CASE STUDY

Building the Future Workforce with Hands-On Experience

EMPOWERING STUDENTS WITH REAL-WORLD MANUFACTURING SKILLS USING TORCHMATE®

INTRODUCTION

Located in Wellsburg West Virginia, Brooke High School's engineering education goes far beyond textbooks. Inside a 6,000-square-foot shop, engineering students operate in a simulated workplace, clocking in, collaborating across disciplines, and producing real-world projects that serve their community.

Led by engineering instructor Thomas Bane, who brings nearly three decades of teaching experience, the program is designed to prepare students for careers in engineering and manufacturing. As demand for hands-on, career-ready skills continues to grow, the school sought a solution that could bridge the gap between classroom theory and practical application. That solution came in the form of Lincoln Electric Automation's Torchmate® CNC plasma cutting table.

About Brooke High School

Brooke High School's engineering program doesn't just teach students how to use machinery, it teaches them how to operate within a professional environment.

Students clock in and out, manage project timelines, and collaborate across disciplines, developing the soft skills that employers demand. They also build digital portfolios of their work, giving them a competitive edge when applying for jobs or higher education opportunities.

This combination of technical training and workplace simulation ensures that graduates are not only knowledgeable, but job-ready.

THE CHALLENGE

- **Bridging the Skills Gap:** Students needed exposure to real manufacturing tools and workflows to better prepare for engineering and fabrication careers.
- **Expanding Capabilities:** Prior to implementing CNC technology, producing precise, repeatable parts was time-consuming and limited in scope.
- **Engagement Through Real-World Application:** Educators needed a way to make engineering concepts tangible, engaging, and aligned with industry expectations.
- **Workforce Readiness:** The program aimed to simulate a professional environment, teaching not only technical skills but also soft skills like time management, accountability, and teamwork.

Interview with Brooke High School conducted April 10, 2026

LINCOLN ELECTRIC AUTOMATION

WHY BROOKE HIGH SCHOOL CHOSE TORCHMATE

Brooke High School evaluated several suppliers, ultimately selecting Torchmate for its:

- **Industry-Relevant Technology:** Students gain hands-on experience with equipment and workflows used in modern manufacturing environments.
- **Ease of Use for Education Environments:** Straightforward controls and CAD integration allows students with minimal prior experience to quickly become productive.
- **Versatility Across Projects:** From artistic designs to functional components, the system supports a wide range of applications and materials.
- **Reliable Training and Support:** A seamless purchasing process, on-site training, and responsive technical support ensured a smooth transition into CNC fabrication.

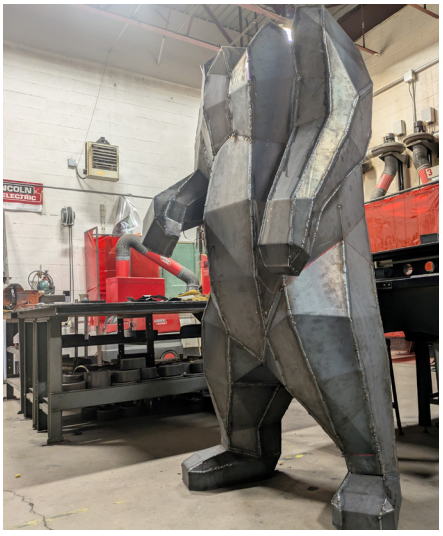
HOW THE TORCHMATE TABLE PROVIDED A SOLUTION

Brooke High School implemented a Torchmate® 4800 CNC plasma cutting table paired with a FlexCut® 80 plasma system in 2021, bringing CNC cutting capabilities directly into the classroom.

The impact was immediate. Students began designing and fabricating their own parts using Torchmate CAD software, quickly progressing from basic cuts to complex, high-quality projects.

With intuitive controls and accessible software, both educators and students were able to get up to speed efficiently. Initial learning curves were overcome through hands-on experience, peer-to-peer training, and supplemental resources such as Torchmate Academy. Over time, students like Hunter Darling and Ryan Kettler, who also participated in the interview phone call, have become proficient enough to train other students, mirroring real-world shop dynamics. ***"We get to see our projects displayed around the community. Local companies approach our school asking for projects. Right now, we are working on a project for a local fire department and are going to donate it for all the work they do for the comminity,"*** Hunter and Ryan said.

The system also enabled seamless integration into the school's broader engineering curriculum, supporting courses ranging from introductory engineering to aerospace and electrical disciplines.



THE RESULTS

By integrating Lincoln Electric Automation's Torchmate® CNC cutting technology into its curriculum, Brooke High School has transformed its engineering program into a dynamic, career-focused training environment.

Students gain hands-on experience with industry-grade equipment, contribute meaningful work to their community, and graduate with the skills and confidence needed to succeed in modern manufacturing careers. "The projects we've made using the Torchmate have made me interested in looking at manufacturing careers after high school, " Hunter said.

For educational institutions and organizations looking to develop the next generation of skilled talent, Torchmate® delivers a powerful, proven solution.

INCREASED
REAL-WORLD IMPACT IN THE COMMUNITY

INCREASED
CAREER PATHWAY DEVELOPMENT

INCREASED
STUDENT ENGAGEMENT AND SKILL DEVELOPMENT

> "The Torchmate table has been a huge benefit for the program. The machine and software have been great and students have learned a lot. They have digital portfolios of all their work that can be used to submit to employers."
>
> **Thomas Bane**
> Engineering Instructor
> Brooke High School

PREPARING STUDENTS FOR TODAY'S MANUFACTURING CAREERS?

As demand for skilled trades and advanced manufacturing careers continues to grow, hands-on learning has never been more important. Torchmate® CNC systems from Lincoln Electric give schools and training programs the tools to teach real-world cutting, design, and fabrication skills using industry-relevant technology. Backed by over a century of manufacturing expertise, educator-friendly training resources, and reliable support, Torchmate helps instructors build confidence in the classroom while preparing students for success in modern fabrication careers. Contact us to learn how Torchmate can strengthen your program, engage students, and align curriculum with workforce needs.

About Lincoln Electric

Lincoln Electric is the world leader in the engineering, design, and manufacturing of advanced arc welding solutions, automated joining, assembly and cutting systems, plasma and oxy-fuel cutting equipment, and has a leading global position in brazing and soldering alloys. Lincoln is recognized as the Welding Expert™ for its leading materials science, software development, automation engineering, and application expertise, which advance customers' fabrication capabilities to help them build a better world. Headquartered in Cleveland, Ohio, Lincoln has 71 manufacturing locations in 20 countries and a worldwide network of distributors and sales offices serving customers in over 160 countries. For more information about Lincoln Electric and its products and services, visit the Company's website at https://www.lincolnelectric.com.

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