

What's this job all about?

Operating engineers and construction equipment operators use machinery to move construction materials. Generally machines are used to move objects short distances, such as around a factory or construction site. They use equipment to smooth or grade the ground. They may also dump, remove, or spread rock and earth. Operating engineers and construction equipment operators are unique because they know how to operate several different types of equipment, such as cranes, bulldozers, and hoists.

Bulldozer operators run tractors equipped with attachments, such as blades and cable winches. They dig out dirt, trees, and rocks in order to level the ground. Crane and tower operators lift and move materials using booms and cables supported by towers. They watch for hand signals or listen to radioed instructions from other workers. Hoist and winch operators lift and pull loads with their equipment. If you are interested in working in this field in Alaska, you'll need to be prepared to work outside in sometimes difficult conditions. Along with our weather challenges in Alaska, operating engineers often work in physical locations that provide challenges – like in Alaska's dense forests and steep terrain. This is one job that you'll never find boring!

Here's what Operating Engineers do:

- Operate many types of equipment in a variety of different applications.
- Operate equipment efficiently and expediently at the same time.
- Set up and inspect equipment.
- Attach hoses, belts, and other equipment to tractors.
- Make adjustments to blades, buckets, and booms.
- Use stakes and guidelines on the ground to help them line up their equipment.
- Do maintenance and make minor repairs on their machines.
- Clean and service their equipment.
- Keep records of the materials they moved.
- Do some manual loading and unloading.
- Operate valves on air compressors or pumps at construction sites.

How much money can I make?

Median Wage: \$25.85 per hour.

In Alaska, the median wage for operating engineers and construction equipment operators is \$4,481 per month (\$25.85 per hour). Half of all of these workers earn between \$3,799 and \$5,271 per month (\$21.92 and \$30.41 per hour). Nationally, the median wage for operating engineers and construction equipment operators is \$2,987 per month (\$17.23 per hour). Half of all operating engineers and construction equipment operators earn between \$2,330 and \$3,994 per month (\$13.44 and \$23.04 per hour). Wages vary according to the type of machinery being operated. Crane and tower operators generally earn the highest wages. In general, union workers receive higher wages. Union operating engineers and construction equipment operators and those working for government agencies generally receive health insurance and a retirement plan.

How long does it take to receive training?

To work as an operating engineer, you must have a high school diploma or GED, complete on-the-job training, be in good physical condition; and have a good ability to judge distance.



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For Colleen Charlie, all of the sacrifices that have to be made to become an Operating Engineer are more than worth it. Colleen grew up in Minto, Alaska, a village of 258 residents located northwest of Fairbanks. After graduation from Minto High School, Colleen took a job as an admissions clerk at the Chief Andrew Isaac Health Center in Fairbanks. Seeing her boyfriend, Ryan, participate in an Operating Engineers apprenticeship program inspired her to take advantage of an opportunity to take part in a training program funded by the Department of Labor & Workforce Development at the Palmer Training Center. Colleen and Ryan's son Noah was two months old when she had the chance to change her career path. "I saw how much money Ryan was making as an Operating Engineer and I thought 'I could do that job,'" Colleen said. "So I quit my job and went down to Palmer to take advantage of the opportunity to learn."

Colleen's path to become an Operating Engineer was a slow process. After completing her classes in Palmer she took part in another Department of Labor funded program at the Center for Employment Education and was able to get her CDL. While there, she also took a Hazardous Materials class and then went on to participate in an Alaska Works Partnership's apprenticeship preparation program. "All of the classes I took really helped me to build up my resume and be competitive when I applied to be an apprentice myself,"

Colleen said. Now, as an Operating Engineer apprentice, Colleen continues to make sacrifices to get where she wants to be. "As an apprentice when they say 'jump' I ask 'How high?'" she said. "One of the sacrifices for me as a mother of two children is that as an apprentice you can't turn down jobs. I have a three-month-old daughter and had to leave her to take a job away from home when she was a month old."

Colleen went to work on the Dalton Highway, where she was assigned to drive one of the big rollers. "Sometimes I get to drive the dozers and loaders," she said. But Colleen stated that she knows the sacrifices she makes occasionally working away from home are to make life better for herself and for her children. "I have healthcare, medical, dental and vision benefits and a great retirement plan," she said. "In one week I make more money than I made in a month at my old job. And I get time and a half for working on the weekends," she said. Colleen's advice for anyone wanting to get behind the wheel of the really big rigs is this: "If you have the drive and the motivation, go for it!" While Colleen acknowledged that it was hard to leave her village, and hard to make the adjustments to her new life, she said it has been totally worth it. "You know it's worth it when you get your first paycheck," she said.



Operating Engineer, Construction Equipment Operator

Some operating engineers learn their skills through apprenticeship training programs. To apply for an apprenticeship, you must be at least 18 years old. Apprenticeship programs usually consist of three to five years of on-the-job training and at least 144 hours of classroom training each year. Professional technical schools also offer programs in heavy equipment operation. Operating engineers learn their skills through a union apprenticeship or on-the-job training. The International Union of Operating Engineers sponsors three-year apprenticeships. Competition is strong for entry into apprenticeship programs because job openings are limited and pay is good. Private vocational schools also offer training in operating certain types of construction equipment. Many operating engineers learn their skills informally on the job. In this case, you learn from an experienced worker. The military is also a good source of training. If you receive this type of training in the military, you may earn credit for previous work experience when you enter a civilian apprenticeship program.

When I'm ready to work, will there be job openings?

In Alaska, the outlook for job openings for operating engineers is excellent to 2014. Average growth is projected. Nationally, the number of jobs for operating engineers and construction equipment operators is expected to grow about as fast as average through the year 2014. The outlook for this occupation varies with the state of the economy. When the economy is growing, the government spends more on roads, highways, and bridges, creating new jobs. When the economy is slow the government usually does only basic maintenance of roads and bridges. Alaska's potential for a natural gas pipeline means that there will be a growing economy and need for operating engineers.

Please see the Training Programs section of this booklet to find out more about training in these career fields in Alaska.

HELPFUL HIGH SCHOOL COURSES

A high school degree is almost always required to work as an operating engineer. You should take courses in high school that prepare you to earn a high school diploma. Below is a list of high school courses that will help prepare you. While you do not have to take all of them, you should consider them in planning for high school. Some of these courses are also available at colleges and technical schools.

Business

Introduction to Business

Computer and Information Sciences

General Computer Applications

Construction Trades

Exploration of Construction Careers/Construction
Construction Trades Work Experience

Drafting

Drafting/Blueprint Reading

Energy, Power, and Transportation Technologies

Introduction to Mechanics
Diesel Mechanics and Repair
Energy and Power

English Language and Literature

Business and Applied English

Health and Safety Education

Health and Fitness/Safety and First Aid
Drivers' Education

Industrial and Technology Education

Equipment Maintenance and Repair

Mathematics

General Math/Applied Math
Algebra/Geometry
Trigonometry/Business Math

Physical Education

Physical Education
Fitness and Conditioning Activities
Lifetime Fitness Education

Precision Metalwork

Sheet Metal/Welding

