

CLASS Projects:



2012 COPO 8.90@150.16 MPH
NHRA National Record Holder FS/X



2016 Cobra Jet 8.62@156.10 MPH
Driver Austin Ford / Owner Chuck Parker



1957 Bel Air Built by SAM Tech students in 56 days
Featured in Hot Rod Magazine & PowerNation TV



Jud's 1969 Z28 Chevrolet Camaro SBC
Built and showcased on "Engine Power"
366 HP @ 6800 • 332 TQ @ 5300



1967 Shelby 10.33@127.58 MPH NHRA C/SA
Driver Heather Ford Park



1967 Shelby 10.33@127.58 MPH NHRA C/SA
Driver Austin Ford

2024 RACE REPORT

VOLUME 16

EDUCATION AT FULL SPEED™

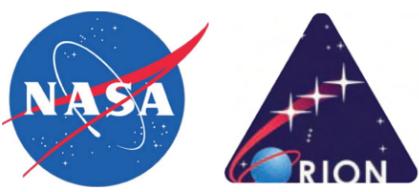


SAM Tech CLASS PROJECTS HELP TRAIN NASA ASTRONAUTS

We know how the racing industry wants to hire grads from The School of Automotive Machinists & Technology, but the school's reputation has also led to its involvement in a monumental space exploration project. NASA is currently building the Orion spacecraft which, in a few years, will take astronauts to an asteroid and one day on to Mars. It will be the safest and most advanced space craft ever built. The SAM Tech CNC class is designing and fabricating pieces for the crew module mock-up, which is used in spacecraft design and astronaut training. NASA's first unmanned Orion flight happened in 2014, 3,600 miles into space at speeds of more than 20,000 MPH. - Horsepower TV

For the last several years, SAM Tech's CNC programs have been working hand in hand with NASA engineers, staff, and even astronauts designing and fabricating a shoulder bolster for the Orion spacecraft seat system which provides critical protection to the crew during launch and landing. Over the summer, the School of Automotive Machinists & Technology was able to spend the day at NASA facilities. Students, faculty, and staff started their morning at the Neutral Buoyancy Lab before moving to the Space Vehicle Mockup Facility. After Lunch we headed to Mission Control from there we headed to the office of Rapid Prototyping Lab before driving to Ellington Field before finishing our day at Rocket Park.

The partnership with SAM Tech has turned out to be a tremendous benefit to NASA. The creative design work that SAM Tech is doing has the potential to help NASA reduce the mass of the system, which is always a goal with spacecraft. Also, the manufacturing work that SAM Tech is doing is outstanding, providing NASA with some very high quality hardware to use in testing and training. We are thrilled to have this opportunity to share a little of what NASA is doing with the students." - Christie Sauers, NASA Orion Mockup Lead



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BLOCK | CYLINDER HEAD | CNC | EFI CALIBRATION | ASSOCIATE OF APPLIED SCIENCE

SAM Tech Named Military Friendly School for Twelfth Time



2024 is the twelfth straight year that SAM Tech has been designated a Military Friendly® School by Victory Media, the leader in successfully connecting the military and civilian worlds. The Military Friendly® Schools designation is awarded to colleges, universities, and trade schools in the country that are doing the most to embrace military students and to dedicate resources to ensure their success in the classroom and after graduation.

Being named a Military Friendly School for twelve years in a row is an honor of which we are very proud," said Linda Massingill, Executive Director of the School of Automotive Machinists & Technology. "We appreciate all these veterans have sacrificed in defending this great country of ours. We are glad to be able to help them and their families in any way possible. We at SAM Tech understand the importance of continuing one's education in an effort to find a career after military service."

