



UNTER STATES DEPARTMENT OF LABOR.

DESCRIPTIONS OF OCCUPATIONS

STREET RAILWAYS

PROVIDED FOR FOR UNITED STATES EXPLORATER SERVICE IN THE UNITED STATES BUILDAY OF LABOR STATISTICS



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DESCRIPTIONS OF OCCUPATIONS: STREET RAILWAYS

PREPARED FOR THE U. S. EMPLOYMENT SERVICE BY THE U. S. BUREAU OF LABOR STATISTICS

INTRODUCTORY STATEMENT

These descriptions of occupations are based on investigations, including private interviews and correspondence, extending over practically the entire United States.

The outstanding fact developed by these investigations is that there are few standard or generally accepted occupational names or definitions. It has been necessary, therefore, for the Bureau of Labor Statistics to define certain occupational terms and classifications and to assume the acceptance of these definitions by those using the descriptions. The bureau is fully aware of the fact that some important occupations have probably been omitted and that in some cases subdivisions may have been carried too far. These faults can be corrected only by means of suggestions and criticisms arising from the use of the descriptions in filling positions.

The users of these descriptions are urged to send to the Bureau of Labor Statistics all suggestions and criticisms as they arise, so that eventually there may be developed a national standard of occupational descriptions.

Acknowledgment

The Bureau of Labor Statistics wishes to thank all those who have contributed to the compilation of these descriptions. So many individuals and representatives of various organizations have been consulted that it is impossible to make special mention of such services.

(1)

PREFATORY STATEMENT

IMPORTANT

The objects of these descriptions are to furnish definitions of the various occupations, so that specifications for help may be made uniform, and to furnish a means by which the prospective employee may be informed as to the nature of the work he will be expected to do.

Each occupation has been described under the most generally accepted title. The descriptions have been carefully prepared with the view of stating clearly and briefly what each occupation requires in the way of performance and qualifications, so that a foreman or employment manager can readily specify the help wanted and can pick the worker best fitted to fill the position.

Without such standard definitions advertisements and appeals from the various Government departments or from a central employment agency would lose their effectiveness, especially when the recruiting is Nation wide.

The statement of actual requirements under the heading of "schooling" does not have reference to those already working, but should be interpreted to mean that no one should enter the specified position at the present time without having the equivalent of the stated schooling. "Common school" signifies the completion of the common school course.

Directions for using descriptions and code words

INDEX: In order to find any given occupational description use the index.

CODE WORDS: Each description has a code word which, when communicated to any person who has access to these descriptions of occupations will enable him to ascertain exactly what is called for by referring to the description indicated by the code word. (See Code words.)

If an employee is wanted who has training sufficient to do work in any two or more occupations described, the code words of these descriptions should be combined to indicate the combination of qualifications; for example: The code word designating a Carpenter, car, and a Car trimmer (see page 4), would be Camper-Canary.

(2)

DESCRIPTIONS OF OCCUPATIONS

AIR-BRAKE INSPECTOR. (See Inspector, air brake.)

AIR-BRAKE MAN

- **Description:** The air-brake man cleans, adjusts and repairs the various parts of an air-brake equipment.
- Qualifications: He should be a machine fitter who has specialized on air-brake work. He must be able to take out, repair, and replace any part of an airbrake system. He must thoroughly understand the mechanical operation of the air compressor, valves, compressing motor, and operating devices. He should have had experience as a helper to an air-brake man and should have had considerable experience as a journeyman air-brake man.

Schooling: Common school.

BATTERY MAN, STORAGE BATTERY

- **Description:** The battery man recharges the batteries in the storage battery cars. He also inspects, renews and repairs storage battery parts.
- Qualifications: He should be familiar with the methods of recharging batteries and should have had sufficient experience to know when plates, poles and chemicals require renewal.

Schooling: Common school.

CABLE MAN, CHIEF, UNDERGROUND TROLLEY SYSTEM

- **Description:** The chief cable man directs and supervises the operations of cable men and helpers in looking after feeder connections, conductor bar flared ends, and pick ups at switches on the underground system. He instructs inexperienced helpers and makes a report of all the work done.
- Qualifications: He must be thoroughly experienced as a cable man and be able to cut cables, make up jumpers, drill holes in the conductor bars and bolt on the jumpers, connect feeders to the conductor bars, wipe lead cable joints, and take care of conductor bar flared ends. He must be physically strong and accustomed to work outdoors in all kinds of weather. He must be able to direct and instruct his men and to keep accurate records.
 Schooling: Preferably high school, with some technical training.

CABLE MAN'S HELPER

- **Description:** The cable man's helper assists the cable man in the installation, maintenance, and repair of feeders, jumpers and all other cable work.
- Qualifications: He must have physical strength and endurance, and should have a desire to learn the work of a cable man. Schooling: Common school.

CABLE MAN, UNDERGROUND TROLLEY SYSTEM

Description: The cable man installs, maintains, and repairs feeders, feeder connections, jumpers and jumper connections, conductor bar flared ends, and all other cable work on the underground conduit system, and inspects the equipment that comes within his territory.

CADDIS

CADENT

AIM

CABBER

BATE

Qualifications: He should be able to work to drawings, understand line diagrams, and be familiar with underground trolley system specifications. He must be able to cut cables, splice cables, put in jumpers, connect in feeders and conductor bars, wipe lead joints, and must be qualified to make a final cable inspection and report. He should have worked as a helper, should have had considerable experience as a journeyman, and should be able to handle men.

Schooling: Common school.

CARPENTER, CAR

- **Description:** The car carpenter constructs and repairs wooden parts of car bodies and trimmings.
- Qualifications: He should have had experience as a general carpenter in a railroad car shop or car building plant. He must be able to work to drawings, lay out and build wooden frames, make and place doors, lay floors, and put on roofs, sides and ends of either wooden or steel frame cars. He must be a thoroughly capable general carpenter, skilled in the use of all tools and having some experience with wood working machinery.

Schooling: Common school or better.

CARPENTER, CAR, FOREMAN

- **Description:** This foreman has charge of all woodwork construction and repair. He directs and supervises the work of all the carpenters under him, and himself assists and does difficult work. He manages his branch of the shop, is responsible for the equipment, and looks after the material and supplies. He has charge of the work of the upholsterers and trimmers, and of the galvanizing work. He keeps a record of all the work done in his shop, and makes a daily time report for his men.
- Qualifications: He must be an experienced body builder and general carpenter, skilled in handling all carpenter's tools and in operating planer, lathe, band saw, circular saw, joiner, and steam shaping apparatus. He should understand thoroughly all the wooden construction of a car, such as steps, windows, body, paneling and wooden controller box. He must be able to work to drawings and to direct the work of the men under him. He should have worked as a car repair man.

