

### **Introduction**

This manual is intended to provide students and those considering a career in trades with detailed information about the different apprenticeships that are available in the Northwest Territories.

The information is categorized alphabetically by trade. For each trade, the information is broken down into three sections. The first section is a brief description of the trade. The second section, The Job, contains general information about what a tradesperson can expect once they are employed in the trade. The third section, The Apprenticeship, provides details about the apprenticeship training, such as the length of the apprenticeship, and the education and skills required for the trade.

The information contained in this manual should help in determining a career path. However, more information or detailed requirements can be provided by a school guidance councillor or through any one of the Regional Career Centres listed below.

Fort Simpson	867-695-7334
Fort Smith	867-872-7218
Hay River	867-874-9200
Inuvik	867-777-7165
Norman Wells	867-587-2566
Yellowknife	867-873-7110



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# Aircraft Maintenance Engineer

*Aircraft Maintenance Engineers perform scheduled maintenance and repairs on all fixed-wing aircraft systems and equipment. They adjust carburetors, install and time magnetos, install and track propellers, rig and adjust engine and flight controls, start engines and complete run-up inspections, install and rig skis, floats, and landing gear, splice control cables, make surface repairs, bleed and adjust brakes, top-overhaul engines, and prepare technical reports. A qualified Aircraft Maintenance Engineer certifies that the aircraft, engines and components are fit for flight.*

## The Job

### **Working Conditions**

Aircraft Maintenance Engineers usually work indoors in hangars or shops, but sometimes work outdoors. They may have to work in uncomfortable positions or noisy conditions, stand on scaffolds, lift items weighing up to 25 kilograms, or use hoists to move larger, heavier objects. Having to work quickly while still observing the required safety standards can be stressful.

Aircraft Maintenance Engineers often work during the evening when airplanes are not in use. Shift work, overtime and on-call are common.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyman wage in the first level, 60% in the second, 70% in level three and 80% in level four. The average wage for a qualified Aircraft Maintenance Engineer is \$17 - \$28 per hour, but can range as high as \$30.

### **Employment and Advancement**

Aircraft Maintenance Engineers are employed by large and small air carriers, aircraft maintenance firms, flight training schools, aeronautical product manufacturers and companies large enough to maintain their own aircraft.

Experienced Aircraft Maintenance Engineers may advance to supervisory and management positions in approved maintenance organizations. Some Aircraft Maintenance Engineers are employed as sales representatives for aeronautical products or quality control inspectors.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Aircraft Maintenance Engineer trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the Trade Entrance Exam prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: excellent mechanical ability; good eyesight and hearing; good eye-hand coordination; the desire and ability to be careful and accurate to the smallest detail; the ability to work well with others, but also to make decisions independently, often under pressure; the physical fitness and agility required for reaching and climbing; the ability to select, interpret and follow instructions given in written or blueprint form.

Successful Aircraft Maintenance Engineers also enjoy using tools, equipment and machinery to perform tasks requiring precision. They should also enjoy analyzing information, troubleshooting for problems and having clear rules and organized methods for their work.

### **Apprenticeship Term**

The terms of the apprenticeship is four years and includes four employment periods of not less than 1,800 hours each, and four classroom training periods of nine weeks each.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and Certificate of Qualification.

### **Trades Qualification**

Not available through the Apprenticeship Program. Apply directly to Transport Canada.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is not available in this trade; however, certification by Transport Canada is accepted on a national basis.

# Appliance Service Technician

*Appliance Service Technicians install, service, repair and rebuild all kinds of household appliances such as washers, dryers, freezers, refrigerators, microwave ovens, dishwashers, waste disposals and ovens. Once a problem has been identified, the technician adjusts, repairs or rebuilds the appliance, cleans all internal parts thoroughly, replaces any faulty or worn parts, re-assembles the appliance and tests it to be sure it is working properly.*

## The Job

### **Working Conditions**

Appliance Service Technicians generally work alone with little supervision. Those who repair portable appliances work indoors at a workbench in a shop. Technicians who repair large appliances usually have to drive a truck with an inventory of parts and tools to a customer's home.

Appliance Service Technicians usually work a 40-hour week, but may work overtime in an emergency or at busy times of the year. Some work Saturdays and evenings to serve customers who are not at home on weekdays. The hours of work can vary considerably for those who are self-employed.

The physical demands of the work vary. Installing and servicing large appliances requires moving heavy appliances (lifting items weighing up to 25 kilograms) and a considerable amount of standing, stooping, kneeling and reaching. Bench work is not as physically demanding. There is some risk of physical injury due to electrical shocks, cuts, burns and muscle strain.

### **Wages**

Apprentices earn at least 55% of the prevailing journeyman wage in the first period, 65% in the second and 80% in the third. The average wage for a qualified Appliance Service Technician is \$18 – \$21 per hour. Journeymen who are self-employed or work on a commission basis may earn more, depending on their skills and initiative.

### **Employment and Advancement**

Appliance Service Technicians work for appliance dealers, independent appliance service companies, department stores, appliance manufacturers' service departments, gas and electric utility companies and owners of rented commercial appliances.

Experienced Appliance Service Technicians employed in larger organizations may become specialists or advance to supervisory positions such as foreman or service manager. With experience and knowledge of how to run a small business, Appliance Service Technicians may start or purchase their own independent appliance service companies or appliance sales and service outlets. They may also become factory service representatives employed by manufacturers to supervise authorized repair depots in a particular region.

Related occupations include Electronic Technician, Communication Electrician, Refrigeration and Air Conditioning Mechanic, Business Machine Service Technician and Instrument Mechanic. With additional training, Appliance Service Technicians can move into other types of work in the electrical field.

### *The Apprenticeship*

#### **Educational Background and Skills**

To enter the Appliance Service Technician trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the Trade Entrance Exam prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: good mechanical aptitude and manual dexterity; good eyesight and colour vision; the ability to pay careful attention to details; a willingness to keep up-to-date with changing technology; the ability to work independently; a neat appearance; and the ability to deal with customers in a courteous and tactful manner.

#### **Apprenticeship Term**

The terms of the apprenticeship is three years and includes three employment periods of not less than 1,800 hours each, and eight weeks of classroom training periods in the first two periods and six weeks in the last period.

#### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and Certificate of Qualification.

#### **Trades Qualification**

Available with 7,200 hours of verified trade experience and written examination.

#### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Automotive Service Technician

*Automotive Service Technicians perform preventative maintenance, diagnose breakdowns and repair automotive vehicles and light trucks. They adjust, test and repair engines, steering systems, braking systems, drive trains, vehicle suspensions, electrical systems and air-conditioning systems and perform wheel alignments. The work involves testing equipment, referring to manufacturers' manuals and warranties, dismantling faulty assemblies, repairing and reassembling repaired mechanisms and performing routine maintenance. With new developments in engines, transmissions and suspension systems, and the growing use of electronic components, there will be an increased demand for Automotive Service Technicians trained in propane and electronic fuel-injection engines, onboard computers and electronics.*

## The Job

### **Working Conditions**

Most Automotive Service Technicians work a 40-hour, five-day week. Some evening, weekend or holiday work may be required. The work is sometimes noisy and dirty, and there is some risk of injury involved in working with power tools and near exhaust gases. Technicians may be routinely required to lift parts and equipment weighing up to 25 kilograms.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyman wage in the first level, 60% in the second, 70% in level three and 80% in level four. The average wage for a qualified Automotive Service Technician is \$24 - \$30 per hour.

In many shops, journeyman technicians are paid a flat rate for each job they complete, usually a percentage of the labour charge. Earnings may vary considerably depending on how much work is assigned and how quickly it is completed.

### **Employment Advancement**

Automotive Service Technicians are employed by automotive repair shops, specialty repair shops, service stations, car and truck dealerships and large organizations that own a fleet of vehicles.

Experienced Automotive Service Technicians may advance to service manager or shop foreman positions. Some Automotive Service Technicians open their own garages, service stations or automobile performance shops. With additional training, Automotive Service Technicians can transfer their skills to related occupations such as Automotive Instructor, Partsperson, Agricultural Mechanic or Heavy Duty Equipment Technician.

### *The Apprenticeship*

#### **Educational Background and Skills**

To enter the Automotive Service Technician trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the Trade Entrance Exam prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: good hearing, eyesight and manual dexterity; mechanical aptitude and interest; and the ability to keep up-to-date with changing technology. They should also enjoy using tools and equipment to perform tasks requiring precision, solving problems by experimenting and following routine procedures for scheduled maintenance.

#### **Apprenticeship Term**

The terms of the apprenticeship is four years and includes four employment periods of not less than 1,800 hours each, and four classroom training periods of eight weeks each.

#### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and Certificate of Qualification.

#### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

#### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Baker

*Bakers prepare and bake breads, cakes, cookies, pastries, pies and other finished baked goods. They weigh, measure and mix ingredients; cut or form dough to the required size and shape; set and load ovens; bake the goods and decorate. Bakers prepare production schedules to determine the variety and quantity of goods to be producing. It is often their duty to purchase ingredients and supplies to be used. Bakers may specialize in one of these activities.*

## The Job

### **Working Conditions**

Bakers work in clean, well-ventilated and well-lit environments. They routinely lift loads weighing up to 10 kilograms, carry and push containers and stand or walk for long periods. They generally work 40 hours a week, often in shifts. Those working in large bakeries may be required to work night shifts.

Although there are few accidents, operating sophisticated machinery can be hazardous and working with yeast, flour and sugar can have adverse effects on the respiratory system and skin. There is also a risk of burns when working with hot ovens.

### **Wages**

Apprentices earn at least 55% of the prevailing journeyman wage in the first level, 65% in the second and 80% in level three. The average wage for a qualified Automotive Service Technician is \$18 - \$24 per hour; however, wages can vary considerably.

### **Employment and Advancement**

Bakers are employed in retail and wholesale bakeries, supermarkets, hospitals, institutions, hotels, catering companies, restaurants and camps.

Many inexperienced Bakers start part-time and apply for full-time positions when they become available. Experienced Bakers may advance to supervisory positions or start their own business. With additional training, Bakers can transfer their skills to related occupations such as Cook, Pastry Cook, Cake Decorator, Baking Instructor or Supply Company Salesperson.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Baker trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the Trade Entrance Exam prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: good health and physical stamina; manual dexterity; the ability to work near hot ovens; and a responsible attitude about ensuring public health standards are met. Bakers should also enjoy routine procedures, operating equipment and taking responsibility for projects.

### **Apprenticeship Term**

The terms of the apprenticeship is three years and includes three employment periods of not less than 1,800 hours each, and three classroom training periods of eight weeks each.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and Certificate of Qualification.

### **Trades Qualification**

Available with 7,200 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Cabinetmaker

*Cabinetmakers construct and repair wooden articles such as furniture, office equipment and store fixtures. Following specifications and drawings, they make layouts and patterns; set up and operate woodworking equipment; and cut, shape, mould and assemble components of wood and wood substitutes. In many instances their artistic talent is as important as their woodworking skills. In cabinetry shops, cabinetmakers draw up detailed specifications based on customer requirements, calculate the amount and type of material needed and the cost. They then measure, cut and produce project pieces using hand and power tools; assemble by gluing, clamping, nailing and screwing pieces together; and finish with paint, stain, varnish or lacquer.*

## The Job

### **Working Conditions**

Cabinetmakers work indoors, generally in a shop environment exposed to a high noise level and some airborne sawdust and chemicals from painting and stripping. There is some risk of injury involved in working with high-speed woodworking machinery.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyman wage in the first level, 60% in the second, 70% in level three and 80% in level four. The average wage for qualified Cabinetmakers is \$22 - \$26 per hour.

