

Cutting Costs with Cutting Consumables

Continuously looking for equipment to cut costs led a manufacturer to plasma cutting equipment with part commonality

When Newton Crouch Sr. bought a cotton gin and warehouse business in rural south Georgia back in 1940, he had no idea the business would evolve into a nationally-recognized leader as a manufacturer of large industrial-sized liquid and granular fertilizer spreading equipment; in fact, that business didn't even exist until many years later.

As crops, fertilizers, and the economy changed in the mid-1950s, Newton Crouch, Inc. – NCI – adapted to serve the changing industry, being the first to have and deliver liquid nitrogen-based fertilizers, which

instituted the need for new liquid-spreading equipment.

NCI met this challenge by designing application equipment for the new liquid products, as well as granular fertilizers and lime. Since then, the company has grown into a multimillion-dollar business employing more than 35 people, presently under the leadership of Newton's son, Steve.

Cost-Cutting Search

Always looking for ways to keep costs down and produce better products, the company purchased a major-brand plasma-cutting system. Since almost all of NCI's products are made of 304 stainless steel, except for the trailers used to carry the spreaders, they go through tons of 13-, 10-, and 7-gauge stainless, as well as 1/4", 3/8", and 1/2" mild steel every month, all of it cut with plasma.

"From the first day the new plasma machine was fired up, we used nothing but OEM replacement consumables for no other reason than to protect ourselves against warranty issues



NCI makes extensive use of plasma cutting in the construction of its fertilizer spreaders

should they arise," Robbie Sheppard, NCI's design specialist, explained.

"Because we are constantly cutting stainless and mild steel of different thicknesses, we do a lot of switching back and fourth between 70 amp and 100 amp setups. This meant changing gasses for stainless or mild steel, as well as changing out the complete consumable set for each power setting.

"Even with good cut planning, we found ourselves having to trash a complete set of consumables each time we made a change. Each set consists of five separate parts: shield, inner retaining cap, nozzle, swirl ring, and electrode. We were ordering 15 sets of 70 amp, and 15 sets of 100 amp consumables every week.

"We felt that the cost of the OEM consumables was high and we were only getting 900 to 1,000 piercings per tip [electrode and nozzle].

We were also experiencing poor cut quality on the stainless, with rounded edges and a lot of slag that had to be removed, adding additional cost to each part."

**NCI now stocks
75 percent
fewer parts and
the cost . . . is
50 percent
less expensive**



Manufacturing fertilizer spreaders involves intensive use of plasma cutting by Newton Crouch, Inc. A switch to a different consumable saved 50 percent in parts and 20 percent in clean-up.

to 1,800 per tip, a 55-percent increase. Before, we were stocking five separate parts for each amp setting, so we had to keep 15 sets of each in stock at all times,” he continued.

“Because we are now able to use the three common or interchangeable parts: shield, inner retaining cap, and swirl ring for either

Ready to Try Something New

Always looking for ways to keep costs down throughout the shop, Production Manager Randy Payton added, “We are always ready to try something new; if we don’t, we feel we are cheating ourselves.”

During a regularly-scheduled requote of shop supplies, a local distributor quoted American Torch Tip, Inc. – ATTC – Bradenton, FL, replacement consumables for the plasma machine. Because ATTC has engineered its tips to use three common parts that are interchangeable on both the 70 amp and 100 amp setups – swirl ring, shield, and inner retaining cap – NCI now stocks 75 percent fewer parts and the cost of the new ATTC shield alone is 50 percent less expensive.

“With the new replacement parts from ATTC, the first benefit we saw was a much higher cut quality with sharper edges and almost no slag, giving us a 20 percent saving on clean-up time, and with the amount of material we cut, that’s a huge figure,” Sheppard said.

“The second benefit was the number of piercings we got from the new tips. It went from between 900 and 1,000,

setting, we are no longer stocking so many parts. When we first started buying the ATTC replacement parts, it was like buying parts for three weeks and getting the fourth week for free. We don’t do that any longer because the parts are lasting longer and we need fewer of them, now even the shield lasts two months on average.”

Continuing to be open to new ideas, a distributor brought in another brand of consumables for NCI to test. Payton said, “They brought us a solid silver electrode to try, so we gave it a shot, willing to give them all our test data



Part commonality between the 70-amp and the 100-amp plasma cutters from American Torch Tip provided NCI with a 50 percent savings in supplies

in exchange. We quickly found that the cut quality was really bad and we only got around 400 to 500 piercings per electrode. The guy went home empty handed.” *American Torch Tip*

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