Schooling: Common school.

CAR TRIMMER

CANARY

- **Description:** The car trimmer does car repair work under the direction of the carpenter foreman. He upholsters seats, repairs old curtains and installs new ones, places new canvas roof covering, and constructs illuminated signs.
- Qualifications: He must be experienced either as a car trimmer or as a carriage trimmer, and must understand upholstering, window curtains, and canvas covering. He should have skill in the use of the general carpenter's hand tools. He should have had the equivalent of an apprenticeship and should have done some work as a journeyman. Schooling: Common school.

CONDUCTOR, ELEVATED AND SUBWAY

Description: The conductor has charge of a train and is responsible for the safety, proper care, and regularity thereof, and for the conduct of the guards. It is his duty to see that all rules pertaining to trainmen, passengers, emergencies, ventilation, heating, lighting, and signals are observed; that the train is kept on schedule time; that proper stops are made at all stations.

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CAMPUS

CAMPER

CANCEL

He makes full reports to the superintendent, in writing, of all accidents, detentions, and unusual occurrences, and of difficulties with passengers; also makes a daily report for the train clerk. The conductor is usually stationed between the first and second cars of the train where he performs the duties of guard and signals the motorman when to start.

Qualifications: Experience as guard is a prerequisite. He must be able to pass a thorough physical examination, to endure exposure to all weather or to the atmosphere of the subway, and to remain standing for long periods. It is also essential that he be courteous, tactful, careful, and qualified to come in contact with all kinds of people. , He must be able to speak English and to enunciate distinctly.

Schooling: Common school.

CONDUCTOR, SURFACE

- Description: The surface car conductor has charge of the car, and signals the motorman when to start and stop. He collects fares, issues transfers, and assists and safeguards passengers. On some types of car, he opens and closes the door. On lines which use the overhead trolley, he shifts the trolley pole when the car reverses, and puts it back on the wire when it slips off. He makes a report of fares, transfers, trips, accidents, and delays.
- **Qualifications:** He must be physically strong and able to remain standing for long periods. He should be courteous, tactful, qualified to come into con-
- tact with all kinds of people, and sufficiently responsible to handle money. Schooling: Common school.

CRANE OPERATOR (Traveling electric crane)

- Description: The duties of the traveling electric crane operator are to manipulate controlling devices of an electric crane in the lifting and shifting of material.
- Qualifications: The traveling electric crane operator must be able to handle the lifting devices on the crane and make single or double lifts under the direction of the crane man. In addition he must know how to oil the machinery of the crane and be familiar enough with all the working parts to make reports when they are not working right. He must be thoroughly familiar with all the signals used by the crane man. He must be physically fit and alert and must pass an examination for eyesight, color sight, and hearing and be able to think and act quickly.

Schooling: Common school.

EMERGENCY MAN'S HELPER

- Description: The emergency man's helper does general work in the assistance of the emergency men, for which position he is in training.
- Qualifications: He must have physical strength and endurance and a desire to learn the work of an emergency man.

Schooling: Common school.

EMERGENCY MAN, TROLLEY WIRE AND ELECTRICAL WORK EVOKE Description: The duties of the emergency man on trolley wire and electrical work are to do either permanent or temporary repair work that might be required to keep the car service going.

Qualifications: He must be a high-tension wireman, must be thoroughly familiar with the hanging and guying of trolley wires, and must thoroughly understand the feeder and booster system. He must understand the methods of splicing trolley wires, be thoroughly familar with tackle and clamps used in stretching trolley wires, and should have a good general knowledge of

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electrical measurements. He should have done sufficient work on hightension work to have become familiar with the danger with high-tension circuits.

Schooling: Common school.

EMERGENCY MAN, WRECKING CREW, FOREMAN

Description: The duties of the foreman of an emergency wrecking crew are to take charge of the wrecking car outfit and clear all kinds of track obstructions that require the services of a special outfit.

Qualifications: He must be able to direct the work of boom cranes or other type of wrecking cranes, must direct the running of the repair car, must be able to read drawings and work to mechanical specifications, and must be thoroughly familiar with jacks, cranes and other lifting devices. He must be able to clear a wreck completely and report to the proper department the time and material used in making the repair.

Schooling: Common school; preferably high school or technical school.

ENGINEMAN, CHIEF, POWER HOUSE

- Description: The chief engineman has charge of the power plant and all men working there. He supervises the operation of turbine generators, exciters, converters, condensers, pumps, and boilers. He keeps charts and records of the operation of each separate engine, the coal used, the total load carried on all feeding lines, the kilowatt hours, and the voltage. He supervises all repairing, construction, testing, and cleaning, and directs the transfer of coal from barges or cars to the bins, and the removal of ashes.
- Qualifications: He must have a first-class license, granted upon examination. His knowledge and experience must cover all the equipment in the plant turbine generators, boilers, pumps, converters, exciters, condensers, conveyors, switchboards, storage batteries, feed wires and indicators of all kinds; their operation, maintenance, and repair. He must be a good mathematician and be able to read drawings and to keep charts and graphs. The position also requires that he have the ability to select and to deal with and handle the men under him.

Schooling: Common school; technical school or its equivalent.

ENGINEMAN, WATCH, POWER HOUSE

Description: The watch engineman is in direct charge of turbine generators, condensers, pumps, exciters, converters, and boilers during the period of his watch, usually eight hours. He takes readings from the indicators of the engines and watches the load carried and the coal supply. The work of the switchboard operator, oilers, and firemen is under his supervision. He assists in and directs repairing and testing of the engines, and looks out for the safety of the men.

Qualifications: He must be a licensed engineman. He must be able to keep accurate records and to supervise the work of, and instruct, the men under him. Schooling: Common school; technical school or its equivalent.

FIREMAN, CHIEF, POWER HOUSE

Description: The chief fireman has immediate charge of the boiler room and his helpers. He sees that all the fires are properly tended, that the grates are free from clinkers, and also that the required steam is maintained. He operates and regulates water pumps; operates the automatic coal feeds and the agitators; assists in the periodic testing of the boilers; and cleans boiler tubes with compressed air or steam.