### **Employment and Advancement**

Cabinetmakers are generally employed in custom shops or are self-employed. Many Cabinetmakers stay in the trade until they retire. They may set up their own shops or advance to supervisory positions.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Automotive Service Technician trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the Trade Entrance Exam prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: good eyesight to select woods and look for surface imperfections; good eye-hand coordination and manual dexterity; and the ability to visualize a finished product from drawings, blueprint or other specifications. They should

also enjoy using tools and equipment to perform tasks requiring precision, following established procedures and solving problems by experimenting.

### **Apprenticeship Term**

The terms of the apprenticeship is four years and includes four employment periods of not less than 1,800 hours each, and four classroom training periods of eight weeks each.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and Certificate of Qualification.

### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Carpenter

*Carpenters construct, erect and repair structures and fixtures made of wood or wood substitutes in accordance with building codes, using hand and power tools. In houses they frame floors, walls and roofs and install doors, windows, flooring, cabinets, paneling, molding and ceiling tiles. On larger construction jobs they build concrete forms, scaffolding, wooden bridges, trestles, tunnel supports and temporary shelters. Carpenters repair and install woodwork, counters, doors and partitions in an establishment or institution. Some Carpenters specialize in framing, bench work or finishing.*

## The Job

### **Working Conditions**

Carpenters may work alone, in teams or with helpers. There is some risk of injury from slips and falls, falling objects and sharp hand and power tools. Other working conditions vary from one job to another. For example, on some jobs, Carpenters work primarily indoors, are permanently employed and work a regular 40 – hour week. On other jobs, Carpenters work primarily outdoors, are subject to seasonal unemployment and routinely work overtime in peak periods. Lifting wood and other materials weighing up to 25 kilograms may be required.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyman wage in the first level, 60% in the second, 70% in level three and 80% in level four. The average wage for qualified Carpenters is \$20 - \$28 per hour.

Experienced Carpenters may advance to foreman and construction superintendent positions or become contractors. Carpenters are involved in every step of construction, which is an advantage when applying for supervisory positions. With additional training, Carpenters can also transfer their skills to related occupations such as cabinetmaker or lather/interior systems mechanic.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Carpenter trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the Trade Entrance Exam prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: the ability to stand, crouch and kneel for long periods of time; manual dexterity; balance for working on scaffolding; the ability to solve mathematical problems quickly and accurately and the ability to get along well with others on a work team. They should also enjoy using tools and equipment to perform tasks requiring precision, following established procedures and solving problems by experimenting.

### **Apprenticeship Term**

The terms of the apprenticeship is four years and includes four employment periods of not less than 1,800 hours each, and four classroom training periods of eight weeks each.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and Certificate of Qualification.

### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Communication Electrician

*Communication Electricians construct, install, repair and maintain telecommunications systems such as telephones, public and private switching equipment, local and long distance voice and data networks. Communication Electricians employed in telecommunications organizations such as major telephone companies often specialize in craft areas such as construction and network. However, the duties designated for each craft area may vary from one employer to another.*

*In general, Communications Electricians in the construction craft, climb utility poles or enter manholes, cable vaults and pedestals to install, test, maintain and inspect telephone lines and cables. Network craft Electricians install, maintain, remove and/or repair wiring networks, consumer communication equipment, switchboards and specialized equipment such as intercoms, fax machines, computer networks and electronic key systems.*

*The final Certificate of Qualification is endorsed with the craft completed. It is possible with additional training and experience, to become certified in more than one craft. In large centers certified Communication Electricians would often specialize within specific craft areas, while those working in remote locations may cover the entire breadth of the trade.*

## The Job

### **Working Conditions**

Working conditions vary greatly for Communication Electricians, depending on specific duties involved. Some work primarily outdoors and some primarily indoors. They may be required to lift equipment weighing up to 25 kilograms. There is some risk of injury from electrical shock or from falling. Shift work may be required. Overtime is required during emergencies.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyman wage in the first level, 60% in the second, 70% in level three and 80% in level four. The average wage for qualified Communication Electricians is \$18 - \$26 per hour.

### **Employment and Advancement**

Communication Electricians are employed by telecommunication companies and smaller interconnect companies that install, maintain, sell, rent or lease communications, subcontract for the larger telecommunications companies or install private communications systems. Experienced Communications Electricians may advance to supervisory positions, change to other craft areas or retrain and transfer to other departments such as sales or engineering. Related occupations include Electrician, Electronic Technicians or Computer Service Technician.

### *The Apprenticeship*

#### **Educational Background and Skills**

To enter the Communication Electrician trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the Trade Entrance Exam prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: mechanical ability; analytical ability; the ability to do fine, precise work with their hands; the agility required to climb ladders; normal colour vision for working with colour-coded wiring; and an interest in frequently upgrading their skills to keep up-to-date with technological advances. Communication Electricians work in customers' homes and businesses, and must be courteous, tactful and adaptable.

Communication Electricians should also enjoy using tools and equipment to perform tasks requiring precision, analyzing information to identify and repair problems and following established procedures.

#### **Apprenticeship Term**

The term of apprenticeship for the construction craft is four years, and includes four employment periods of not less than 1,800 hours each, and 10 weeks of classroom training in the first period and seven weeks in the second and third and 8 in the fourth.

The term of apprenticeship for the network craft is four years and includes four employment periods of not less than 1,800 hours each, and seven weeks of classroom training in the first and second periods, 8 weeks in the third and ten weeks in the fourth.

#### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and Certificate of Qualification.

#### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

#### **Interprovincial Red Seal**

An Interprovincial Red Seal is not available in this trade.

# Cook

*Cooks prepare, season and cook meals which are appealing and nutritious. They may also be involved in menu planning, ordering supplies and portion control; cleaning and cutting meats, fish and poultry; washing, peeling or cutting vegetables; preparing special diets; cleaning kitchen and cooking utensils. Cooks may specialize in a certain type of food preparation in a large establishment, or may be required to prepare all food.*

### The Job

#### **Working Conditions**

Most cooks work shifts, including weekends and holidays. They work under pressure with knives and around hot appliances. Burns and cuts are common occupational hazards. Lifting (up to 10 kilograms) is routinely required. In some circumstances, cooks may be required to lift items weighing up to 25 kilograms.

#### **Wages**

Apprentices earn at least 55% of the prevailing journeyman wage in the first period, 65% in the second and 80% in the third. The average wage for a qualified Cook is \$10 - \$20 per hour.

#### **Employment and Advancement**

Cooks are employed in hotels, clubs, restaurants, catering firms, cafeterias, institutions, homes, high-class specialty food outlets and isolated bases and camps. Some jobs are seasonal.

Experienced Cooks may advance through promotions with the same employer or by moving to more advanced positions with other employers. They can become sous-chefs, chefs or executive chefs, banquet managers, food service administrators and coordinators, general managers or food editors. There are good prospects for travel both within Canada and abroad.

#### **Educational Background and Skills**

To enter the Cook trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the Trade Entrance Exam prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include; good mathematical and communication skills, including the ability to read and write in English; a genuine interest in preparing food; good health and the ability to stand for long periods; a keen sense of taste and smell; flexibility; and the ability to work alone or with a team. They should also enjoy taking a methodical

approach to monitoring food inventories, using tools and equipment to perform tasks requiring precision and supervising the work of others.

### **Apprenticeship Term**

The term of the apprenticeship is three years and includes three employment periods of not less than 1,800 hours each, and three classroom training periods of eight weeks each.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and Certificate of Qualification.

### **Trades Qualification**

Available with 7,200 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Crane and Hoisting Equipment Operator

*Crane and Hoisting Equipment Operators are capable of operating boom trucks or mobile cranes safely and efficiently to lift and swing materials while ensuring that equipment, personnel and the public are protected. They correctly use and care for tools and materials which are required to carry out the normal service and maintenance of the machines of the industry. They can recognize and evaluate conditions, which are potentially hazardous to safe machine operation. They must also interpret and apply visual and audio communication.*

*The trade is divided into four craft areas:*

- ✿ Wellhead Boom Truck Operator*
- ✿ Medium Boom Truck Operator*
- ✿ Heavy Boom Truck Operator*
- ✿ Mobile Crane Operator.*

*Journeyman Mobile Crane Operators are qualified to operate boom trucks as well as mobile cranes. Journeyman Boom Truck Operators are qualified to operate wellhead boom trucks as well as boom trucks.*

## The Job

### **Working Conditions**

Crane and Hoisting Equipment Operators work outdoors in all types of weather, often in noisy, dusty conditions. Occupational hazards include injuries resulting from power line contact, crane overload, falls, weather conditions or manual lifting. Operators may routinely be required to manually lift equipment or material weighing up to 10 kilograms. In some circumstances, they may be required to manually lift heavier loads.

A 40 – hour, five – day workweek is normal, but overtime may be required to meet construction deadlines.

### **Wages**

Apprentice Wellhead Boom Truck Operators and Medium Boom Truck Operators earn at least 65% of the prevailing journeyman rate.

Apprentice Heavy Boom Truck Operators earn at least 60% of the prevailing journeyman rate in the first year and 80% in the second.

Apprentice Mobile Crane Operators earn at least 55% of the prevailing journeyman wage in the first period, 65% in the second and 80% in the third. The average wage for a qualified Crane and Hoisting Equipment Operator is \$20 - \$26 per hour.

### **Employment and Advancement**

Crane and Hoisting Equipment Operators are employed by general contractors and subcontractors in the forestry, mining, construction and oil industries, and by crane rental companies.

Experienced Crane Operators may advance to supervisory positions or set up their own crane rental business. With additional training, Crane and Hoisting Equipment Operators can transfer their skills to related occupations such as Heavy Duty Equipment Technician or Rigging Supervisor.

### **The Apprenticeship**

#### **Educational Background and Skills**

To enter the Crane and Hoisting Equipment Operator technical training, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the Trade Entrance Exam prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: coordination and manual dexterity; the ability to work at heights; good vision; and the ability to work as part of a team and communicate with ground crews, usually using hand signals and voice communication. They should also enjoy using tools and equipment to perform tasks requiring precision, performing routine maintenance and solving problems.

#### **Apprenticeship Term**

The term of apprenticeship for Crane and Hoisting Equipment craft areas is as follows:

- ✿ Wellhead Boom Truck Operators – one year (one 12 month period with a minimum of 100 hours of operating equipment)
- ✿ Medium Boom Truck Operators – one year (one 12 – month period with a minimum of 1000 hours of operating equipment)
- ✿ Heavy Boom Truck Operator – two years (two 12 – month periods with a minimum of 1000 hours of operating equipment)
- ✿ Mobile Crane Operators – three years (three 12 – month periods with a minimum of 1500 hours of operating equipment)

### Designation

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and Certificate of Qualification.

### Trades Qualification

- ✿ Wellhead Boom Truck Operator  
Available with 1,800 hours verified work experience, 150 hours operating equipment, written examination, practical examination
  
- ✿ Medium Boom Truck Operator  
Available with 3600 hours verified experience, 2000 hours operating equipment, written examination
  
- ✿ Heavy Boom Truck Operator  
Available with 5400 hours verified experience, 2000 hours operating equipment, written examination
  
- ✿ Mobile Crane Operator  
Available with 7,200 hours of verified trade experience and written examination.

