld. With a good understanding of metallurgy and the latest tools and technology on the market, all of the metal alloys can be dealt with successfully. Lincoln Electric helps keep weldors on the cutting edge of technology with updated equipment and up-to-date training practices. These basic principals that have been with Lincoln Electric from the beginning are still the driving factors for the company today.

## Member Profile:

**Name/spouse (since the spouses are also members)** Stan and Tina Shinker

**What was/were the cars you owned when the club started?** 1972 Chevrolet Chevelle-Mulsanne Blue with Black Vinyl Top with an oil-burning 327 and a "project car." **Do you still have it/them now?** Are you kidding me? Everyone knows me as the 'flipper' since I've had 6 '71 or '72 Chevilles in ten years... That first Chevelle was sold in Nebraska in 2004. **Have you had any other cool cars since then?** Let's see, there was the red '72 Chevelle, white '71 Chevelle, green '72 Chevelle, blue '72 Chevelle, and now the blue '72 Malibu convertible! There was also an '88 Corvette with 23K miles, and a '78 one owner Z-28 Camaro stuck in all of that.

**Have you held any positions within the club?** I have served as club President for the past 3 years.

**What's your best memory of the club?** Wow, there are too many to list from the past 9 years or so I've been involved. Some key events that come to mind are the first meeting I attended at the old Corvette Specialties location, which I believe was maybe the 2nd or 3rd meeting of the club. Parking together at Car Craft and listening to all the people saying: "... look at all those Chevelle's!", to everyone gathering around Craig Savina's Chevelle the night a pushrod went out 2 hours from home (thus the moniker 'Pushrod' on the forum) and getting him running to get home, to Karl calling me the night before Car Craft within 10 min. of posting on the forum that I needed a power steering pump and installing it that night which shows the support in this club, to the Christmas parties and taking the Toys for Tots donations to the drop off. This club has a ton of great memories for me.

**What have you gained from being a part of this club?** The social connections, friendships, support (both technical and emotional-LOL) to the pride of being involved with a great group of people that would do anything to help you at the drop of a hat! **What's your current ride specs? Future plans for it? Any Awards, features, etc?** My current ride is the '72 Malibu convertible that just finished the 8 month frame off restoration with the help of a few members (especially Tim H. who I can't thank enough for his skills, patience in working with me, and knowing every nut and bolt that goes into a Chevelle!). Future plans are to change the interior to white (cooler in the summer, and will go well with the white stripes!), and build a torquey 400 HP/Ft. Lbs small block to 'pep' it up a little bit.

**Where are you from?** I grew up in North Central/North East Nebraska in small towns, then moved to Lincoln, NE where I met my wife and raised our kids until 2000 when we moved to the Twin Cities for a job relocation. I have loved the area ever since (especially the collector car culture!). **What's your occupation?** I'm a Sr. Purchasing Manager is the best way to describe my current position. My career has been in manufacturing in many roles from Quality Assurance to Production Supervision, and as a Supply Chain professional.

**Anything you want to include?** NCC has been a part of our lives since the early days of the club, it and the relationships are an integral part of who I am. Some could define my interest in Chevelle's and collector cars an obsession, but I think it's a healthy one, and this club will always be a part of me.