ETHER

FIRST

EXIST

ETCH

EINER

6

Qualifications: He must have physical strength and endurance and must understand the maintenance of a good fire with the economic use of coal. He should be able to use a slice bar and a peel bar, and should have had a thorough experience with boilers and fires. He must be qualified to direct and instruct his helpers.

Schooling: Common school desirable.

FIREMAN'S HELPER

Description: The fireman's helper keeps the fires in order under the direction of the head fireman. He operates the automatic coal feeders and the agitators. He assists in testing boilers and in blowing out boiler tubes with compressed air and steam.

Qualifications: He must be a strong, steady worker. Should have had experience in a large boiler plant.

FOREMAN, CAR BARN

- **Description:** The car barn foreman, with the assistance of helpers, does repair work to cars that do not require machine shop equipment. He keeps records of all the cars which come into the barn for repair or cleaning and of the work done on them. He also prepares the daily time report of the workers under him. He directs the work of the car shifters and car cleaners. His repair work includes electrical as well as mechanical cars.
- Qualifications: He must understand all car construction and equipmentmotor, controller, brakes, wires, plow, truck, and all inside car equipment. He must be able to repair, or to direct such repairing of parts as may be done with barn equipment. In order to direct car cleaning, he must be familiar with the work and with the preparation of cleaning solutions. He should have worked as car barn repair man and as assistant foreman and should have done some work as foreman.

Schooling: Common school.

FOREMAN, CAR CARPENTER. (See Carpenter, car, foreman.)

FOREMAN, CONCRETE CREW

Description: The concrete foreman directs and supervises the work of the concrete gang. With these men he mixes, places and trims all concrete, both machine and hand mixed. In track work involving an underground conduit, they set forms for the conduit and supporting structure, and remove them when the concrete has set. He reports to, and receives instructions from, the roadmaster on all his work. He employs men as directed, maintains discipline, and sees that they perform their work properly. When he can do so without neglecting the supervision of the work, he works with his men. He is held responsible for the proper care and economical use of all tools, materials and supplies entrusted to his charge, and must account upon prescribed forms for the use thereof.

Qualifications: He must have a general knowledge of track construction, an must understand and be thoroughly experienced in concrete and form work. He must be familiar with the kinds and grades of cement and all other materials used. He must know the proper proportion of the several ingredients forming concrete—sand, gravel, cement and water—and he must be skilled in the operation of the mixing machine, in mixing by hand, and in handling all the tools used. He must be able to handle his men, to direct and instruct them in all their work, and to keep accurately all records required

FOIL

FISH

FOGGY

as to the time, pay, location of work and nature of work done. He should have physical strength and endurance, and should be accustomed to working outdoors in all kinds of weather.

FOREMAN, CONDUIT CLEANING GANG

Description: The conduit cleaner foreman is found only on those lines which have the underground conduit system. He supervises and directs the work of his gang of laborers in removing leaves, dirt, and rubbish from the concrete conduit in which the conductor bars are suspended. The cleaning is done by means of hand scrapers, the material being scraped to track manholes where it is removed by means of a hoe or scoop of special design. He has supervision over the wagons and trucks that haul away the refuse. He also sees that drains and sewer connections are kept free from obstruction. On all his work he reports to, and receives instructions from, the roadmaster. He employs men as directed, maintains discipline, and sees that they perform their work properly. When he can do so without neglecting the supervision of his work, he works with his men.

He is held responsible for the care and economical use of all tools, material and supplies entrusted to his charge, and must account upon prescribed forms for the best use thereof.

Qualifications: He must be thoroughly experienced in the cleaning operations and must be-able to direct his men to work without danger of contact with live conductor bars. He should be able to handle his men, to direct and instruct them in all their work, and to keep accurately all required records as to time, pay, location of work, and nature of work done. He should have physical strength and endurance and should be accustomed to working out of doors in all kinds of weather.

FOREMAN, EMERGENCY WRECKING CREW. (See Emergency man, wrecking crew, foreman.)

FOREMAN, EXCAVATING CREW

- Description: The excavating gang foreman directs and supervises the work of a group of men known as the excavating crew. With these men he does all the excavating necessary for the construction of new tracks and the renewal and repair of old tracks. The work may involve drilling, blasting and breaking of concrete, as well as shoveling. He reports to, and receives instructions from, the roadmaster for all his work. He employs men as directed, maintains discipline, and sees that they perform their work properly. He is held responsible for the proper care and economical use of all materials, tools, and supplies entrusted to his charge, and must account for same upon prescribed forms.
- Qualifications: He must be thoroughly experienced in excavation work. He must be skilled in the operation of compressed air, steam and hand drills, and in placing and setting off of blasts. He must be able to handle his men, to direct and instruct them in all their work, and to keep accurately all the required records as to pay, location and nature of the work. He should have physical strength and endurance, and should be accustomed to working out of doors in all kinds of weather.
 - FOREMAN, EXCAVATING CREW (Including rock drilling and FOLK blasting)
 - FOREMAN, EXCAVATING CREW (Not including rock drilling and blasting)

FOLLY

FOLD

FOREMAN, IRON CREW

Description: The iron crew foreman directs and supervises the work of a group of men known as the iron crew With these laborers he installs and repairs the wheel rails, switches, crossings and their supporting structure, after the excavating has been done. On lines using an underground conduit, he installs and maintains slot rails, conductor bars, yokes and insulators. He reports to, and receives instructions from, the roadmaster on all his work. He employs men as directed, maintains discipline, and sees that they perform their work properly. He is held responsible for the proper care and economic use of all tools, materials and supplies entrusted to his charge, and must account for same upon forms prescribed for this purpose. When he can do so without neglecting the supervision of his work, he works with his men.

- Qualifications: He must be thoroughly experienced in installing and repairing any of the iron work, and must understand the entire track construction thoroughly. He must be familiar with all the material used and must be skilled in handling all tools necessary for his work. His work requires that he be able to obtain proper surface alignment for the track, gauge accurately the standard width between the wheel rails and the position of the slot rail, and bend the rails when necessary for curves. He must be able to handle his men, to direct and instruct them in their work, and to keep all required records. He must have physical strength and endurance, and must be accustomed to working out of doors in all kinds of weather.
- FOREMAN, LINEMAN, TROLLEY SYSTEM. (See Lineman, foreman, trolley system.)

FOREMAN, PAINTER, CAR BARN. (See Painter, foreman, car barn.)