### Interprovincial Red Seal

An Interprovincial Red Seal is available for Mobile Crane Operators only.



# **Electrical Motor Systems Technician**

*Electrical Motor Systems Technicians maintain, test and repair electric motors, transformers, switchgears and other electrical apparatus. They are employed by independent electrical repair shops, service shops of electrical equipment manufacturers and maintenance departments of manufacturing companies.*

## The Job

### **Working Conditions**

Electrical Motor Systems Technicians work primarily indoors in large shops and production plants. Those who work for firms that contract their services to other organizations may remove and replace burned out motors on the customer's premises, and may have to travel regularly to perform maintenance on customer equipment. Light lifting (up to 10 kilograms) is routinely required.

Most Electrical Motor Systems Technicians work a 40 – hour week with some overtime required when equipment breaks down.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyman wage in the first level, 60% in the second, 70% in level three and 80% in level four. The average wage for most qualified Electrical Motor Systems Technicians is \$26 - \$30 per hour.

### **Employment and Advancement**

Most Electrical Motor Systems Technicians are employed by companies that repair and service electric appliances and equipment, and by contractors in the field.

Experienced Electrical Motor Systems Technicians may progress to positions that involve working with larger and more complicated electric motors, transformers, switchgear or other apparatus, or that involves testing and diagnosing problems to a greater extent. They may also advance to supervisory positions, or set up their own contracting firms. Related occupations include Appliance Service Technician, Electrician and Outdoor Power Equipment Technician.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Electrical Motor Systems Technicians trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the Trade Entrance Exam prior to signing the

apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: good mechanical aptitude; manual dexterity; and the ability to pay careful attention to detail. They should also enjoy using tools and equipment to perform tasks requiring precision, following established procedures for testing and repairing equipment and analyzing information to solve problems.

### **Apprenticeship Term**

The term of the apprenticeship is four years and includes four employment periods of not less than 1,800 hours each, and four classroom training periods of eight weeks each.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and Certificate of Qualification.

### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Electrician

*Electricians lay out, assemble, install, test and repair electrical fixtures, apparatus, control equipment, signal equipment and wiring needed to supply heat, light and power to all types of buildings following national and territorial codes and regulations. Working from specifications, they cut, thread, bend, assemble and install conduits and other types of electrical conductor enclosures that connect panels, boxes, outlets and other related electrical devices.*

## The Job

### **Working Conditions**

Working conditions can change dramatically from one job to another, varying from indoors in clean conditions or cramped conditions to outdoors on scaffolding. The work may require lifting equipment and supplies weighing up to 25 kilograms, and there is some risk of injury from accidental electric shock. There may be no guarantee of permanent work, particularly in the construction industry.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyman wage in the first level, 60% in the second, 70% in level three and 80% in level four. The average wage for most qualified Electricians is \$22 - \$28.50 per hour.

### **Employment and Advancement**

Electricians work for construction and maintenance contractors, manufacturers, resource companies and other large organizations. Electricians in the construction industry may experience layoffs between projects and when the industry is in a slump. They must be willing to go where the work exists.

Electricians may advance to positions such as foreman, superintendent, estimator or electrical inspector. Some Electricians may start their own contracting business. Journeyman Electricians who wish to obtain certification in the Industrial Instrument Mechanic trade and have an employer's recommendation, may apply for credit towards the apprenticeship. Other related occupations include Appliance Service Technician, Communication Electrician, Electrical Motor System Technician, Electronic Technician, Elevator Service Technician, Power Lineman, Power System Electrician, Electrical Maintenance Technician, Instrument Mechanic and Refrigeration and Air Conditioning Mechanic.

### *The Apprenticeship*

#### **Educational Background and Skills**

To enter the Electrician trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the Trade Entrance Exam prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: good communication and reading skills; ability in mathematics; mechanical ability; strength and manual dexterity; the ability to distinguish colors to work with colour-coded wiring; the ability to work at heights; the ability to get along well with co-workers; and an interest in keeping up with new developments in the field. Those who install or maintain equipment in existing homes or businesses also must be neat, friendly and able to deal with customers courteously.

Electricians should also enjoy using tools and equipment to perform tasks requiring precision, analyzing information to troubleshoot problems and performing preventive maintenance.

#### **Apprenticeship Term**

The term of apprenticeship is four years and includes four employment periods of not less than 1,800 hours each, and eight weeks of classroom training in the first three periods and 12 weeks in the fourth period.

#### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

#### **Trade Qualification**

Available with 9,000 hours of verified trade experience and written examination.

#### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Electronic Technician

*Electronic Technicians repair radio and television receivers and other consumer electronic equipment such as stereo components, video cameras, two-way radio communication systems, video and audio cassette recorders, home computers and security systems. They conduct routine checks, referring to schematic diagrams and service manuals to find the source of a malfunction. They use various testing equipment such as voltmeters, oscilloscopes, signal generators and frequency counters. They must have a thorough understanding of electrical theory applications in relation to radio, television and electronic equipment.*

## The Job

### **Working Conditions**

Electronic Technicians generally work alone with little supervision. Some Technicians travel to customers' locations to make routine repairs and transport faulty equipment back to the shop if necessary, but the work is otherwise indoors in comfortable surroundings. Technicians may be routinely required to lift equipment weighing up to 10 kilograms.

Electronic Technicians work a 40-hour work week with occasional overtime required. For customer convenience, they may work some evenings or weekends.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyperson wage in the first period, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Electronic Technician is \$20 - \$25 per hour.

Many shops pay Electronic Technicians on a commission rate (generally 40-60% of the total billing) instead of paying an hourly wage.

### **Employment and Advancement**

Electronic Technicians are employed by independent repair shops and large organizations that use communications equipment. Competition for training positions is keen and job applicants who already have training or experience in electronics have an advantage.

Experienced Electronic Technicians may set up their own businesses or advance to supervisory positions. With additional training, Electronic Technicians can transfer their skills to related occupations such as Appliance Service Technician, Computer Service Technician, Industrial Instrument Mechanic or Aircraft Instrument Mechanic.

### **Educational Background and Skills**

To enter the Electronic Technician trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: good manual dexterity and normal colour vision; the ability to concentrate; mechanical aptitude; mathematical ability; tact and a courteous manner when dealing with customers, and a willingness to upgrade their skills and knowledge on an ongoing basis. They should also enjoy using tools and equipment to perform tasks requiring precision, analyzing information to diagnose and locate faults and following established procedures for dealing with customers.

### **Apprenticeship Term**

The term of apprenticeship is four years, and includes four employment periods of 1,800 hours each, with twelve weeks of classroom training in the first two periods, eight weeks in the third period and six weeks in the fourth period.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trades Qualification**

Available with 9000 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Floor Covering Installer

*Floor Covering Installers install, repair and replace resilient floor covering materials such as underlay, carpet and sheet goods (e.g. linoleum), refinished hardwood floors, ceramic tiles and vinyl wall coverings. Working from blueprints or verbal instructions, Floor Covering Installers prepare the surface and estimate the quantity of material required, apply adhesives and lay the covering. They are also required to match and insert pieces of material in damaged areas.*

## The Job

### **Working Conditions**

Floor Covering Installers work indoors at various work sites. There is some risk of injury because the work requires a great deal of kneeling, twisting and lifting awkward loads weighing over 25 kilograms.

Installers work a 40-hour, five-day week, with some overtime required to meet construction deadlines. Evening work may be required when renewing or decorating premises already in use.

### **Wages**

Apprentices earn at least 60% of the prevailing journeyman wage in the first period and 80% in the second. The average wage for a qualified Floor Covering Installer is \$14 - \$25 per hour. Floor Covering Installers may also be paid by the yard.

### **Employment and Advancement**

Floor Covering Installers are employed by floor covering retail outlets, contractors and installation companies. Employment prospects for Floor Covering Installers vary with the economic climate, particularly with changes in the number of new construction starts.

Experienced Floor Covering Installers may advance to supervisory positions, move into sales or customer relations or contract out their services. Some set up their own retail businesses. With additional training, Floor Covering Installers can transfer their skills to related occupations such as Tile Setter, Painter and Decorator, Carpenter, Roofer or Concrete Finisher.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Floor Covering Installer trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship program (SNAP) are given special exemption and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include strength and stamina; good colour vision to match colours; and the ability to be consistently polite and tactful with customers and get along with others. They should also enjoy taking a methodical approach to estimating costs and materials, using tools and equipment and solving problems.

### **Apprenticeship Term**

The term of apprenticeship is two years, and includes two employment periods of not less than 1,800 hours, with seven weeks of classroom training in the first period and six weeks in the second period.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trades Qualification**

Available with 5,400 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Gasfitter

*Gasfitters size, install, test and service both natural gas and propane gas lines, as well as gas-fired equipment which supply heat and light to buildings. Following codes, regulations and accepted safety practices, Gasfitters determine the type of pipe, equipment, appliances and devices necessary, and lay out a procedure. They measure, cut thread and assemble pipe; install vents and flues and connect gas appliances; replace defective equipment; and prepare work reports. Gasfitters also assist in the investigation of gas fires and explosion. They are trained in the conversion of motor vehicles to propane and natural gas.*

## The Job

### **Working Conditions**

Gasfitters work both indoors and outdoors at physically demanding tasks. They may be routinely required to lift equipment and materials weighing up to 25 kilograms. To reduce the risk of injury involved in working with explosive gases and power tools, they must observe established safety precautions.

Gasfitters work a standard 40-hour week with overtime sometimes required for emergencies or to meet construction deadlines.

### **Wages**

Apprentices earn at least 55% of the prevailing journeyperson wage in the first period, 65% in the second and 80% in the third. The average wage for a qualified Gasfitter is \$23-25 hour, but can range as high as \$29 per hour.

### **Employment and Advancement**

Gasfitters are employed in construction, manufacturing and utilities industries.

Experienced Gasfitters may advance to supervisory positions such as a foreman, maintenance manager or service manager, or start their own contracting business. With additional training, Gasfitters may transfer their skills to other pipe trades or become safety codes officers (inspectors).

## The Apprenticeship

### **Educational Background and Skills**

To enter the Gasfitter trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: mechanical aptitude; manual dexterity; the ability to work with little supervision; and the ability to deal courteously with customers. They should enjoy using tools and equipment to perform tasks requiring precision, solving problems and following established routines and procedures.

### **Apprenticeship Term**

The term of apprenticeship is three years and includes three employment periods of not less than 1,800 hours each, and eight weeks of classroom training in the first and third periods.

### **Designation**

As of August 15, 1995 only an individual taking his/her Gasfitter training through a "Gasfitter" apprenticeship (three periods) will be eligible for a Certificate of Qualification/Gasfitter First Class.

An individual that receives his/her Gasfitter training through "Plumber/Gasfitter" trade will be eligible only for a Certificate of Qualification/Gasfitter Second Class. Gasfitters Second Class are restricted to working on applications of less than 400,000 BTU's.

All individuals who successfully completed their fourth level "Plumber/Gasfitter" technical training before August 15, 1995 will be considered Gasfitters First Class.

In order for an individual who has a Gasfitter Second Class Certificate to become a Gasfitter First Class, he/she must be registered and complete a one year apprenticeship in the "Gasfitter" trade. This includes 1,800 hours of work experience and successful completion of the third level (eight weeks) "Gasfitter" technical training.

### **Trades Qualification**

Available with 7,200 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is not available in this trade.

