



Diman Regional Vocational Technical High School

Fall River- Somerset- Swansea- Westport

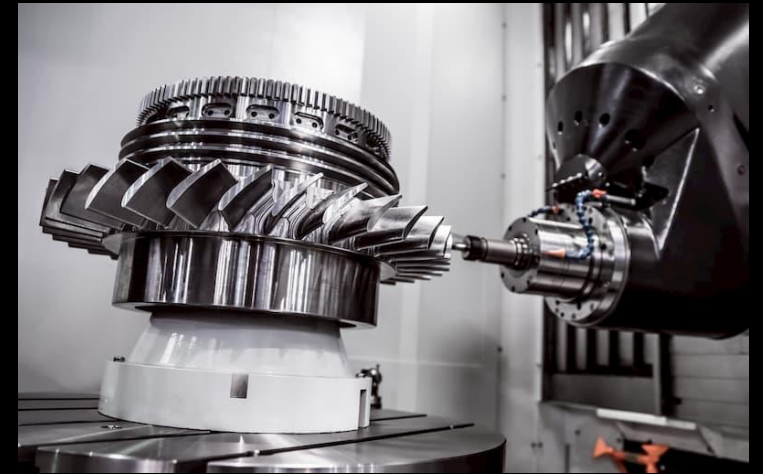
251 Stonehaven Road
Fall River, MA 02723

Welcome to Advanced Manufacturing

Commonly asked questions/ concerns by Parents and Students

What is Advanced Manufacturing?

Typically, when you ask someone if they know what Advanced Manufacturing or a Machinist is, a vast majority doesn't know or has never even heard the term. A machinist uses different computer-guided machine tools, such as a Lathe or a Mill, to produce precision parts. Almost every object you see in the world contains parts that are created by a Machinist, from a chair to the wings of an airplane. A Machinist uses high-tech cutting machines to shape metal, plastics, ceramics, and even wood into something new. Typically, they will operate a large Computer Numerical Control (CNC) Machining. A high-tech piece of equipment that performs precision cuts for a desired outcome based on computer calculation.

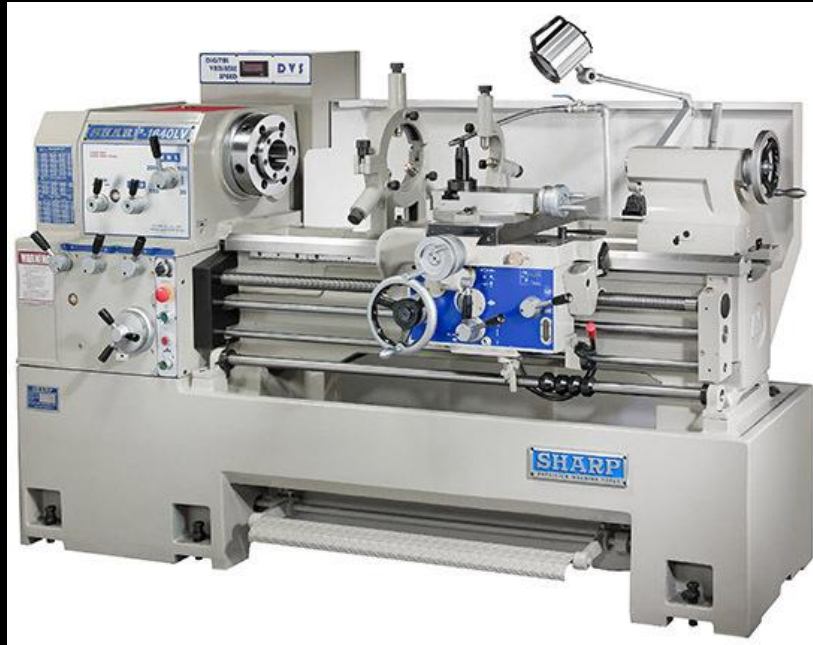


Skill Areas

- Measurement & Quality Control
- Hand Tools & Processes
- Horizontal & Vertical Band Saw Machines
- Lathes, Introduction & Operation
- Hand Tapping Processes
- Outside Threading (Die Cut)
- Reaming Technology, Hand & Machine