FOREMAN, SUBURBAN TRACK

- Description: The suburban track foreman superintends a track gang and has a limited section of suburban track under his supervision. He sees that the track is kept in proper surface and alignment, renews the ties, maintains the proper drainage, ditching and fencing, and keeps the track free from weeds or snow and ice. He also provides for the maintenance, oiling and adjustment of switches and signal lights.
- Qualifications: He must be thoroughly experienced in the care of suburban track-roadbed, ties, drainage, switches and signal lights. He must be able to instruct and direct men in repairing the roadbed, replacing ties, aligning the track, and in clearing it of weeds, leaves, rubbish, débris, or snow and ice. He must be physically strong and accustomed to outdoor work.

GATEMAN, ELEVATED AND SUBWAY

- Description: The gateman sees that no one passes the ticket box without depositing the proper ticket or showing a pass. He cancels the tickets by manipulating the box lever, and opens and closes the exit gate, which he controls by means of a rope.
- Qualifications: He must be courteous, careful, and qualified to come into contact with the general public. He is usually required to pass a physical examination. Women are frequently employed. Schooling: Common school.

GUARD, ELEVATED AND SUBWAY

Description: The guard has charge of one car of the train, opens and closes the gates or doors, announces stations, and gives the starting signal to the

FORAY

GLOOM

FOND

GLOSS

guard or the conductor of the car immediately ahead. He makes full reports to the superintendent, in writing, of all accidents or difficulties with passengers. which occur in his car.

Qualifications: He must be able to pass a thorough physical examination; to endure exposure to all weather or to the atmosphere of the subway; and to remain standing for long periods. It is also essential that he be courteous, tactful, careful, and qualified to come into contact with all kinds of people. He must be able to speak English and to enunciate distinctly.

Schooling: Common school.

INSPECTOR, AIR BRAKE

- Description: It is the duty of the air brake inspector to examine and test all air-brake equipment, to make minor adjustments, and to report all defects to the repair department.
- Qualifications: He must be thoroughly familiar with air compressure, valves and valve adjustments, and driving motor and operating lever systems of the standard types of street car air brakes. He should be a good machine fitter who has specialized on air brake work. He should have worked as an air brake man and should have had considerable experience as a machine fitter. Schooling: Common school.

INSPECTOR, AIR-DOOR DEVICE

- Description: He inspects the pneumatic apparatus for operating doors. He repairs and renews the defective parts.
- Qualifications: He should have had experience as a machinist or as a pipe fitter, and should be familiar with door engines and the other mechanical apparatus connected with the operation of doors. He must understand thoroughly the adjustment of the engine and the locating and remedying of simple defects. אישעים ה יווהבאומטאליונית היתהוידבלידי בבורו הברטוני היורה יידיר.הא

Schooling: Common school. The second state of the se

INSPECTOR, CAR

- Description: The car inspector scrutinizes carefully the entire car and its equipment to see that everything is in good repair and in safe operating condition.
- Qualifications: He should have had long experience in car repair shops and should understand thoroughly the body and truck construction, and the electrical, mechanical, and electro-pneumatic equipment.

Schooling: Common school.

INSPECTOR, CAR BODY

Description: The car body inspector conducts a complete inspection of the exterior car body and of the interior-trims, seats, windows, sash, doors, etc. Qualifications: He must have ability or experience as a car builder or as a car carpenter and he must know in detail all the car body equipment. He must be in good physical condition. He should have worked on the car construction and repair crew.

Schooling: Common school.

INSPECTOR, FARE

Description: The fare inspector is stationed at terminals or other points on the route, or else he operates with no definite station. He boards each car and checks up the number of fares that have been registered.

INURE

IRATE

IOTA

at - Carl Harmer

IRONY

IRID

Qualifications: He must be able to estimate the number of people in a car at a brief glance, and he must know the routes and passenger conditions, so as to be able to approximate the normal flux of passengers. He should have had experience as conductor or route inspector and should be proficient in mental arithmetic.

Schooling: Common school.

INSPECTOR, PIT. (See Pit inspector.)

INSPECTOR, ROUTE, SURFACE

- **Description:** The route inspector is stationed on streets or at stops to see that the cars start and operate on schedule. In case of line blockades and tie-ups, he reroutes cars to avoid delays in service.
- Qualifications: He must be familiar with all car routes and have a knowledge of operating conditions. He should be mentally alert and capable, as well as accustomed to working out doors and remaining on his feet for long periods. He must have had experience as a conductor or motorman.
- Schooling: Common school.

INSPECTOR, STATION, ELEVATED AND SUBWAY

- **Description:** The station inspector has charge of all stations and station employees. He personally sees that stations and station equipment are kept clean and in efficient operation; and he maintains discipline among the station men and sees that all regulations are complied with. He makes detailed reports to the superintendent.
- Qualifications: He must have had long experience as a station master and must know all station regulations. Furthermore, he must have executive ability and must be qualified to accept a large responsibility. He must understand station equipment thoroughly.

Schooling: Common school; preferably high school.

INSPECTOR, STREET CAR MOTOR

Description: The motor inspector examines and tests electric street car motors. Qualifications: He must have sufficient experience with railway motors to enable him to locate, by inspection and tests, defects in parts and connections, including brushes and brush holders, fields, armatures, and commutators; to determine air gap clearances; and to determine wear on bearings. He should understand the general electrical principles governing the operation of motors. He should have worked as a motor repair man and should be able to stand outside work.

Schooling: Common school or better.

INSPECTOR, WHEEL. (See Wheel inspector.)

LABORER, GENERAL, POWER HOUSE

- **Description:** The general laborer in the power house may be called upon to do any ordinary work such as cleaning and assisting. He may have such regular work as the operation of the coal crusher and the bucket conveyor for transferring coal from the crusher to the bin or for removing ashes from the pit to the hopper. He also assists in hauling away ashes.
- Qualifications: He must have physical strength and endurance and be willing to work under the above conditions.

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LABORER, GENERAL, SHOP

Description: The general shop laborer does whatever work is assigned to him by the foreman of the various shop departments. He carries material and parts that are being repaired from one department to the other. He also does sweeping and cleaning.

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Qualifications: He should have physical strength and endurance. It is desirable that he be able to understand and speak English.