# Glazier

*Glaziers install and remove all types of glass materials for building, motor vehicles, fixtures and other uses. They repair safety glass, windows and windshields as well as hook up in-glass radio antennas and defoggers in motor vehicles. In buildings, they assemble parts of prefabricated glass units such as revolving doors, display cases, plate glass, shower doors and storefronts. They examine blueprints, take measurements, cut glass and apply a sealing bed. Glaziers also install, fit, fabricate and attach architectural metals or related substitute products in both residential and commercial buildings.*

## The Job

### **Working Conditions**

Glaziers work in a variety of environments. Some work outdoors at construction sites, sometimes on scaffolds and swing stages (platforms suspended from the top of high-rise buildings). Others work in factories installing glass in wooden or metal frames, or in shops replacing glass in vehicles or furniture. They may routinely lift loads weighing up to 25 kilograms, and there is some risk of injury from sharp edges and broken glass.

Glaziers generally work a 40-hour week, but may have to work overtime to meet construction deadlines.

### **Wages**

Apprentices earn at least 50% of the prevailing journey person wage in the first period, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Glazier is \$15-18 per hour, but can range as high as \$20 per hour.

### **Employment and Advancement**

Glaziers are employed by: construction companies, architectural firms, interior design firms, retail glass shops (windshields, table tops, residential windows) and contract glass shops (aluminum and glass installation on construction sites).

Experienced Glaziers may advance to supervisory positions such as foreman or contract manager, or set up their own shops.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Glazier trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in the Schools North Apprenticeship program (SNAP) are given special exemption, and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: reading, writing and verbal communication; some mathematical ability; the physical strength and stamina required to work with heavy glass materials, the ability to work at heights; good eyesight to measure, cut and see flaws in glass; manual dexterity; and the ability to work alone or with a team. They should also enjoy following routine procedures, using tools and equipment to perform tasks requiring precision and talking to customers.

### **Apprenticeship Term**

The term of apprenticeship is four years and includes four employment periods of not less than 1,800 hours each, and four classroom-training periods of six weeks.

### **Designation**

Upon successful completion of the apprenticeship graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Hairstylist

*Hairstylists provide the following professional services to their customers: hair and scalp treatment and shampooing, hair cutting, shaping and trimming; hair styling, using heat and chemical preparations; hair colouring; face and scalp massage and treatment; servicing of wigs and hairpieces; personal services related to the practice of beauty culture such as eyebrow or eyelash treatment and manicuring.*

## The Job

### **Working Conditions**

Hairstylists work indoors in a pleasant environment, but must stand all day and sometimes work through their breaks. They often work weekends and evenings, and may be required to work extra hours during peak periods, i.e. Christmas.

### **Wages**

Apprentices earn at least 60% of the prevailing journeyman wage in the first period and 80% in the second. The average wage for a qualified Hairstylist is difficult to estimate because they can be paid in several different ways: hourly wages, straight salary or wage/salary plus commission. Income also depends greatly on the salon's client base and salon prices. Tips and gratuities for good work are a common supplement to a Hairstylist's income. The average wage ranges from \$12 - \$17 per hour, but can be as high as \$25 - \$50 per hour.

### **Employment and Advancement**

Most Hairstylists work in beauty salons. Part-time work is more common than in most other occupations.

Hairstylists can move into other areas such as sales positions for beauty supply houses, or colour or permanent wave technician (demonstrating new techniques at hair shows or in salons for staff). Advancement is usually limited to managing a salon or owning and operating one's own establishment.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Hairstylist trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in the Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: a patient and helpful manner; the physical stamina required to stand all day and sometimes go without breaks; a well groomed, professional appearance; and an interest in keeping up-to-date on new styles, supplies and technology. They should also enjoy providing advice about hair care and styling, using combs, scissors and other devices to cut and style hair, and working with people.

### **Apprenticeship Term**

The term of apprenticeship is two years and includes two employment terms of not less than 1,800 hours each, and two classroom-training periods of 10 weeks each.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trades Qualification**

Available with 5,400 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Heavy Duty Equipment Technician

*Heavy Duty Equipment Technicians examine, test, repair and maintain heavy mobile equipment such as cranes, paving equipment, off-road haulers, and earthmovers. This equipment is used in the following industries: construction, logging, mining, forestry, material handling, landscaping, land clearing, farming and transportation. Heavy Duty Equipment Technicians service spark ignition and diesel engines on highway transport vehicles, construction and earth-moving equipment, tractors and mobile industrial equipment. They clean, lubricate and maintain equipment, repair or replace defective parts, components or systems using hand and power tools and test repaired equipment.*

*This trade is divided into four craft areas as follows:*

- ✿ Heavy Duty Equipment Technician*
- ✿ Heavy Equipment Mechanic (Off-Road)*
- ✿ Truck and Transport Mechanic*
- ✿ Truck-Trailer Repairer*

## The Job

### **Working Conditions**

The working environment for Heavy Duty Equipment Technician varies considerably from one job to another. Some Heavy Duty Equipment Technicians work in modern laboratories overhauling fuel injection pumps and delivery systems. Others work in construction fields, sometimes in an oily or greasy environment or in inclement weather. Lifting equipment weighing over 25 kilograms may be required. There is some risk of injury involved in working with heavy equipment and power tools.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyman wage in the first period, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Heavy Duty Equipment Technician is \$23-\$30 per hour.

### **Employment and Advancement**

Heavy Duty Equipment Technicians are employed by firms that own or lease heavy equipment used in the construction, mining, forestry, material handling, landscaping, land clearing, agriculture and transportation industries. In industries that are sensitive to economic changes, Heavy Duty Equipment Technicians may experience periods of unemployment.

Experienced Heavy Duty Equipment Technicians may advance to shop supervisor or service manager positions. With additional training they can transfer their skills and knowledge to positions in sales, purchasing, planning or preventative maintenance, or related occupations such as Aircraft Maintenance Engineer, Agricultural Mechanic, Millwright or Automotive Service Technician.

### *The Apprenticeship*

#### **Educational Background and Skills**

To enter the Heavy Duty Equipment Technician trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: mechanical ability; motor coordination; and manual dexterity. They should also enjoy using tools and equipment to perform tasks requiring precision.

#### **Apprenticeship Term**

The term of apprenticeship for a Heavy Duty Equipment Technician is four years and includes four employment periods of not less than 1,800 hours each, and four classroom-training periods of eight weeks each.

The term of apprenticeship for a Heavy Equipment Mechanic (Off-Road) and Truck and Transport Mechanic is three years and includes three employment periods of not less than 1,800 hours each, and three classroom-training periods of eight weeks each.

The term of apprenticeship for a Truck-Trailer Repairer is one year and includes one employment period of 1,800 hours and one classroom-training period of eight weeks.

#### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

#### **Trades Qualification**

Available for the 4 year Heavy Duty Equipment Technician with 9,000 hours of verified trade experience and written examination.

#### **Interprovincial Red Seal**

An Interprovincial Red Seal is available for the Heavy Duty Equipment Technician, Truck and Transport Mechanic and Truck-Trailer Repairer Apprenticeships. An Interprovincial Red Seal is not available for the Heavy Duty Equipment Mechanic (Off-Road) Apprenticeship.

# Heavy Equipment Operator

*Heavy Equipment Operators use a variety of mobile machines and attachments to excavate; grade and landscape earth or move workers, materials and equipment. They control equipment by moving levers or foot pedals, operating switches and/or turning dials. Their job titles generally reflect the types of machines they operate, for example, bulldozer operator, grader operator. However, one operator may operate several types of equipment.*

*Bulldozer Operators, also called cat operators or cat skimmers, operate crawler-tractors equipped with large blades across the front for moving obstacles, rippers for tearing up terrain or work platforms for other workers to work from. They clear and level land on construction, mining and forestry sites, and push other equipment and provide traction and assistance when needed.*

*Backhoe Operators use a variety of attachments to dig up trenches, load heavy materials, vibrate and break rock or concrete, back-fill excavations and scoop and dump materials.*

*Front-end Loader Operators operate mobile machines with buckets on the front for picking up heavy loads of earth, rock, sand, gravel or snow, and dumping it into piles, excavations or trucks.*

*Grader Operators spread and level earth, sand, gravel and rock and plow snow in the winter by controlling the height and angle of grader blades. To level surfaces to a specified grade, they make successive passes over the working area, watching reference stakes, level gauges and/or the hand signals of other workers.*

*Paver Operators operate asphalt-paving machines, which lay down asphalt for roads, driveways and parking lots with the aid of stakes and level gauges.*

*Power Shovel Operators manipulate a boom or crane that supports a dipper handle with a large dipper used to scoop up dirt, rock and coal and drop it into trucks or piles.*

*Scraper Operators scrape, load and haul earth on mining or construction sites. They control the speed and direction of the scraper and bucket to level work sites, haul soil for roads and right-of-ways and haul coal and ore at mining sites.*

*Other Heavy Duty Equipment Operators manipulate the controls of machines unique to particular industries, for example, tree harvesters and skidders in forestry and trench excavators in pipeline construction.*

### The Job

#### **Working Conditions**

Heavy Equipment Operators work outdoors in almost any kind of weather, although they may work in air-conditioned and dust-controlled cabs. For most, the work is seasonal. Considerable overtime may be required in the warmer months and layoffs can be expected in the winter months. At oil sands mining sites, shift work is often required. Employment may be on a project-by-project basis, and operators may have to travel and be away from home frequently.

The working environment is often noisy, dusty and dirty, and occasionally, Heavy Equipment Operators have to sit for long periods of time on vibrating or bouncing machinery. To avoid accidental injury, operators must be very safety conscious and follow the signals of ground crew members.

Heavy Equipment Operators may be required to routinely lift items weighing up to 10 kilograms.

#### **Wages**

The average wage for a qualified Heavy Equipment Operator is \$16-\$26 per hour.

#### **Employment and Advancement**

Heavy Equipment Operators are employed in the petroleum, mining, forestry and construction industries. They may work for general contractors building highways, dams and airports or installing sewer and other utilities; asphalt paving companies; pipeline companies; or logging companies. Advancement opportunities are generally linked to relatively few supervisory positions.

### The Apprenticeship

#### **Educational Background and Skills**

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: excellent physical condition; good vision and awareness of depth; good eye and hand/foot coordination; mechanical ability; and fast reflexes. They should also enjoy operating machinery, taking a methodical approach to their work, and trouble-shooting problems.

#### **Apprenticeship Term**

Not applicable.

### **Designation**

Upon successful completion of the written and practical exams, individuals receive a Northwest Territories Certificate of Qualification.

### **Trades Qualification**

Available with 4,000 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is not available in this trade.



# **Housing Maintainer**

*Housing Maintainers perform maintenance and minor repairs on existing physical structures and components of single-family residences using hand and power tools. They service and repair heating systems; complete minor repairs on electrical and plumbing systems; paint and repair drywall and woodwork; and repair, replace and adjust doors and windows, ceiling and floor tiles and door locks.*

## The Job

### **Working Conditions**

Housing Maintainers may work alone, in teams or with helpers. There is some risk of injury from slips and falls, falling objects and sharp hand and power tools. Other working conditions vary from one job to another. For example, some of the maintenance duties that they are asked to perform will be in dusty and confined spaces. Most Housing Maintainers are permanently employed and work a regular 40-hour week.

Lifting wood and other materials weighing up to 25 kilograms may be required.