- Milling Machines (Vertical)
- CNC Milling
- CNC LATHE
- Surface Plate Work
- Heat Treating
- Electrical Discharge Machining

- Belt Sander
- Surface Grinders
- Power Hacksaw
- CAD-CAM Programming
- Coordinate Measuring Machine
- Smart LATHE Programming



HOW TO BECOME A MACHINIST

Most people who are drawn to the career of a Machinist have a passion for creating things from nothing. The job is turning raw materials into intricate parts and pieces through the power of engineering. Machinists typically have high attention to detail, skilled with their hands, and possess the patience needed for detailed jobs.

People who want to be a machinist need at least a high school diploma. Although it is highly recommended to get your certification from an accredited Machinist Trade School program such as Diman's Advanced Manufacturing program. This allows you to show employers that you are well trained and have the skills to complete the jobs well.



WORK ENVIRONMENT

As a machinist, you could find yourself in a variety of different settings. Usually, the job involves working in a large industrial-style facility, but you could work for a smaller operation like a specialist part shop or a family owned shop. Historically, the work environment of a machinist would be full of exposures to loud noises, flying debris, and the lubricants used to cool the moving pieces of their machines. Today, however, shops are kept clean, climate controlled, and advancing safety standards to provide workers with a safe environment.

Past Machine shop conditions
(What most think of with manufacturing)



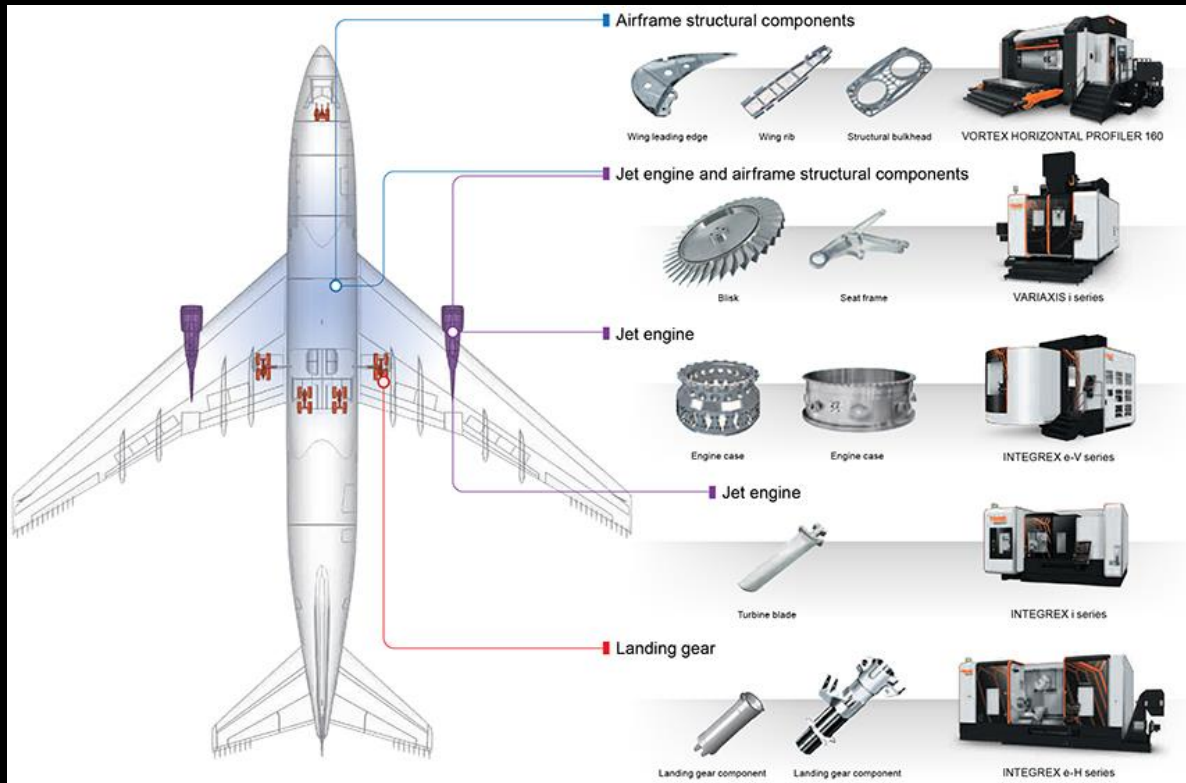
Current Machine Shop conditions.
(Clean and climate controlled)