LABORER, TRACK AND LINE

For the purpose of this classification the following are grouped under the general heading of LABORER, TRACK AND LINE:

Concrete man Conduit cleaner Excavator Flagman Greaser Iron man

Laborer, suburban track Lamp man Paver Pole setter Watchman

Description: The track and line laborer does work in the capacity of any one of the above types of men. He is usually assigned to a gang and works under the direction and instruction of the gang foreman.

Qualifications: He must have physical strength and endurance.

LINEMAN, CHIEF

Description: The duties of the chief lineman on an electric street railway system are to supervise the work of the linemen and helpers on installation work in a prescribed district.

Qualifications: He must be able to work to drawings and should be able to make a layout for guy wires and electric wires, including trolley feeders, crossovers and branch connections. He must understand the interference of circuits and how to correct them; how to make crossovers of electric lines and thoroughfares and have a thorough knowledge of high-tension insulation. He should have had experience as a lineman and as a foreman. He should have had considerable experience in handling men.

Schooling: Preferably technical school graduate.

LINEMAN, FOREMAN, TROLLEY SYSTEM

- Description: The duties of the foreman lineman are to supervise the installation of the trolley lines from the setting of the poles to the final service inspection.
- Qualifications: He must be able to work to drawings and line diagrams, must be thoroughly familiar with trolley line specifications, and must be able to direct the setting of poles so as to stand a straight or side pull. He must be thoroughly familiar with the placing of guy wires, both for poles and for sustaining the trolley on curves and at switches, crossovers, and branch lines, and must be thoroughly familiar with all methods of attaching the trolley wire to the sustaining cables and with the method of insulating same. He must be able to make splices on trolley wire and to make the final service inspection of the line. He should have worked as a lineman on an extensive trolley line system and should have had considerable experience in directing the work.

Schooling: High school; preferably technical training.



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LINEMAN, HELPER, TROLLEY SYSTEM

- **Description:** The duties of the lineman helper on a street railway trolley system are to assist the lineman as directed.
- Qualifications: He should be physically able to endure outdoor work; should have some knowledge of electrical measurements; and should be taught the dangers in high-tension circuits when they are allowed to become grounded or short-circuited in any way. He should be willing to pursue a course of study in electricity.

Schooling: Common school; preferably high school.

LINEMAN, TROLLEY SYSTEM

- **Description:** The duties of the lineman on a street railway trolley line are to hang trolley wires, cut in feeders, and do all work necessary to make the line ready for service.
- Qualifications: He must be able to work to wire diagrams and should have a thorough knowledge of guying and hanging trolley wire, making turns, putting in junctions, and connecting transformers, lightning arresters, and feeders. He must be thoroughly skilled in the use of street railway line equipment; must be able to do climbing or work from an elevated scaffold; must do trolley splicing and any other work required to make the line ready for service. He should have worked as a helper and should have had considerable experience as a journeyman.
- Schooling: Common school; preferably high school.
- MOTOR AND TRUCK REPAIRER'S HELPER. (See Repair man, helper, motor and truck.)

MOTOR INSTRUCTOR, ELEVATED AND SUBWAY

- Description: The motor-instructor trains and subsequently examines candidates for the position of motorman or of switchman. He also frequently inspects the work of motormen by riding over the road with them. He consults with the train master and the dispatcher on the qualifications of men for promotion to motormen or switchmen. He reports the results of his examinations and inspections to the superintendent.
- Qualifications: He must have long and thorough experience as a motorman in order that he may understand accurately and in detail the mechanical, electrical, and electro-pneumatic car equipment. He must be an expert in the economy of motive and brake power. It is essential that he be qualified to instruct and to handle men.

Schooling: High school or equivalent.

MOTORMAN, ELEVATED AND SUBWAY

- **Description:** The motorman of an elevated or subway train operates the driving and brake apparatus, controlling the movement of the train over the route in accordance with rules and signals.
- Qualifications: Experience, first as guard and then as switchman, is usually a prerequisite. He must thoroughly understand the operation of the mechanical, electrical, and electro-pneumatic equipment of the train; he also must know accurately all interlocking, bell, whistle, and flag signals, and all rules governing the safe movement of his train. His preliminary training must include time in the instruction car and on the road with the train master or a motor instructor. He is required to pass a rigid physical examination, and an oral examination before road officials.

Schooling: Common school or better.

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MOTORMAN, SURFACE

Description: The motorman of a surface car operates the driving and controlling apparatus of the car, starting and stopping when signalled.

Oualifications: He should be physically strong and should have steady nerves, courage, endurance, good eyesight, accurate judgment of speed and distance, and a sense of responsibility. Most companies conduct a school in which they give inexperienced men several weeks' training.

Schooling: Common school.

OILER, POWER HOUSE

Description: The oiler does cleaning, oiling, and packing on turbine generators, exciters, converters, condensers, and pumps. He looks after hot bearings and frequently operates the controlling levers on the engines, under the direction of the watch engineer. He assists in testing and repairing and may be required to do general cleaning in the power house.

Qualifications: It is desirable that he should have had experience as an oiler. Schooling: Common school.

PAINTER, CAR BODY

- Description: The car body painter does painting, varnishing, and finishing on interior and exterior of cars, such as sides, panelling, roof, window frames, ceiling, dashboard, and doors.
- Qualifications: He must be skilled as a carriage or body painter and be able to paint, varnish, and finish all car body parts. His work must be neat, smooth, and even. The experience of an ordinary painter in house or building work is insufficient.

Schooling: Common school.

PAINTER, FOREMAN, CAR BARN

- Description: The painter foreman has charge of the paint shop and the painters. He plans the work, assigns it to his men, and sees that it is properly executed. He makes out requisitions for material and supplies, prepares a record of all the work done in his shop, and also prepares a daily time report for his men.
- Qualifications: He must be qualified by his skill and experience in body painting to direct all car body painting, varnishing, rough painting, lettering and striping. He should be able to plan the work and make reports and should have had experience in handling men. His experience in painting must cover body painting; experience in ordinary painting does not qualify him for body work. It is necessary that he be able to direct, instruct, and correct the men under him in all their work.

Schooling: Common school.

PAINTER, GENERAL

Kindred Occupations: Fresco painter; Large sign painter.

- Description: The duties of the general painter are general painting of houses, buildings, or structures of any character.
- Qualifications: He must be an experienced practical house or structural painter, capable of doing any general work, must be experienced in covering large surfaces, and be able to paint canvas, wood, or metal. He should be familiar with cleaning or removing paint from metal or wood for repainting. He should be able to match and mix paints to proper consistency from paste, have a knowledge of paint solvents and thinners, and must understand fully the care of brushes and be a good rigger and scaffold man. He should have

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a knowledge of interior brush painting and the use of cold-water paints or washes. He should have had experience as house painter, bridge painter, or general painter on building contract work.