### **Wages**

Apprentices earn at least 55% of the prevailing journeyman wage in the first period, 65% in the second and 80% in the third. The average wage rate for a qualified Housing Maintainer is \$22-\$30 per hour.

### **Employment and Advancement**

Housing Maintainers are normally employed by Housing Associations and Authorities or municipal governments. Experienced Housing Maintainers may advance to supervisory positions such as foreman. With some additional training, they can transfer their skills to other trades such as carpenter, plumber or oil burner mechanic.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Housing Maintainer trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: the ability to stand and kneel for long periods of time; manual dexterity; balance for working on ladders and scaffolding; and the ability to get

along well with others on a work team. They should also enjoy using tools and equipment to perform tasks requiring precision, following established procedures and solving problems by experimenting.

### **Apprenticeship Term**

The term of apprenticeship is three years and includes three employment periods of not less than 1,800 hours each, and eight weeks of classroom training in the first, second and third periods.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trades Qualification**

Available with 7,200 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is not available in this trade.

# Industrial Instrument Technician

*Industrial Instrument Technicians maintain, repair, overhaul and calibrate precision measuring and control instruments in chemical plants, refineries, pipelines, mining and milling operations. They install and connect instruments to hydraulic, pneumatic and electrical lines; calibrate, inspect, test, disassemble, clean and replace parts; and reassemble instruments. Industrial Instrument Technicians must understand the monitoring processes involved in process quality control and be skilled in the making of pneumatic, hydraulic and pressure joints and seals connecting process control equipment.*

## The Job

### **Working Conditions**

Work is usually performed indoors. Most instrument establishments are clean and well lit, however, workers may be exposed to noisy, dusty or warm conditions. Some shiftwork may be required.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyman wage in the first, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Industrial Instrument Technician is \$26-\$32.

### **Employment and Advancement**

Industrial Instrument Technicians are employed by refineries, mining and milling operations and large commercial installations. With the speed of new developments in this field, opportunities are plentiful for Industrial Instrument Technicians interested in moving up to positions with more responsibility.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Industrial Instrument Technician trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: an eye for detail; the ability to give and receive instructions; and the ability to pay careful attention to safety procedures and control systems.

### **Apprenticeship Term**

The term of apprenticeship is four years, including four employment periods of not less than 1,800 hours each, and eight weeks of classroom training in the first two periods and ten weeks in the last two periods.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# **Industrial Mechanic (Millwright)**

*Using blueprints and precision tools, Industrial Mechanics assemble, install, repair and maintain various types of industrial machinery and mechanical equipment (hydraulic, pneumatic and electronic) in mines, mills, oil refineries, factories and other production plants. They may specialize in areas such as construction, oil and gas equipment or mill maintenance. These tradespeople work alongside of Machinists, Pipefitters, Electricians, Carpenters and Welders.*

## The Job

### **Working Conditions**

Industrial Mechanics generally work indoors, in both regulated and unregulated indoor climates. The work is sometimes noisy and there may be exposure to non-toxic dusts. There is some risk of injury involved in working with equipment, tools and machinery.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyman wage in the first period, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Industrial Mechanic is \$26-\$30.

### **Employment and Advancement**

Industrial Mechanics may find employment in maintenance, stock keeping, machine shops or sales. They are employed by manufacturing, processing and construction firms as well as amusement parks and ski hills. Those employed in construction may experience periods of unemployment.

Due to the fact that Industrial Mechanics are exposed to duties from a variety of other trades, they make good candidates for promotion to supervisory and superintendent positions. Special consideration will be given to Millwrights interested in pursuing certification in the Machinist trade.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Industrial Mechanic trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: the strength and stamina required to work with heavy equipment; good coordination and manual dexterity; the ability to visualize a layout by looking at plans and blueprints, the ability to comprehend and trouble-shoot mechanical systems; and the ability to get along with and sometimes supervise the work of others. They should also enjoy setting up and assembling machinery and equipment, analyzing information to solve problems and taking a methodical approach to their work.

### **Apprenticeship Term**

The term of apprenticeship is four years and includes four employment periods of not less than 1,800 hours each, and four classroom-training periods of eight weeks each.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Insulator (Heat and Frost)

*Insulators apply, remove and repair thermal and acoustical insulation including calcium silicate, glass foam, mineral wool, Styrofoam and fiberglass on all types of industrial equipment, for example, duct piping, heat exchanges, tanks and vessels. Insulators read and interpret drawings and specifications to determine insulation requirements; select the amount and type of insulation to be installed as well as a method of securing the insulation, for example spraying, pinwelding, wiring, pasting, strapping and taping according to the type and shape of surface, whether or not the equipment is cold or hot, inside or outside and what the equipment is going to be used for; measure and cut insulating materials and coverings to the required shape and dimension; fit insulation around obstructions or shape insulation materials and protective coverings; install vapour barriers and finish insulated surfaces by applying metal cladding, canvas, plastic sheeting or cement; and remove or seal off old asbestos insulation.*

## The Job

### **Working Conditions**

Insulators work both indoors and outdoors, often in uncomfortable or potentially hazardous circumstances, for example hot/cold settings, on ladders or scaffolding, in cramped areas, or with dusty, itchy or toxic materials. They must observe safety precautions and use equipment such as respirators, coveralls and safety glasses/goggles. They may be required to routinely lift items weighing up to 25 kilograms.

Insulators usually work a 40-hour, five-day week, but may work 40 hours in four days. Some overtime may be required to meet construction deadlines. Those employed in industrial plant maintenance may work shifts.

### **Wages**

Apprentices earn 50% of the prevailing journeyman wage in the first period, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Insulator is \$20-\$24 per hour, but can range as high as \$27 per hour.

### **Employment and Advancement**

Insulators are employed by construction companies, insulation companies and industrial plants.

Experienced insulators may advance to supervisory positions such as foreman, general foreman or superintendent, or they may move into estimator positions. Estimators review blueprints for proposed work, determine how much material will be needed and how long the work will take. Other occupations that involve cutting, fitting and installing materials include floor covering installer, glazier, lather-interior systems mechanic, roofer, sheet metal mechanic and carpenter.

### *The Apprenticeship*

#### **Educational Background and Skills**

To enter the Insulator trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: manual dexterity; the agility required to work in cramped spaces; and the ability to work at heights and in hot and cold environments. They should also enjoy following established procedures, operating hand and power tools and fitting insulation around obstructions.

#### **Apprenticeship Term**

The term of apprenticeship is four years and includes four employment periods of not less than 1,800 hours each, with six weeks of classroom training in the first and second periods and eight weeks in the third period. The fourth period requires on the job training only.

#### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

#### **Trades Qualification**

Available with 7,200 hours of verified trade experience and written examination.

#### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Locksmith

*Locksmiths install, adjust and repair locks, make keys and change lock combinations. They work on residential and automotive keylocks, and master keylock sets for commercial and institutional use. Locksmiths may also install and maintain more sophisticated security systems.*

## The Job

### **Working Conditions**

Some working environments, especially mobile units, may be small and crowded, requiring locksmiths to work in awkward or confined spaces. Those working in mobile units may also be required to work in adverse weather conditions. Light lifting (up to 10 kilograms) is routinely required.

Locksmiths usually work a 40-hour, five-day week, but may be on-call nights and weekends to respond to emergencies. Self-employed locksmiths often work longer hours.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyperson wage in the first period, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Locksmith is \$16-\$20 per hour but can be as high as \$30 per hour.

### **Employment and Advancement**

Locksmiths are employed by locksmithing companies, security firms and institutions. Experienced Locksmiths may advance to supervisory positions or set up their own business. Most Locksmiths consider this to be a life-long occupation.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Locksmith trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: mechanical ability; mathematical ability; patience, tact when dealing with the public; good vision and hearing; good eye-hand coordination; good health and stamina; the agility required to climb ladders; and a desire to keep up-to-date

with new developments in security equipment. They should enjoy using tools and equipment to perform tasks requiring precision, following established procedures and analyzing locks to locate defects.

### **Apprenticeship Term**

The term of apprenticeship is four years and includes four employment terms of not less than 1,800 hours each, and four classroom-training periods of eight weeks each.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is not available in this trade.

# Machinist

*Machinists make and repair metal parts, tools and machines. They operate various types of precision metal cutting and grinding machines such as lathes, milling machines, drills, shapers, boring mills and grinders to machine metal into usable parts. They work according to precise specifications; calculate dimensions and tolerances; measure and mark metal; and finish and fit parts by filing; scraping, grinding and polishing. Machinists may work in job or production shops. In job shops, they make a wide variety of repair parts for machinery and industrial equipment. In a production shop, they produce parts using mass production methods.*

## The Job

### **Working Conditions**

Machinists work in shops that may be noisy or dusty, and with materials that may be dirty. They may have to stand up for long periods of time and, depending on the job, may be routinely required to lift items weighing up to 25 kilograms. Safety precautions must be observed to avoid injury when working with sharp metals and power tools.

Machinists work a 37.5 to 40-hour, five-day week, but may be required to work overtime in emergency situations.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyperson wage in the first period, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Machinist is \$26 - \$30 per hour, but can range as high as \$32 per hour.

### **Employment and Advancement**

Machinists are employed wherever equipment is being manufactured or repaired. Some are employed by large organizations such as government departments, or repair and maintenance companies. Employment is reasonably steady for most machinists, but may be seasonal for Machinists employed in industries such as oil field component production.

Experienced Machinists may advance to positions such as inspector, foreman or superintendent. Some Machinists start small job shops of their own. With additional training, they may transfer their skills to related occupations such as Millwright, Tool and Die Maker, Gunsmith or Locksmith. Special consideration is given to Machinists who wish to become certified as Millwrights or Tool and Die Makers.

### *The Apprenticeship*

#### **Educational Background and Skills**

To enter the Machinist trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: the ability to use their hands skillfully and quickly; mechanical ability; the ability to estimate and measure sizes and distances accurately; and the ability to work independently at tasks that require concentration as well as physical effort. They should also enjoy setting up and adjusting machining tools, performing precision machining operations and following established procedures.

#### **Apprenticeship Term**

The term of apprenticeship is four years and includes four employment periods of not less than 1,800 hours each, and four classroom-training periods of eight weeks each.

#### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

#### **Trades Qualification**

Available with 9,000 hours of qualified trade experience and written examination.

#### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Motor Vehicle Body Repairer

*The Motor Vehicle Body Repairer trade is divided into three crafts:*

✿ *Motor Vehicle Body Repairer (Collision and Refinishing). A journey person in this trade will be able to: use hand tools and power equipment in a proper and safe manner; repair, replace and align chassis components; paint motor vehicles; repair and replace drive line support systems; repair and replace structural and nonstructural motor vehicle sections; straighten and align frames and unitized structures.*

✿ *Motor Vehicle Body Repairer (Collision). A journey person in this trade will be able to: use hand tools and powered equipment in a proper and safe manner; straighten and align frames and unitized structures; apply primers, primer surfaces and corrosion proofing materials; repair, replace and align chassis components; repair and replace drive line support systems; repair and replace structural and nonstructural motor vehicle sections.*

✿ *Motor Vehicle Body Repairer (Refinishing). A journey person in this trade will be able to: use hand tools and powered equipment in a proper and safe manner; paint motor vehicles; apply primers, primer surfaces and corrosion proofing materials.*

## The Job

### **Working Conditions**

Motor Vehicle Body Repairers generally work a 40-hour, five-day week with occasional overtime required. They work indoors in a noisy, sometimes dusty, environment. Although most shops are well ventilated, the work involves exposure to dust and fumes. There is always some risk of injury involved in working with sharp or hot metals, welders and power tools. Motor Vehicle Body Repairers may be required to lift parts and equipment weighing up to 25 kilograms.