WHAT DOES THE FUTURE HOLD?

As technologies in fields like electronic devices, automation, and manufacturing continue to advance, the better the career outlook for a Machinist gets. More and more companies are requiring that their machinists have formal training and qualifications, like those from accredited Machinist Trade Schools. The outlook career-wise is also positive, with the career growing at a faster than average pace compared to other fields.

It is currently one of the best possible times to attend Diman's Advanced manufacturing program. With the limited barrier of entry, high starting salary, and positive job outlook, a career as a Machinist is a great opportunity for anyone willing to put in the time and effort.



IS ADVANCED MANUFACTURING RIGHT FOR ME?

A career as a machinist will be filled with constantly learning new things, adapting to the ever-changing landscape of technology, and working hands-on every day. When you complete your training through Diman's Advanced Manufacturing program, you are just a short time away from landing your dream job. The quality of work you do and how you are compensated makes this a great field for anyone willing to put in the work!

Nascar Engine Building Machine Shop



CNC Machined Medical Components for our local Medical Industry



Job Opportunities

Diman Diploma: (\$45,000- \$85,000)

- Entry level Machinist
- Production worker
- CNC Operator
- CNC Set-up Person
- CNC Programmer
- Quality Control Technician
- Apprentice Tool Maker
- Maintenance Machinist



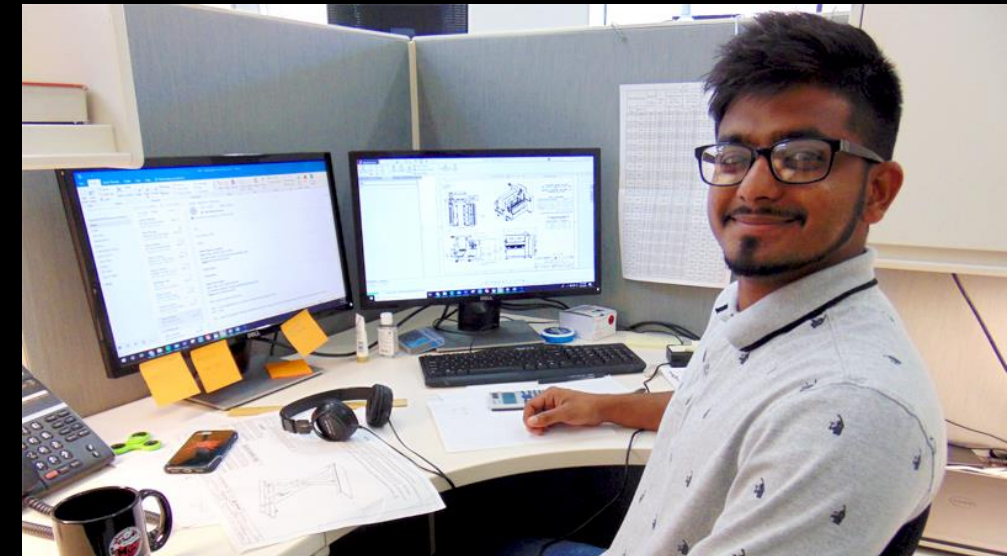
2 Year College: (\$60,000- \$112,000+)

- Tool and Die machinist
- Production Engineer
- Quality Control Engineer
- Foreman