Schooling: Common school.

PAINTER, LETTERER AND STRIPER

- **Description:** The letterer and striper does the finest and most careful work in car body painting. He outlines lettering, numbering, striping, and signs by means of patterns or forms and fills in. He also assists in difficult body painting, varnishing, and finishing.
- Qualifications: He must be qualified by experience in body or carriage painting to do careful, smooth, neat work, and he must understand the making of patterns and the filling in for lettering and striping. The experience of an ordinary painter in house or building work is not sufficient.

Schooling: Common school.

PAINTER, ROUGH

- **Description:** The rough painter does ordinary painting on trucks, fenders, wheel guards, rods, and other metal parts. He is frequently called a painter's helper, as his work is training for the position of body painter.
- Qualifications: The position does not require previous training or a knowledge of painting. He must be willing to do ordinary painting and must have a steady hand.

PAINTER, SIGN

- **Description:** The duties of the sign painter are any class of sign or bulletin painting.
- Qualifications: He must be experienced in painting large wall signs, bulletins or banners, and skilled in design-make-up and painting of all kinds of outdoor advertising signs, wall, railway, or roadside board signs, all kinds of bulletins, scene or cut-out signs, campaign banners, painted flags, and hanging signs, where large areas are covered or scenes depicted. He must be able to paint on canvas cloth, sheet metal, or board sections, and able to imitate trees, bushes, or landscapes. He must also be able to enlarge from sketches or color design paintings. He should have a thorough knowledge of paint mediums, mixing and matching colors, and the use and care of brushes and painters' materials and apparatus, and be able to estimate on quantities. He should have knowledge of rigging and scaffolding and ability to work outdoors under unfavorable conditions.

Schooling: Common school.

PAINTER, SIGN LETTERER

- Kindred Occupations: Department store sign and card letterer; Office building door letterer; Sign painter.
- **Description:** The duties of the sign letter painter are designing, painting, or lettering all sorts of small-sized signs, or eard signs.

Qualifications: He must be thoroughly experienced in all phases of artistic sign work, such as design, make-up, laying out, painting, lettering, striping, gilding, graining, and varnishing. He must be expert in the laying out, proportioning, blocking in, and finishing of all styles of letters, and in freehand letter painting of small card signs, bulletins, and notices. He must be skilled in gold-leaf sign work, and understand mixing of paints and proper use and care of brushes.

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PAINTER, STRUCTURAL STEEL AND BRIDGE WORK

- **Description:** The duties of the painter on structural steel and bridge work are to paint or cover with any antirust coating structural steel or bridge work in the process of erection.
- Qualifications: He should know how to prepare metal surfaces for the receiving of paint; should be familiar with paints generally used on structural steel and bridge work; understand the care and use of all tools and paint brushes; should be able to judge the proper consistency of paint to be used; and should be able to work on scaffolding or climb upon structural work. He should have had experience on similar work or on a bridge construction crew or on large buildings.

Schooling: Common school.

PIT INSPECTOR

- **Description:** The pit inspector visits the plow pits where the contact is changed from the underground conduit to the overhead wire, and vice versa. He sees that the equipment is in operating condition and inspects the actual work of the pitman, acting as instructor to new pitmen. He examines periodically the bottom of the cars as they pass over the pit to see that the plow hangers and leads ate in proper condition.
- Qualifications: He must be thoroughly experienced as a pitman and be qualified to judge the proper condition of the swinging conductor bar, circuit breaker, signal bell and lights, and also the rubber gloves used by pit workmen when working on high-tension circuits.

Schooling: Common school.

PITMAN

- **Description:** The pitman is stationed in a pit under the track at a point where the contact changes from the underground conduit to the overhead wire, or vice versa. After he has removed the plow and put the leads into the blocks under the car, he signals the conductor with a bell and holds the automatic circuit breaker which permits the current to pass through the isolated portion of the wire over the pit. In the reverse operation, after the trolley pole or poles have been hauled down, he places the plow in the hangers, connects the leads, holds the swinging conductor bar in place against the plow, gives the signal to the conductor, and holds the automatic breaker in place until the car has left the isolated portion of the conductor bar at the pit. It is his duty to keep the pit clean and the equipment in operating condition.
- Qualifications: He must be steady and thoroughly experienced in the operations described and in the care of the pit and its equipment. He must be able to make the change quickly, but carefully, so as to avoid delay at the pit. Schooling: Common school.

PLATFORM MAN, ELEVATED AND SUBWAY

- **Description:** The platform man announces the destination of approaching trains and gives passengers desired information concerning the same. He assists the passengers in getting on and off trains and prevents undue delay of trains at the station. He also sees that the gates or doors are properly closed before the train leaves the station.
- Qualifications: He must be courteous, careful, of even temper, and must be able to deal with all kinds of people tactfully. He is usually required to pass a physical examination.

Schooling: Common school.

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PLOW REPAIRER, UNDERGROUND TROLLEY

Description: The plow repairer constructs new plows and repairs old plows (the means of contact with underground conductor bars). He replaces burntout feeds; renews the surrounding insulating material; makes repairs to, or replaces the insulated spring contacts and wood or metal parts of the frame, when they are burnt out or injured. He also coats the plow with insulating paint.

Qualifications: It is desirable that he be experienced in the construction and repair of plows. He must be able to do very careful insulating.

Schooling: Common school.

PORTER, STATION. (See Station porter, elevated and subway.)

REPAIR MAN, AIR COMPRESSOR

- **Description:** The duties of the air compressor repair man are to inspect and repair air compressor apparatus, including the adjustment of valves, taking out and replacing of parts, and the adjustment and setting of bearings, cylinders, and pistons.
- Qualifications. He must be a machine fitter who has specialized on air compressor work. He must be able to take down, repair and reassemble a complete air compressor such as is used on street railway cars. He should have had experience equivalent to an apprenticeship; should have worked as a helper; and should have had considerable experience as a journeyman.

Schooling: Common school.

REPAIR MAN AND INSPECTOR, STREET CAR CONTROLLER RIDE Description: The duties of the repair man and inspector of street car controllers are to inspect and repair street car controllers and keep them in good working condition.