2023 ACCSC School of Excellence Accreditation Award

In 2008, ACCSC introduced the School of Excellence Award which recognizes schools for their commitment to the expectations and rigors of ACCSC accreditation, as well as efforts in maintaining high levels of achievement among their students. In order to be eligible for the award, a school must meet all of the criteria established by the Commission for its School of Distinction Award. Also, a school's graduation and employment rates from all programs offered must meet or exceed the average rates of graduation and employment among all ACCSC accredited institutions. In 2011, SAM Tech was one of only thirteen schools in the country to receive this prestigious award for the 2011-2012 school year. SAM Tech was proud to receive the award a second time in 2015-2016. For the 2021-2022 accreditation year, the School of Automotive Machinists & Technology was awarded School of Excellence for the third consecutive time.



SAM Tech Graduate Spotlight *Noah Hensley*



Pictured left to right:
Noah Hensley, Keith Wilson, Michael Gonzales

Programs Completed:

Automotive Engine/Block Machining
Automotive Engine/Cylinder Head Machining

For nearly four decades, the School of Automotive Machinists & Technology has been providing the performance aftermarket with exceptional employees. As a provider of machining and technical education training, SAM Tech helps its graduates find careers in fields ranging from racing to aerospace. Wilson Manifolds, a manufacturer of the highest performing and finest quality products possible to their customers in the automotive and racing industries, has been hiring SAM Tech graduates for years. Wilson Manifolds is consistently developing innovative new products that set the standard of excellence in their field. Every part is designed and manufactured in the United States and for over 36 years, Wilson Manifolds has consistently helped its customers to set records and win poles, races, and championships in all major categories of professional motorsports.

Noah Hensley graduated from the Block Machining and Head Machining Programs. While porting in head class, he found an interest in airflow. After graduation, Noah took a job with Wilson Manifolds in the porting department. Noah has had the opportunity to work on some of the fastest cars in the world, including Bob Tasca III's Wilson Manifold sponsored NHRA funny car that finished second in the 2023 points championship. Noah is currently the Lead Airflow Specialist for Wilson Manifolds.

Michael Gonzales, like Noah, took the Block and Head programs and similarly found a passion for airflow. After spending many hours in the porting room and on the flow bench, Mike knew he wanted to pursue his passion after graduation and find a career doing what he learned and practiced in the classroom and lab. Thanks to his hard work and knowledgeable instructors, Mike was able to start his career with Wilson Manifolds in 2023. As an Airflow Specialist, Mike works with Noah and continues to learn everyday.

Michael Gonzales

Programs Completed:

Automotive Engine/Block Machining
Automotive Engine/Cylinder Head Machining

Graduates In Action

SAM TECH GRADUATES ARE WORKING WITH LEADERS IN THE PERFORMANCE INDUSTRY. FOR OUR EXTENDED LIST OF EMPLOYERS, VISIT US AT: WWW.SAMTECH.EDU

A.J. Foyt Racing • Automotive Specialists • BES Racing Engines • Blue Origin • Boeing • Brodix Cylinder Heads • Cosworth • CP-Carrillo • Dart Machinery
Don Prudhomme Racing • Don Schumacher Racing • Elan Motorsports Technologies • Elite Performance • Engine Power I PowerNation • Ferrea Racing Components
GM Global Propulsion System Racing • Hendrick Motorsports • Ilmor Engineering • Indy Cylinder Head • Innovation Marine • Jesel • Joe Gibbs Racing • John Force Racing
Johnson & Johnson Racing • Jon Kaase Racing • Kalitta Motorsports • Katech Engine Development • KB Racing • Keith Kraft Performance Engines • Kuntz & Co.
Late Model Engines • Lingenfelter Performance • Livernois Motorsports • MAST Motorsports • McLaren Engines, Inc. • Modern Airflow Dynamics • MTI Racing
Outkast Racing Engines • Pat Musi Performance • Patterson Racing • Pietz Performance • Penske Racing • Procharger • Praline Racing • Reher-Morrison Racing
Richard Childress Racing • Rottier Manufacturing • Roush-Yates Industries • Shafiroff Race Engines Siebert Performance • Sonny's Racing Engines • SpaceX
Stanfield Racing Engines • Sterling Performance • Summit Racing Products • Sunset Performance • Toyota Motorsports • Trick Flow Specialties • Wilson Manifold