4 Year College: (\$80,000- \$115,000+)

- Mechanical Engineer
- Metallurgist Technician
- College Instructor



Diman Advanced Manufacturing Shop

Freshmen Area



Sophomore Area



Full Shop View



Sophomore Class Projects



Senior Area



Junior/ Senior Area



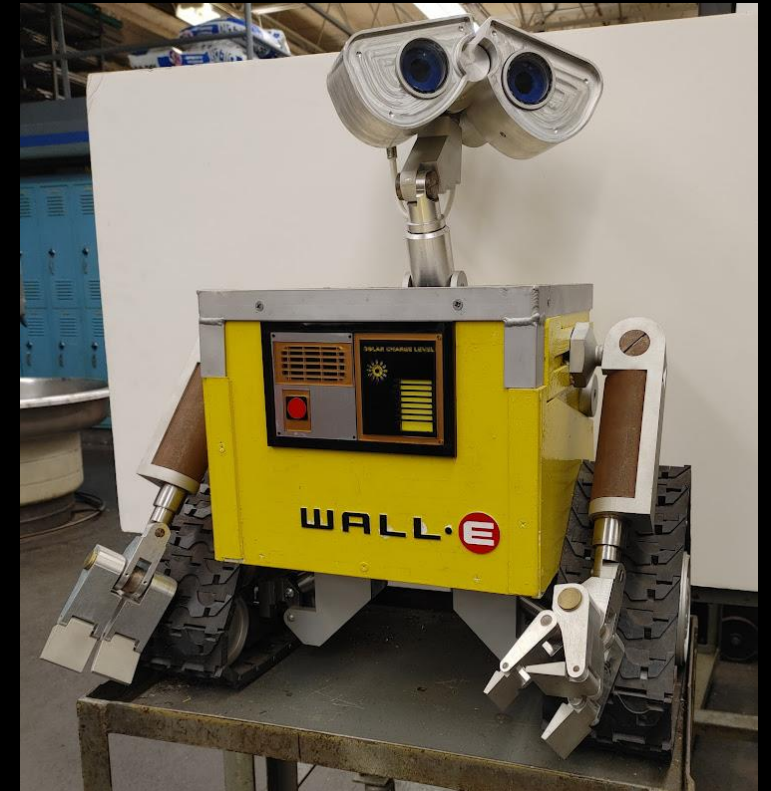
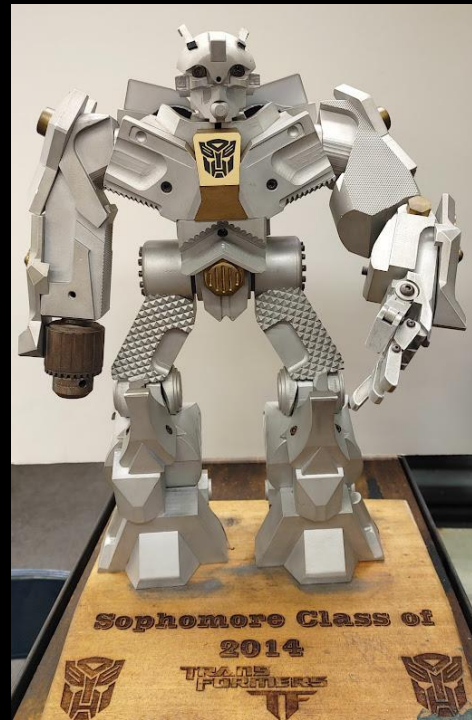
Metrology Lab



CNC Programming Lab



Advanced Manufacturing Shop Projects



Community Connections

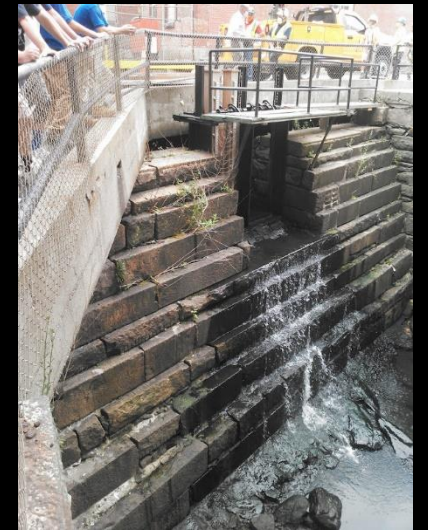
A group of Diman Regional Vocational Technical High School students saw the fruits of their labors materialized in a dramatic way on Friday when a project they had worked on for a year -- replacing vital sluice gates that help control the flow of water from the Quequechan River -- became an integral part of the city's infrastructure for decades to come.