Qualifications: He should be thoroughly familiar with all the mechanical requirements of a street car controller. He must be able to take out and replace parts, repair wiring, put in fuses and make contacts. He must be skilled in the use of wireman's tools and must be able to make any tests necessary to locate defects in the apparatus. He should have worked as a helper and should have had considerable experience as a journeyman.

Schooling: Common school.

REPAIR MAN, CAR BARN

Description: The repair man in a car barn does minor repair work to cars under the direction of the barn foreman. He does repair work that does not require machine shop equipment. His work includes all mechanical parts of the car and its equipment.

Qualifications: Although the foreman instructs him in the difficult minor repairs, he should have a general knowledge of car construction and equipment (motors, wires, trucks, brakes, compressor engine, plow, etc.). He should be skilled in handling the ordinary mechanic's tools.

Schooling: Common school.

REPAIR MAN, HELPER, MOTOR AND TRUCK

Description: The duties of the repair man's helper on street railway motors and trucks are to assist the repair man in removing car bodies, dismantling, repairing and reassembling trucks and motors.

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- Qualifications: He must be physically strong and should have a desire to become a journeyman repair man. He should understand the general principles of motor construction and have some knowledge of electrical measurements and insulation, or should be willing to pursue a course of study along these lines.
- Schooling: Common school; preferably trade or technical school.

REPAIR MAN, INTERLOCKING AND SIGNAL SERVICE

- Description: The duties of the interlocking and signal repair man in street railway service are to keep switches, mechanical and electrical signals, and interlocking machines in repair, properly adjusted and greased.
- Qualifications: He should have a thorough knowledge of signal and interlocking devices and should be thoroughly familiar with electrically operated switches and with interlocking devices and machines. He must be able to take out and replace parts and keep the system in operating order. He should have worked as an assistant to a repair man and should have done considerable independent work.

Schooling: Common school.

REPAIR MAN, MOTOR AND TRUCK

- Description: The duties of the motor and truck repair man are to assist in removing the bodies from the trucks by means of hydraulic jacks, to dismantle and repair the motors and trucks, and to replace the same in proper condition for service.
- Qualifications: He must be able to work to drawings; must be thoroughly familiar with truck and motor construction; must be able to rebabbitt boxes, line up armature shafts, adjust the housings, turn down commutators, and place the motor in every way ready for service. He should be able to direct the work of helpers and be able to handle hydraulic, electric, and hand power cranes. He should have had experience equivalent to an apprenticeship and should have done considerable work as a journeyman.

Schooling: Preferably some technical training.

REPAIR MAN, PLOW. (See Plow repairer, underground trolley.)

REPAIR MAN, POWER HOUSE

- Description: The power house repair man does the repair work on boilers, condensers, pumps, and piping. Occasionally he is required to repair the automatic stokers and to do brick and concrete work.
- Qualifications: He must be skilled in pipe fitting, steam fitting, and pump and boiler work. It is desirable that he also be able to do brick and concrete work.

Schooling: Common school.

REPAIR MAN, STREET CAR FENDER

- Description: The street car fender repair man removes, repairs, and replaces street car fenders.
- Qualifications: He must be able to run a drill press, cut and bend fender parts, weave in cross strips, and do riveting. He should have worked as an assistant car fender-repair man.

Schooling: Common school.

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REPAIR MAN, STREET CAR WIRING

- **Description:** The repair man on a street car wiring system connects in and repairs motors, automatic switches, lighting and bell circuits, and controller circuits.
- Qualifications: He must be an experienced wireman who has specialized on street car wiring and must be familiar with fuse boxes, knock out switches, light switches, controller and rheostats so that he can take out and replace any part necessary to keep the electrical appliances in good working condition. He must have had experience equivalent to an apprenticeship and should have served some time as a journeyman.

Schooling: Common school.

ROAD MASTER

Description: The road master has charge of and is responsible for the roadbed, track, private right of way, and station grounds on his subdivision. He lays out and assigns the work for each foreman under his jurisdiction, sees that they are supplied with material and tools and that the same are cared for, economically used, and accounted for. He keeps informed on the conditions of bridges and the drainage system. He sees that a proper record is kept and return made of time and rate of pay and of the location and kind of work performed. He reports all_work to the engineer, maintenance of way.

Qualifications: The road master is a graduate of an engineering school, or has had long experience with street railway, track and line work. He not only must understand every detail of track construction, but also must be able to plan and supervise all work on the construction of new track and on the maintenance and repair of old track. He must be able to order supplies and maintain a working organization. He must be qualified to keep accurate records of all track work that is done.

Schooling: High school; engineering school or the equivalent training.

SECTION MAN

Description: The section man makes a general inspection of city track and keeps the switch mechanism oiled and adjusted. He performs some minor track repairs, such as tightening joints, wedging tight slot, or filling small holes in pavement. Section men usually travel in pairs. They report any trouble which they are unable to remedy.

Qualifications: He must be physically fit to stand all kinds of weather.

SPECIAL OFFICER, ELEVATED AND SUBWAY

- **Description:** The special officer is deputized by the local police authority with the power to arrest. He is stationed on the platform, announces the destination of approaching trains, and assists in getting passengers on and off trains. He sees that the gates or doors are properly closed before the train leaves and assists in preventing undue delay. It is also his duty to prevent or check disorder and dangerous crowding, and, if necessary, to arrest offenders.
- Qualifications: He must be courteous, careful, and of even temper; and he must be able to command respect and to deal with all kinds of people tactfully. He must pass a physical examination, and should be a man of physical strength in order to exercise control in heavy rush hours. He must also be able to fulfill the requirements of the local police authority.

Schooling: Common school.

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STATION AGENT, ELEVATED AND SUBWAY

- Description: The station agent occupies a booth at a station where he sells tickets or collects and registers the fares on a turnstile. He may have to take charge of and be responsible for the equipment, and for the work of the station employees. He makes out daily and monthly reports.
- Qualifications: The position requires a man of responsibility, accustomed to handling money. He must be able to make change quickly and accurately and to detect counterfeit and defective money. He must be courteous in dealing with passengers and be able to handle station men. He is usually required to pass a physical examination. Women are frequently employed.

Schooling: Common school; preferably high school.

STATION MASTER, ELEVATED AND SUBWAY

- Description: A station master is found only in large stations, through which the traffic is exceptionally great. Subject to the direction of the station inspector, he has immediate supervision of the equipment and employees at his station.
- Oualifications: He must have had experience as agent and must know all station regulations. He must have some executive ability and be courteous and tactful in dealing with passengers.