### **Wages**

Apprentices in the Collision and Collision and Refinishing crafts earn at least 50% of the prevailing journey person wage in the first period, 60% in the second, 70% in the third and 80% in the fourth.

Apprentices in the Refinishing craft earn at least 55% of the prevailing journey person wage in the first period, 65% in the second and 80% in the third. The average wage for a qualified Motor Vehicle Body Repairer is \$18-28 per hour.

### **Employment and Advancement**

Motor Vehicle Body Repairers are employed by auto body repair shops, automobile and truck dealerships, custom shops and sometimes by trucking companies and bus lines.

Experienced Motor Vehicle Body Repairers may advance to supervisory positions, start their own businesses or become automobile damage appraisers for insurance companies. With additional training, they can transfer their skills to related occupations such as Sheet Metal Worker, Aircraft Maintenance Engineer, Motorcycle Mechanic or Automotive Service Technician.

### *The Apprenticeship*

#### **Educational Background and Skills**

To enter the Motor Vehicle Body Repairer trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: manual dexterity; creativity, patience and eye for detail; good colour vision, an interest in staying current with the annual changes manufacturers make in plastics, electronics, supplemental restraints and paints; good customer services skills; and a commitment to safe work habits. They should also enjoy using tools and equipment to perform tasks requiring precision, following routine procedures and repairing damaged auto body components.

#### **Apprenticeship Term**

The term of apprenticeship for Collision and Refinishing is four years and includes four employment periods of not less than 1,800 hours each, and six weeks of classroom training in the first and second periods, eight weeks in the third and four weeks in the fourth.

The term of apprenticeship for Collision is four years and includes four employment periods of not less than 1,800 hours each, and six weeks of classroom training in the first and second periods and eight weeks in the third. The fourth year is work experience only.

The term of apprenticeship for Refinishing is three years and includes three employment periods of not less than 1,800 hours each, and six weeks of classroom training in the first and second period and four weeks in the third.

#### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trades Qualification**

Available for Motor Vehicle Body Repairer (Collision and Refinishing) and for Motor Vehicle Body Repairer (Collision) with 9,000 hours of verified trade experience and written examination.

Available for Motor Vehicle Body Repairer (Refinishing) with 7,200 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available for the Collision and Refinishing Trade and the Refinishing Trade, but not for the Collision Trade.



### **Oil Burner Mechanic (Residential)**

*Oil Burner Mechanics install, service, adjust and repair high pressure, low pressure and vaporizing oil burners with output ranges up to 400,000 BTU/hr (residential and small commercial). They install, service and repair associated oil storage tank installations and piping systems, and troubleshoot electrical, mechanical, airflow, chimney or combustion malfunctions using testing equipment. They complete work orders and customer invoices and maintain stock supplies.*

*In the Northwest Territories, gasfitters are frequently exposed to Oil Burner Mechanics work. Since there is a lot of commonality between the two trades, a special program has been developed for Gasfitters to obtain Oil Burner Mechanic certification. (See Trades Certification and Credit section, Trades Qualification below.) In the Northwest Territories, some Plumbers and Steamfitter/Pipefitters also work with oil burners, therefore, Oil Burner Mechanics may be added to the Plumber or Steamfitter/Pipefitter apprenticeship, which then becomes 7,200 hours (four years) with five periods of in-school training. Refer to other trade descriptions for further details.*

#### The Job

##### **Working Conditions**

Oil Burner Mechanics generally work in regulated indoor climates. There is some risk of injury involved in working equipment, tools and machinery.

##### **Wages**

Apprentices earn at least 55% of the prevailing journeyperson wage in the first period, 65% in the second and 80% in the third. The average wage for a qualified Oil Burner Mechanic is \$20-\$28 per hour.

##### **Employment and Advancement**

Oil Burner Mechanics are employed by heating-systems installation and service companies. Progression to supervisory positions is possible with experience.

#### The Apprenticeship

##### **Educational Background and Skills**

To enter the Oil Burner Mechanic trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: spatial perception to read and interpret drawings and specifications; form perception; and motor coordination. They should also enjoy using tools and equipment to perform tasks requiring precision, analyzing information to identify and repair problems and performing routine maintenance.

### **Apprenticeship Term**

The term of apprenticeship is three years and includes three employment terms of not less than 1,800 hours each, and four classroom-training periods of six weeks each.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trade Qualification**

Available with 7,200 hours of verified trade experience and written examination. Holders of a Gasfitter Certificate of Qualification and Gasfitter, Plumber/Gasfitter and Steamfitter/Pipefitter/Gasfitter apprentices who have completed at least 3<sup>rd</sup> year theory can attend the Oil Burner Mechanic for Plumber/Gasfitter special course at Aurora College, Thebacha Campus, Fort Smith, Northwest Territories.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Painter and Decorator

*Painters and Decorators apply paint, wallpaper, fabrics and other finishes to interior and exterior surfaces. They read work orders, estimate materials, remove old coatings, prepare surfaces by cleaning, filling and sanding and apply undercoats and finish coats. Paint, stain and varnish are applied by brush, roller, spray or dripping, to wood, metal, brick, concrete, plaster, stucco and stone surfaces. Wall coverings of paper, natural or synthetic fabrics are applied by pasting, brushing or rolling on the appropriate surfaces.*

## The Job

### **Working Conditions**

Painters and Decorators try to arrange their work so they will be outdoors in late spring, summer and early fall, and indoors in the late fall and winter. They may work long hours during the warmer months.

Painters and Decorators must stand for long periods of time, often working with their arms over their heads, and may be required to lift materials weighing up to 25 kilograms. There is some risk of injury from falling off ladders, scaffolds or swingstages, and from working with chemicals such as paint thinners/removers.

### **Wages**

Apprentices earn at least 55% of the prevailing journeyperson wage in the first period, 65% in the second and 80% in the third. The average wage for a qualified Painter and Decorator is \$18-\$25 per hour.

### **Employment and Advancement**

Painters and Decorators are employed by contractors involved in new construction, repair, alteration or remodeling work, or by organizations that own or manage large buildings. Many Painters and Decorators are self-employed. Although there is indoor painting to do in winter, the work is seasonal to some extent.

Experienced Painters and Decorators may advance to supervisory positions with painting and decorating contractors, or set up their own small business. With additional training, Painters and Decorators can transfer their skills to related occupations such as auto body painting or commercial sign painting.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Painter and Decorator trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: good colour sense; manual dexterity, the ability to work at heights, the strength required to move heavy ladders or set up scaffolding; and a desire to do a precise and thorough job. They should also enjoy following routine procedures, operating equipment and talking to customers to provide cost estimates and advice.

### **Apprenticeship Term**

The term of apprenticeship is three years including three employment periods of not less than 1,800 hours each, and three classroom-training periods of eight weeks each.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trades Qualification**

Available with 7,200 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Partsperson

*Partspersons are responsible for the storing and dispensing of automotive, small equipment, heavy duty equipment for farm implement parts. Their duties include stock handling, warehousing, identifying and cataloguing of parts and assemblies, as well as ordering, receiving, inspecting, sorting and pricing. The trade requires familiarity with accounting procedures and business machines, such as computers and calculations for making sales, calculating discounts and writing up invoices and warranties.*

### The Job

#### **Working Conditions**

A Partsperson works indoors in storerooms where large inventories of parts are kept, usually on rows of shelves and in bins. While the work is not physically strenuous, a Partsperson spends a lot of time standing and walking.

The lifting requirements for a Partsperson vary from job to job. An Automotive Partsperson lifts weights up to 10 kilograms on a daily basis whereas a Heavy Duty Partsperson lifts loads weighing up to 25 kilograms.

The working hours are often the same as those for other employees in retail stores.

#### **Wages**

Apprentices earn at least 55% of the prevailing journeyperson wage in the first period, 65% in the second and 80% in the third. The average wage for a qualified Partsperson is \$20-\$23 per hour.

#### **Employment and Advancement**

A Partsperson may be employed by wholesale and retail businesses, or warehouse distributors dealing with automotive, heavy duty, industrial or farm implement parts. An apprentice Partsperson may begin working as a stock or receiving clerk. As the apprentice becomes acquainted with the stockroom system and different parts and their application, he or she may be promoted to parts counter positions.

An experienced Partsperson with business and technical experience may advance to a supervisory position such as parts department manager, store manager or even storeowner. With some sales experience, a Partsperson can move into a sales representative position.

### The Apprenticeship

#### **Educational Background and Skills**

To enter the Partsperson trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: the ability to deal effectively and courteously with the public even in difficult situations; basic math skills; and the ability to pay careful attention to details such as parts catalogues and microfiche numbers. A Partsperson should also enjoy following established procedures, operating computerized inventory systems and keeping records and discussing parts with customers and other employees.

### **Apprenticeship Term**

The term of apprenticeship is three years, and includes three employment periods of not less than 1,800 hours each, and eight weeks of classroom training in the first period and six weeks in the last two periods.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trades Qualification**

Available with 7,200 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Plumber

*Plumbers plan, install, maintain and repair piping systems and fixtures for water supply, drainage, waste, venting or hot liquid heating. Plumbers may specialize in installing plumbing in new housing, commercial, industrial or public buildings; or in renovating, maintaining and repairing existing plumbing. In smaller communities, Plumbers generally do a wider variety of plumbing and plumbing-related jobs such as private sewage disposal systems and water distribution systems.*

*Because the NWT follows the Alberta Plumber Apprenticeship program, which includes Gasfitter Training and Certification, the NWT Plumbers Apprenticeship Program incorporates all the theory requirements for certification as a Gasfitter during the regular Plumber/Gasfitter program. On satisfactory completion of the contract, the Completion of Apprenticeship Certificate is for Plumber/Gasfitter and two separate Certificates of Qualification are issued for Plumber and Gasfitter respectively.*

*In the NWT, most Plumber/Gasfitter Apprentices are regularly exposed to Oil Burner Mechanic work. Because there is a great deal of commonality between Gasfitter and Oil Burner Mechanic, a special course has been developed to allow Plumber/Gasfitters, who will be working on Oil Burners during their apprenticeship, to sign onto a single four-year apprenticeship (Plumber/Gasfitter/Oil Burner Mechanic) and thereby gain training and certification in all three trades.*

## The Job

### **Working Conditions**

The working conditions for Plumbers vary from one job to another. There is little protection from the weather when a plumber is roughing-in, more protection for finishing, and often comfortable conditions for maintenance and repair work. There is some risk of injury involved in working with rough metals, power tools and pipe-joining equipment. Plumbers may be asked to lift equipment or supplies weighing up to or in excess of 25 kilograms. Plumbers in construction jobs may work long hours during warmer months.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyman wage in the first period, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Plumber is \$16-\$27 per hour.

### **Employment and Advancement**

Plumbers are employed by construction contractors, plumbing repair shops and large organizations. Some are self-employed.

Experienced Plumbers may advance to supervisory positions such as foreman or estimator, or start their own contracting businesses. With some additional training, they can transfer their skills to other pipe trades or become safety codes officers (inspectors).