Students, their educators and staff from the city's water and sewer departments met at what is called #7 Iron Works, located behind a group of mills on Pocasset Street where the river flows underground to a sluice that directs the water to the Battleship Cove area and Firestone Mill Pond. They watched as a crane lifted large gates into a black metal sleeve, where crews will open and close the gates with a giant iron wrench to control the flow of water from South Watuppa Pond.

"About a year ago we knew the sluice gate needed to be repaired," said Paul Ferland, the city's director of community utilities, who said the pre-existing gates were easily over 100 years old. "We've worked with Diman on other projects in the past, and we worked with them to reconstruct these gates at the beginning of last school year." Working with the vocational-technical high school also saved the city money, said Ferland.

-By Jo C. Goode, Herald News Staff Reporter

If the department hired an outside firm, the project could have easily cost the city \$60,000





Diman thankful for HAAS donations

The Gene HAAS foundation has once again donated money to Diman Seniors from the class of 2020 that are pursuing a college degree in Advanced Manufacturing fields of study. This year \$18,000 was awarded to the class of 2020. To date, Haas has given Diman students \$44,000 in the past 3 years.

Haas Automation, Inc. is an American machine tool builder headquartered in Oxnard, California, that designs and manufactures machine tools and specialized accessory tooling, mostly computer numerically controlled (CNC) such as vertical machining centers and horizontal machining centers, lathes/turning centers, and rotary tables and indexers.

The company is also involved in Motorsports in Formula One. It owns the Haas F1 Team and in NASCAR they own Stewart-Haas Racing Team. Haas is one of the largest machine tool builders in the world by total unit volume. Gene Haas founded Haas Automation in 1983 to manufacture machine tool accessory tooling.

Co-operative Education Employment Partners

(Click on the logo's below to view the company websites)

We currently have over 90% of our Seniors out on Co-op. Some have elected not to go out and some do not have transportation to travel to work at this time. We also have more employers looking to hire students than we have students available to go out on Co-op!



How ADVANCED Manufacturing is bringing work back to America

Everyone knows many products are produced overseas with cheap labor and poor quality. The video link below is from 2016 when Advanced Manufacturing was taking a turn to use technology and a SKILLED labor force to compete and bring work back to America, all while paying great wages. How are we doing this? We are using our technology to run products more than 8 times faster than just 5 years ago, so we save exponentially on costs all while paying top salaries to our skilled workforce in a cleaner environment that looks more like an office space than a factory! As the video shows, Titan's company saved \$465,000 on just 1 product in a single year of production!

<https://youtu.be/2fuYj4trEGg>

2016

2016 Cost/ Part

100 Inches Per Minute
00:17:30

Shop Rate

\$75
Per Hour

\$21.92

24,000
per Year

Annual savings on just 1 product!

\$465,000

2021

2021 Cost/ Part

800 Inches Per Minute
00:01:59

\$2.51

How Robots are Bringing Jobs Back to Companies while enhancing Human jobs

A common misconception we hear from parents is that Robots are taking away jobs in our trade. That could not be further from the truth. Robots are being used for the undesirable work and heavy , awkward type lifting of parts. They have actually enhanced what we do and make our jobs much safer than they already are. Robots have helped businesses grow in both production as well as number of employees. On top of more skilled workers, businesses now need employees who can build, program, set up, and maintain these Robots. The video link below discusses some of these concerns and how much Robotics have helped increase the number of workers in this industry.

<https://youtu.be/89rFTgaWDsA>