Schooling: Common school; preferably high school.

STATION PORTER, ELEVATED AND SUBWAY

- Description: The duties of the station porter are to keep the station, stairways, platforms, and washrooms clean and sanitary, and to perform such other work as may be assigned.
- Qualifications: Should be fairly strong and should be able to stand exposure to all weather or the atmosphere of the subway tunnel. Women are frequently employed.

SWITCHMAN

- Description: The switchman handles cars in and about the yards, sidings, and to and from inspection barns. He makes up trains, coupling and cutting cars according to the number required for the trains. The work of a switchman is training for the position of motorman.
- Qualifications: Experience as guard and as acting switchman is necessary. He should have had training in the instruction car, and in the yards with a motor instructor. He should have passed an examination, and should have worked as an acting switchman. He must also be able to pass a rigid physical examination, and be familiar with interlocking, bell, whistle, and flag signals.

Schooling: Common school.

TICKET CHOPPER. (See Gateman, elevated and subway.)

TIMEKEEPER, TRACK AND LINE

- Description: The track and line timekeeper travels over the system, visits each gang doing track construction or repair work, and checks up the names and number of men on duty in each gang. At the end of each day, he compares his records with those of the various foremen, before the time is entered on the distribution and pay roll sheets.
- Qualifications: He should be bright and active, understand the general method of recording time and the form used, and be qualified to undertake a position of responsibility.

Schooling: Common school; preferably high school.

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TOWERMAN

TROUT

Description: The towerman is stationed in an interlocking tower plant, located either at a terminal or at a switching point on the line. He manipulates the levers of the electro-pneumatic switch and signal devices, thereby controlling the direction and movement of trains at the point where the tower is located. He observes all approaching and passing trains, noting whether they are complete and in order, and whether markers and tail lights are properly displayed. He is also held responsible for the care of the interlocking station.

Qualifications: In addition to experience as trainman, he must have at least one year of experience in an interlocking plant before he is considered a safe and competent towerman. He must know accurately and understand thoroughly all directions for the routing of trains, all rules and regulations governing signals, emergencies, and train movements, as well as his own position. While repairs are made by interlocking repair men, he must be familiar with the interlocking system, so as to be able to act intelligently in case of emergency. His eyesight, color sight, hearing, and judgment of speed and distance must all be accurate.

Schooling: Common school or better.

TRACK WALKER

Description: The track walker makes a daily inspection of a portion of suburban track and sees that the track, highway, crossings, signs, switches, culverts, bridges, and fences are in proper condition. He carries a few tools and makes such minor repairs as resetting spikes, tightening rail joints, removing obstructions, and adjusting switches. He reports any work that he cannot accomplish himself to the suburban track foreman.

Qualifications: He should be familiar with the construction of frogs and switches, setting and tamping ties, and should have a general knowledge of signal devices, especially with reference to outside operating levers. He should have had an all-round experience as a section hand.

Schooling: Common school.

TRAIN CLERK, ELEVATED AND SUBWAY

- **Description:** The train clerk keeps the records in which are noted the time of arrival and departure of trains, the car numbers, and the names of conductors and motormen. He rings the terminal bell for the trains to start. It is also his duty to keep a record of the mileage of the cars from which he can inform the dispatcher when a car is due for inspection, so that it may be properly retired from service for that purpose.
- Qualifications: He usually advances from the rank of trainman, in which capacity he should have gained thorough experience in the general operation of the system, particularly of the terminal system. He must be alert and have keen eyesight; and he must be able to keep neat, accurate records at a rapid rate.

Schooling: Common school or better.

TRAIN DISPATCHER, ELEVATED AND SUBWAY

Description: The train dispatcher has charge of the yard and sidings at a station or terminal where trains are made up, and of all transportation employees at this point. He is responsible for the expeditious and correct

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Qualifications: He must thoroughly understand the yard and car equipment and the system of yard operation; and he must have the executive ability necessary to handle the trainmen, switchmen, and others subordinate to him. He should have had experience as train clerk or starter.

Schooling: Common school; preferably high school.

TRAIN MASTER, ELEVATED AND SUBWAY

- Description: The train master, under the direction of a superintendent, exercises a general supervision over, and is directly responsible for, all employees connected with the train service, either on a single division or on the whole line. He sees that all orders are carried out, that rules and regulations are fully understood and observed, that discipline is maintained, and that the trains are operated as nearly to schedule as possible.
- Qualifications: He must thoroughly understand and be experienced in all details of the operation of the transportation department. It is necessary that he be especially familiar with all rules established by the organization and familiar with train schedules, the signal system, and the emergency regulations and procedure. He must be further qualified by executive experience to handle a large group of men.

Schooling: High school or better.

TRAIN STARTER, ELEVATED AND SUBWAY

Description: The train starter has charge of the crewing of trains; must see that conductors, guards, and motormen are in proper condition and at their posts when the train is ready to start. He submits to the train dispatcher a daily report of the absentees and of those who fill the places of absentees.Qualifications: He is usually selected from the ranks of the trainmen where he has gained experience in terminal operation. He must be mentally alert and qualified to handle men. He must be physically sound and able to endure exposure to all weather or to the atmosphere of the subway.Schooling: Common school or better.

TROUBLE DISPATCHER

- Description: The trouble dispatcher receives trouble calls from the line. He calls out the emergency or wrecking crew to clear up the trouble and sees that they answer promptly. He also notifies the heads of departments to whose attention the trouble should come. He keeps a careful report of all his transactions.
- Qualifications: It is necessary that he be experienced and familiar with all phases of the operation of the system. He must be able to decide immediately, upon the receipt of the emergency call, what course will effect the most rapid clearing of delay and difficulty. He should have had general experience in the trouble clearing department.

Schooling: Common school; preferably high school.

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WHEEL INSPECTOR

WHIFF

- **Description:** The wheel inspector examines all wheels for worn or high flanges, worn contours, and low diameters; he also scrutinizes them carefully for cracks and flaws in the material.
- Qualifications: He should have had thorough experience in this work; must be able to use calipers and gauges and to compare dimensions with a drawing or pattern. Experience alone will produce the knack of discovering cracks and flaws. He must be physically strong and willing to work under adverse conditions.

Schooling: Common school.







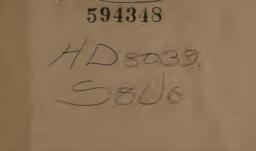


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