SAM Tech PROGRAMS



BLOCK MACHINING

The objective of the **Automotive Engine/Block Machining** program is to qualify the student as an automotive machinist/race team crew member. Although the actual machining process will be the emphasis of the program, a thorough education on theory of operation of the modern race engine will be presented. The student will explore the basic theory and concepts of internal combustion engine operation, then move into more specific and complex areas including cylinder pressure, airflow, volumetric efficiency, high RPM valve train geometry, and horsepower/torque as demonstrated on both engine and chassis dynos. Although no previous experience is required, this program is intended for the mechanically inclined student with a serious work ethic. Students will work directly on the School race cars, in the facility and at the track. They will be exposed to true race engines and drivetrains. This will include data acquisition, weather station correction factors, MSD ignition systems, EFI programming, carburetion tuning, clutch set-up, gear and converter combinations.

CYLINDER HEAD MACHINING

The objective of the **Automotive Engine/Cylinder Head Machining** program is to train the student as a performance cylinder head machinist for the race engine industry. The theory and role of the cylinder head in the engine operation will be thoroughly covered in the classroom. Airflow characteristics and their effect on performance will be highlighted in all areas of this program. The complex relationship of flow bench numbers versus horsepower will be examined during lab hours. Students will learn the how and why of the many components of a cylinder head assembly. Intake manifold design from cast to fabricated sheet metal will be studied in terms of cubic inch and RPM range in relationship to cross sectional area and runner taper. The art of creating maximum efficiency and horsepower through precision component assembly combinations will be taught to the students. The knowledge learned will facilitate the student's success in the motorsports industry.



CNC MACHINING

The program objective of the **CNC Machining** course is to qualify graduates to be capable of understanding and performing machining operations utilizing Computer Numerically Controlled Machining Centers. The program will include both classroom and hands-on lab instruction. The primary emphasis of this program will be the application of CNC machining techniques to improve performance of cylinder heads and engine blocks. Students will thoroughly explore the utilization of 5-Axis CNC Machining Centers as well as Coordinate Measuring Machine digitizing hardware and software applications and interfacing. Machine set-up, operation, and work piece preparation will be covered in detail. Special emphasis will be given to modification of high-performance and racing cylinder heads. Students will analyze and evaluate completed projects to quantify improvements, using racing industry standard equipment and techniques.

EFI CALIBRATION

The objective for the **EFI Calibration** program is to qualify the student as an Automotive Performance Engine Tuner. The student will be capable of calibrating and troubleshooting the Engine Management System on the engine dynamometer, chassis dynamometer and at the racetrack. This program includes instruction in adding performance accessories, modifying power trains, tuning custom engines, suspension, exhaust systems, and using dynamometers and other diagnostic equipment. This program is intended for mechanically inclined students with a solid background in the mechanical system of an automotive engine and desire to extend that knowledge into the electronic control system in the automotive industry. The program will include both classroom and hands-on lab instruction. The student will learn and explore how to utilize various engine control software and dynamometers to alter engine operating parameters while observing the physical changes in real time. Specific tuning topics such as High Performance Naturally Aspirated, Turbo Charged, Supercharged, Nitrous, and data acquisition will be covered in detail. The student will learn to analyze and evaluate completed projects to quantify improvements, using racing industry standard equipment and techniques.



ASSOCIATE OF APPLIED SCIENCE

The objective of the **Associate of Applied Science Degree** in Automotive Engine/Block & Cylinder Head Machining is to qualify the student as an automotive block and cylinder head machinist. In addition to the technical courses, students will take Introduction to Communication, College Algebra, Introduction to Physics, English Composition, and introduction to Sociology to complete the degree. The program provides an ideal foundation for professional development and continuing higher education. The addition of this degree program represents a significant, additional educational commitment by the school and a huge opportunity for the students. Former graduates of the **Automotive Engine/Block & Cylinder Head Machining** programs may return to school to complete the Associate of Applied Science Degree.