### *The Apprenticeship*

#### **Educational Background and Skills**

To enter the Plumber trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: the physical stamina required to lift heavy pipes, be on their feet for long periods and sometimes work in cramped positions; mechanical ability; and the ability to work alone or with others. They should also enjoy using tools and equipment to perform tasks requiring precision, solving problems and following established procedures.

#### **Apprenticeship Term**

The term of apprenticeship is four years and includes four employment terms of not less than 1,800 hours each, and four classroom-training periods of eight weeks each. A fifth classroom-training period of six weeks is required for the optional Oil Burner Mechanic trade.

#### **Designation**

As of August 15, 1995, only an individual taking his/her Gasfitter training through a "Gasfitter" apprenticeship (three periods) will be eligible for a Certificate of Qualification – Gasfitter First Class.

Any individual that receives his/her Gasfitter through "Plumber/Gasfitter" trade will be eligible only for a Certificate of Qualification – Gasfitter Second Class. Gasfitters Second Class are restricted to working on applications of less than 400,000 BTUs.

All individuals who successfully completed their fourth level Plumber/Gasfitter" technical training before August 15, 1995 will be considered Gasfitter First Class.

#### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

#### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Power Line Electrician

*Power Line Electricians construct, operate, maintain and repair equipment and materials used in the generation, transmission and distribution of electricity. They work with high voltage equipment such as power lines, circuit breakers, transformers, relays, switches and electric meters. They also work on subsidiary controls and maintain switchboard and equipment circuitry in generating stations and powerhouses.*

## The Job

### **Working Conditions**

Power Line Electricians work outdoors at various work sites so traveling is often part of the workday. The work may be strenuous, and requires frequent reaching and heavy lifting and carrying up to 25 kilograms. Getting to power lines requires climbing poles or towers, working from a bucket attached to an aerial lift boom and entering manholes and underground vaults. There is some risk of injury from falls and electrical shocks. Special equipment and training in safe work practices and procedures reduce the hazards associated with working with energized power lines.

Shift work may be required. Although a 40-hour week is normal, in emergencies, Power Line Electricians may be called into work at any hour and in any weather conditions.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyperson wage in the first period, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Power Line Electrician is \$28-30 per hour.

### **Employment and Advancement**

Power Line Electricians are employed by utility companies and their contractors. In some companies, Power Line Electricians must be union members.

Experienced Power Line Electricians may advance to foreman and line supervisor positions. They can also transfer their skills to related occupations such as Power System Electrician or other positions in a utility company such as Trainer, Health and Safety Officer or Control Room Operator.

## The Apprenticeship

### **Educational Background and skills**

To enter the Power Line electrician trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: the ability to lift heavy objects; good physical coordination and manual dexterity; mechanical ability; good hearing and colour vision; the ability to work at heights and in extreme weather conditions; and the ability to work as a member of a team and adapt to changing tasks and locations. They should also enjoy using tools and equipment to perform tasks requiring precision, discussing system performance with others and following established procedures.

### **Apprenticeship Term**

The term of apprenticeship is four years and includes four employment terms of not less than 1,800 hours each, and three classroom-training periods of seven weeks each. The last year requires work experience only.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Power System Electrician

*Power System Electricians construct, maintain and repair power distribution systems and equipment. They work in two distinct areas: substations and metering. Power System Electricians in sub-stations work with high voltage equipment such as circuit breakers, transformers, switches and the control circuits for protection, indication and monitoring systems. Their daily work involves adjusting relays, working on safety devices, and maintaining the large switchgear. Power System Electricians in the metering area work with a variety of recording devices such as supervisory controls, indicating and recording devices, switchboards and equipment circuitry found in generating stations and powerhouses.*

## The Job

### **Working Conditions**

Power System Electricians work both indoors and outdoors, and routinely lift equipment and gear weighing up to 10 kilograms. The hazards of working with live electricity are reduced by the use of special equipment and training in safe work practices and procedures.

Shift work may be required. Although a 40-hour work week is normal, Power System Electricians may be on-call at designated times and may be called upon at any hour in an emergency.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyman wage in the first period, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Power system Electrician is \$30 per hour.

### **Employment and Advancement**

Power System Electricians are employed by utility companies and their subcontractors. In some companies, Power System Electricians must be union members.

Experienced Power System Electricians may advance to supervisory positions such as foreman and electric services superintendent. Related occupations include Power Lineman, Electrician, Instrument Mechanic, Electronic Technician and Electrical Maintenance Technician.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Power System Electrician trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Power System Electricians must be interested in keeping up with new developments in communications technology (e.g. computers, electronic meters and recorders). Those working in power substations must be physically capable of handling heavy switchgear and pulling large cable bundles. Those working in metering must be able to work with precision instruments, able to understand the theoretical background of their work and willing to pay careful attention to details. Power system Electricians should also enjoy working with tools and equipment at tasks requiring precision, analyzing problems and working in a team environment.

### **Apprenticeship Term**

The term of apprenticeship is four years and includes four employment periods of not less than 1,800 hours each, and two classroom-training periods of eight weeks each, in the first and second year, and nine weeks in the final two years.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is not available in this trade.

# Refrigeration and Air Conditioning Mechanic

*Refrigeration and Air Conditioning Mechanics order, assemble, install, calibrate and test industrial commercial refrigeration and air conditioning systems including their component parts such as compressors, condensers, evaporators, expansion valves and electrical or pneumatic controls. They also service and repair heating, refrigeration and air conditioning systems. At installation sites, Refrigeration and Air Conditioning Mechanics work from blueprints or verbal instructions to mount system components, and install interconnecting piping and related controls (including wiring). To ensure that the system is properly functioning they test the lines to detect leaks, calibrate controls, start-up systems and record readings. When there is a malfunction, they diagnose the problem and fix the unit by replacing or repairing controls, electric wiring or other parts.*

## The Job

### **Working Conditions**

The working environment for Refrigeration and Air Conditioning Mechanics varies greatly from one job to another. For example, they work in compressor rooms and on rooftops as well as in clean, comfortable computer rooms. However, in all circumstances, they must observe safety precautions to avoid injury when working with electricity, gases under high pressure and hazardous gases. Routine lifting of items weighing up to 25 kilograms may be required.

Refrigeration and Air Conditioning Mechanics normally work a 40-hour week on a year round basis.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyman wage in the first period, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Refrigeration and Air Conditioning Mechanic is \$23-\$28 per hour.

### **Employment and Advancement**

Refrigeration and Air Conditioning Mechanics usually work for companies that install and service air-conditioning and refrigeration systems. Some journeyman Refrigeration and Air Conditioning Mechanics are self-employed.

Experienced Refrigeration and Air Conditioning Mechanics may advance to supervisory positions. With additional training, Refrigeration and Air Conditioning Mechanics can transfer their skills to related fields such as Instrument Mechanic, Electrician, Millwright or Steamfitter/Pipefitter.

### *The Apprenticeship*

#### **Educational Background and Skills**

To enter the Refrigeration and Air Conditioning Mechanic trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: mechanical ability and interest; good coordination and manual dexterity; the strength required to lift heavy parts; and the ability to work well with co-workers and deal with customers. They should also enjoy using tools and equipment to perform tasks requiring precision, following established procedures and analyzing information to locate and repair malfunctions.

#### **Apprenticeship Term**

The term of apprenticeship is four years, and includes four employment periods of not less than 1,800 hours each, and four classroom-training periods of eight weeks each.

#### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

#### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

#### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Roofer

*Roofers prepare and apply protective coverings to flat and pitched (slanted) roof surfaces. They cover roofs with metal, asphalt or wooden shingles, tar, gravel or other materials, and apply weatherproofing compounds to underground surface structures, such as concrete foundations. Roofers may also inspect problem roofs to determine the best procedures for repairing them. They may estimate materials required, quote costs and carry out the repairs. Roofers may also waterproof roofs, basements, foundations and coolers in packing plants or bank vaults.*

## The Job

### **Working conditions**

Roofers work outdoors on roofs of varying heights, sometimes from ladders and scaffolds. They must observe safe working practices to avoid falls and injury when working with hazardous, hot materials. The heat can be intense for those working with hot bitumen in the summer. Roofers are routinely required to lift materials and equipment weighing up to and in excess of 25 kilograms.

When the weather is good and building activity is high, Roofers may work considerable overtime.

### **Wages**

Apprentices earn at least 55% of the prevailing journeyman wage in the first period, 65% in the second and 80% in the third. The average wage for a qualified Roofer is \$18-\$24 per hour.

### **Employment and Advancement**

Most Roofers are employed by roofing contractors on construction or repair jobs. Some Roofers are members of unions and work from union halls.

The work is seasonal and Roofers may expect periods of unemployment due to inclement weather even during the summer months. However, this occupation is less sensitive to economic changes than some other construction trades because there is steady demand for repair work even if construction is slow. Roof systems require regular replacement every 15 to 20 years depending on the system used.

Roofers may advance to supervisory positions or become contractors themselves. With additional apprenticeship training, they can transfer their skills to other construction occupations such as Carpenter or Sheet Metal Worker.

### *The Apprenticeship*

#### **Educational Background and skills**

To enter the Roofer trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: strength and stamina; good balance and the ability to work at heights; an interest in working outdoors; and the ability to get along well with co-workers. They should also enjoy following routine procedures, operating hand and power tools and repairing roofing systems working on sloped roofs.

#### **Apprenticeship Term**

The term of apprenticeship is three years and includes three employment periods of not less than 1,800 hours, and three classroom-training periods of six weeks each.

#### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

#### **Trades Qualification**

Available with 7,200 hours of verified trade experience and written examination.

#### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Sheet Metal Worker

*Sheet Metal Workers fabricate, install repair and service a variety of sheet metal products and equipment. Other duties include metal cladding of insulated piping and equipment on industrial sites. Many types of metal are used, and on occasion, fiberglass and thermal plastics are substituted. Working from a combination of verbal instructions and blueprints, they develop patterns; mark dimensions and reference lines on sheet metal; cut, bend and shape the metal; and fasten the parts together. Some products are produced in a shop and then installed at a construction site. Products are installed and repaired using hand and power tools. Other products such as roofing and siding are measured and cut at the construction site. Sheet metal installations and products are inspected to ensure conformance to specifications.*

## The Job

### **Working Conditions**

Sheet Metal Workers may work indoors in shops and/or outdoors in all types of weather. For example, they make some products in a shop and install them at construction sites, but other products such as roofing and siding have to be measured and cut at the construction site. Considerable bending, reaching and working at heights or in cramped spaces may be required. The work may require lifting loads weighing up to 25 kilograms.

A 40-hour week is normal, but overtime may be required to meet construction deadlines.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyperson wage in the first period, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Sheet Metal Worker is \$20-\$28 per hour.

### **Employment and Advancement**

Most Sheet Metal Workers are employed by sheet metal, air conditioning and heating contractors involved in residential, commercial and industrial construction. A few are self-employed or work in shops with related trades. Some are employed by roofing contractors to install flashing and coping.

Experienced Sheet Metal Workers may become specialists in design and layout work or in estimating the cost of installations. They may advance to supervisory positions, or go into business for themselves. With additional training, they can transfer their skills to related occupations such as Welder, Refrigeration and Air Conditioning Mechanic, Machinist, Millwright, Plumber, Boilermaker, Ironworker, Pipefitter, Gasfitter, Roofer or Insulator.

### *The Apprenticeship*

#### **Educational Background and Skills**

To enter the Sheet Metal Worker trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: mechanical aptitude; good eye-and coordination and manual dexterity; good eyesight; the ability to visualize a finished product from drawing; the ability to stand for long periods; do some moderately heavy lifting and carrying, and work in high, awkward and noisy places, and patience. They should also enjoy using tools and equipment to perform tasks requiring precision, following routine procedures and ensuring product quality.

#### **Apprenticeship Term**

The term of apprenticeship is four years and includes four employment periods of not less than 1,800 hours each, and four classroom-training periods of ten weeks each.

#### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories completion of Apprenticeship Certificate and a Certificate of Qualification.

#### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

#### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Small Equipment Mechanic

*Small Equipment Mechanics perform preventive maintenance, diagnose breakdowns and make repairs to motorcycles, all terrain vehicles, outboard motors and self-powered small equipment such as chain saws, pumps and generators. They adjust, test, repair and overhaul engines, steering, braking, suspension and electrical systems and transmission and drive components.*

## The Job

### **Working Conditions**

Small Equipment Mechanics generally work in regulated indoor climates. The work is sometimes noisy, and there is some risk of injury involved in working with equipment, tools and machinery.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyman wage in the first period, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Small Equipment Mechanic is \$20-\$25 per hour.

### **Employment and Advancement**

Progression to supervisory positions is possible with experience.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Small Equipment Mechanic trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: mechanical ability; spatial and form perception; and manual dexterity. They should also enjoy using tools and equipment to perform tasks requiring precision and analyzing information.

### **Apprenticeship Term**

The term of apprenticeship is four years and includes four employment periods of not less than 1,800 hours each, and four classroom-training periods of eight weeks each.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is not available in this trade.

# Sprinkler Systems Installer

*Sprinkler systems Installers work on equipment and piping for fire suppression systems. They install, maintain and repair piping, fixtures and controls including hydrants, pumps and sprinkler head connections in industrial operations, department stores, office buildings, hotels, schools, hospitals and residences. Working in accordance with blueprints and precise specifications, a Sprinkler Systems Installer determines the layout of the sprinkler system, selects the type and size of pipe required and arranges the piping to provide fire protection. Clamps, brackets and hangers are installed to support the piping system and sprinkler and fire protection equipment. Pipes and piping sections are joined and connected to supply tanks, mains, pumps, compressors and control equipment with soldering and welding equipment. This system is then submitted to air or water pressure testing to ensure its proper operation. Sprinkler Systems Installer may prepare cost estimates for clients.*

## The Job

### **Working Conditions**

Sprinkler Systems Installers work primarily indoors, often in temporarily heated or unheated spaces. They must observe safety precautions to avoid construction-related injuries and may routinely lift materials and equipment weighing up to 25 kilograms.

Sprinkler systems Installers usually work a standard 40-hour week but occasionally work overtime to meet construction deadlines.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyperson wage in the first period, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Small Equipment Mechanic is \$24-\$28 per hour.

### **Employment and Advancement**

Sprinkler Systems Installers are employed in the construction industry.

Experienced Sprinkler Systems Installers may advance to supervisory positions or start their own businesses. With additional training, they can receive up to one year's credit and transfer their skills to other pipe trades such as steamfitter, plumber or gasfitter.

## The Apprenticeship

### **Educational Background and Skills**

To enter the Small Equipment Mechanic trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: strength and stamina; manual dexterity; and the ability to work at heights. They should also enjoy using tools and equipment to perform tasks requiring precision, solving problems and following established testing procedures.

### **Apprenticeship Term**

The term of apprenticeship is four years and includes four employment terms of not less than 1,800 hours each, and three classroom-training periods of seven weeks each.

### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.

# Steamfitter/Pipefitter

*Steamfitter/Pipefitter is one of the “pipe trades”, occupations dealing with the installation, maintenance and repair of piping systems. Steamfitter/Pipefitters work on equipment and piping for steam distribution, steam and liquid heating, process cooling, fire protection, compressed gas and vacuum systems. This type of work usually occurs in commercial buildings and industrial plants. When installing a piping system, Steamfitter/Pipefitters study blueprints to determine the type of pipe and tools to use, and then lay out the procedure. Once the correct piping and related materials have been selected and ordered, they measure, cut, thread, bend, solder, assemble and install pipe valves and fittings using tools such as pipe cleaners, pipe threading and bending machines and flame cutters and torches. Steamfitter/Pipefitters use testing equipment to check systems for leaks. Work components are then removed and replaced. Steamfitter/Pipefitters may also prepare cost estimates for clients.*

*Because the NWT follows the Alberta Steamfitter/Pipefitter Apprenticeship Program, which includes Gasfitter Training and Certification, the NWT Steamfitter/Pipefitter Apprenticeship program incorporates all the theory requirements for certification as a Gasfitter during the regular Steamfitter/Pipefitter program. The apprenticeship contract is, therefore, signed for four years as a Steamfitter/Pipefitter/Gasfitter. On satisfactory completion of the contract, the Completion of Apprenticeship Certificate is for Steamfitter/Pipefitter/Gasfitter and two separate Certificates of Qualification are issued for Steamfitter/Pipefitter and Gasfitter respectively.*

*In the NWT, some Steamfitter/Pipefitter/Gasfitter apprentices are regularly exposed to Oil Burner Mechanic work. Because there is a great deal of commonality between Gasfitter and Oil Burner Mechanic, a special course has been developed to allow Steamfitter/Pipefitter/Gasfitters, who will be working on oil burners during their apprenticeship, to sign onto a single 7,200 hour (four year) apprenticeship (Steamfitter/Pipefitter/Gasfitter/Oil Burner Mechanic) and thereby gain training and certification in all three areas.*

## The Job

### **Working Conditions**

Steamfitter/Pipefitters work both indoors and outdoors at physically demanding tasks that often require climbing and working from extreme heights. They may be required to lift materials weighing over 25 kilograms. Construction contractors usually require employees to travel and live in rented accommodation or at a company on-site camp.

Steamfitter/Pipefitters work a 40-hour week. Overtime is sometimes required to meet construction deadlines.

### **Wages**

Apprentices earn at least 50% of the prevailing journeyman wage in the first period, 60% in the second, 70% in the third and 80% in the fourth. The average wage for a qualified Steamfitter/Pipefitter is \$23-\$30 per hour.

### **Employment and Advancement**

Steamfitter/Pipefitters are employed by pipeline construction contractors, maintenance contractors and subcontractors, thermal or steam generating plants, manufactures, utility companies, oil refineries, gas plants, pulpmills and chemical plants. Steamfitter/Pipefitters should be prepared to relocate when necessary since work is seasonal and sporadic, depending on economic swings.

Experienced Steamfitter/Pipefitters may advance to supervisory positions such as foreman, subcontractor and construction superintendent. With additional training, they can also transfer their skills to occupations such as plumber or welder. Special consideration is given to journeyman Steamfitter/Pipefitters who wish to become certified in other pipe trades.

## **The Apprenticeship**

### **Educational Background and Skills**

To enter the Steamfitter/Pipefitter trade, an applicant must score at least 70% on the trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship program (SNAP) are given special exemption and are required to write the trades entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: the physical strength and stamina required to lift heavy materials and be on the feet for long periods; manual dexterity; mechanical aptitude; the ability to read and understand complex instruction; the ability to do careful and precise work; and the skill to troubleshoot piping systems. They should also enjoy using hand and power tools to perform tasks requiring precision, selecting materials and testing systems and taking a methodical approach to their work.

### **Apprenticeship Term**

The term of apprenticeship is four years and includes four employment periods of not less than 1,800 hours each, and four classroom-training periods of eight weeks each. The optional Oil Burner Mechanic apprenticeship requires an additional 6-week special course.

### **Designation**

All individuals who successfully completed their fourth level Steamfitter/Pipefitter/Gasfitter technical training before August 15, 1996 will be considered Gasfitter – First Class.

As of August 15, 1995, only an individual taking his/her Gasfitter training through a “Gasfitter” apprenticeship (three periods) will be eligible for a Certificate of Qualification, Gasfitter – First Class.

Any individual that receives his/her Gasfitter training through the Steamfitter/Pipefitter/Gasfitter trade will be eligible only for a Certificate of Qualification Gasfitter – Second Class. Gasfitters – Second Class are restricted to working on applications of less than 400, 000 BTUs.

In order for an individual who has a Gasfitter – Second Class Certificate to become a Gasfitter – First Class, he/she must be registered and complete a one year apprenticeship in the Gasfitter trade. This includes 1,800 hours of work experience and successful completion of the third level (eight weeks) technical training.

### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination

### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.



# Welder

*Welders join or sever metals in beams, girders, vessels, piping and other metal components. They make various metal parts used in construction and manufacturing plants, and weld parts, tools, machines and equipment. Welders must know how to use various welding processes and fillers required for welding different materials, of various sizes and shapes, and with different requirements for finished product strength. Welders make drawings and develop patterns for projects or follow directions given in layouts, blueprints, and work orders. Before welding components together, they are cleaned, checked for defects, and shaped, sometimes using a cutting torch. Welders may also build up work parts by welding layers of high-strength hard-metal alloys onto them.*

## The Job

### **Working Conditions**

Welders work in a variety of work environments. They may work outdoors on construction sites, or indoors in production and repair shops. On jobs such as oilfield related welding, travel may be required.

Welders may be routinely required to lift tools, supplies, materials or equipment weighing up to 25 kilograms. There is some risk of injury involved in working with torches and hot metals, and working near the resulting sparks and toxic gases.

A 40-hour workweek is normal, but overtime is sometimes required.

### **Wages**

Apprentices earn at least 55% of the prevailing journeyperson wage in the first period, 75% in the second and 80% in the third. The average wage for a qualified Welder is \$25-\$28 per hour.

### **Employment and Advancement**

Welders are employed in a variety of industries, including vessel or structural steel assembly, pipeline construction, commercial construction, industrial construction, steel fabrication and heavy equipment repair.

Experienced Welders may advance to positions such as welding inspector, welding foreman or supervisor or plant supervisor. Some open their own repair shops or work as portable rig welders who contract out their services. With additional training welders can transfer their skills to related occupations such as Steamfitter/Pipefitter, Ironworker, Structural Steel and Plate Fitter or Boilermaker. To work on pressure vessels, Welders must pass the "B Pressure" Welder's examination.

### *The Apprenticeship*

#### **Educational Background and Skills**

To enter the Welder trade, an applicant must score at least 70% on the Trade Entrance Exam. The applicant must also find an appropriate employer who is willing to hire and train the apprentice.

Students enrolled in Schools North Apprenticeship Program (SNAP) are given special exemption, and are required to write the trade entrance examination prior to signing the apprenticeship contract. They must obtain 50% on the examination to be eligible for the program.

Desirable qualities include: manual dexterity, good vision (glasses are acceptable); eye-hand coordination; the ability to concentrate on detailed work; patience; the ability to stand in one place for extended periods of time, and the ability to work independently. They should also enjoy using tools and equipment to perform tasks requiring precision, following established procedures and solving problems.

#### **Apprenticeship Term**

The term of apprenticeship is three years and includes three employment periods of not less than 1,800 hours each, and three classroom-training periods of eight weeks each.

#### **Designation**

Upon successful completion of the apprenticeship, graduate apprentices receive a Northwest Territories Completion of Apprenticeship Certificate and a Certificate of Qualification.

#### **Trades Qualification**

Available with 9,000 hours of verified trade experience and written examination.

#### **Interprovincial Red Seal**

An Interprovincial Red Seal is available in this trade.