

# Appendix E

## Survey Job Descriptions

### *Jobs Which Are Required To Be Surveyed*

<i>Survey Job No.</i>	<i>Computer Job No.</i>	<i>Job Title</i>	<i>Job grade</i>
1	001	Janitor (Light)	1
2	002	Janitor (Heavy)	2
3	003	Material Handler	2
4	004	Maintenance Laborer	3
5	005	Packer	4
7	007	Warehouse Worker	5
8	008	Forklift Operator	5
9	009	Material Handling Equipment Operator	5
10	010	Truck Driver (Medium)	6
11	011	Truck Driver (Heavy)	7
12	012	Machine Tool Operator II	8
13	013	Machine Tool Operator I	9
14	014	Carpenter	9
15	015	Electrician	10
16	016	Automotive Mechanic	10
17	017	Sheet Metal Mechanic	10
18	018	Pipefitter	10
19	019	Welder	10
20	020	Machinist	10
21	021	Electronics Mechanic	11
22	022	Toolmaker	13

### *Jobs Which May Be Surveyed on an Optional Basis (See S5-6b(4)(d))*

<i>Survey Job No.</i>	<i>Computer Job No.</i>	<i>Job Title</i>	<i>Job grade</i>
6	006	Helper (Trades)	5
24	024	Aircraft Structures Assembler B	7
25	025	Aircraft Structures Assembler A	9
26	026	Aircraft Mechanic	10
27	027	Electrician, Ship	10
28	028	Pipefitter, Ship	10
29	029	Shipfitter	10
30	030	Shipwright	10
31	031	Machinist, Marine	10
32	032	Cable Splicer (Electric)	10

*Jobs Which May Be Surveyed on an Optional Basis (See S5-6b(4)(d) (Continued)*

<i>Survey Job No.</i>	<i>Computer Job No.</i>	<i>Job Title</i>	<i>Job grade</i>
33.....	033.....	Electrical Lineman .....	10
34.....	034.....	Electrician (Powerplant).....	10
35.....	035.....	Electronic Industrial Controls Mechanic.....	11
36.....	036.....	Electronic Test Equipment Repairer .....	11
52.....	052.....	Telephone Installer-Repairer .....	9
53.....	053.....	Central Office Repairer .....	11
55.....	055.....	Heavy Mobile Equipment Mechanic.....	10
64.....	064.....	Electronic Computer Mechanic.....	11
65.....	065.....	Television Station Mechanic .....	11
130.....	130.....	Heavy Mobile Equipment Operator .....	10
150.....	150.....	Air Conditioning Mechanic.....	10
152.....	152.....	Rigger .....	10
156.....	156.....	Trailer Truck Driver .....	8
166.....	166.....	Tool Crib Attendant .....	6
169.....	169.....	Painter (Finish).....	9
171.....	171.....	Light Vehicle Operator.....	5
173.....	173.....	Boiler Plant Operator .....	10
176.....	176.....	Meat Cutter.....	8
178.....	178.....	Equipment Mechanic.....	10
184.....	184.....	Boom Crane Operator .....	9
185.....	185.....	Boom Crane Operator (Precision).....	11
186.....	186.....	Tool and Parts Attendant.....	4
187.....	187.....	Painter (Rough) .....	7
189.....	189.....	Maintenance Mechanic.....	10

*Jobs Which May Be Surveyed When the Hospital Industry Is Added*

<i>Survey Job No.</i>	<i>Computer Job No.</i>	<i>Job Title</i>	<i>Job grade</i>
190.....	190.....	Laundry Worker .....	1
191.....	191.....	Food Service Worker .....	2
192.....	192.....	Cook .....	8

## Survey Job Descriptions

### 1. Janitor (Light)

*Grade: 1*

- Performs light custodial work in offices, washrooms, warehouses, industrial areas, and other building interiors.
- *Typical tasks* performed include *a combination* of the following:
  - Sweeps, vacuums, dry mops, waxes, and polishes floors.
  - Dusts and washes walls, room partitions, and fixtures that can be reached without the use of ladders.
  - Dusts and polishes furniture.
  - Empties waste baskets.
  - Cleans and polishes lavatory bowls, basins, and plumbing fixtures.
  - Replenishes soap and paper supplies.
  - *May* operate light, household type electrical cleaning equipment.
  - *May also* change sheets and linens in hospital rooms, wards, or living quarters.

*Exclude:*

Employees who are required to operate riding-type equipment.

### 2. Janitor (Heavy)

*Grade: 2*

- Performs custodial work in offices, warehouses, industrial areas, and other building interiors.
- *Typical tasks* performed include *a combination* of the following:
  - Sweeps, scrubs, vacuums, wet mops, waxes, and polishes floors using industrial vacuum cleaners and scrubbing and buffing machines.
  - Using ladders, dusts and washes wall and room partitions, cleans ceilings, and dusts and polishes light fixtures.
  - Washes and replaces Venetian blinds.
  - Moves furniture, cabinets, boxes, crates, and equipment to clean areas.
  - Sweeps and removes chips, trash, industrial waste, and other refuse from shop areas.
  - *May* remove stains from such surfaces as rugs, drapes, walls, and floors using chemical and cleaning solutions.
  - *May also* sweep walks, rake leaves, cut grass, remove snow, or perform other *incidental* seasonal tasks.
  - *May also* change sheets and linens in hospital rooms, wards, or living quarters.

*Exclude:*

- (1) Employees who specialize in window washing.
- (2) Employees who frequently operate riding-type equipment.
- (3) Employees required to disassemble and reassemble equipment in order to clean the machinery.

### **3. Material Handler**

**Grade: 2**

- Works in a warehouse, manufacturing plant, or other establishment.
- *Typical tasks* performed include *one or more* of the following:
  - (1) Loads and unloads material on or from freight cars or other vehicles. Moves material by hand, hand truck, or dolly.
  - (2) Opens and seals crates, boxes, cartons, and other containers using hammer, crowbars, cutting tools, and tape.
  - (3) Collects and sorts or stacks such easily recognized items or materials as sacks, paper, rags, and scrap lumber. Places reusable items in containers, and disposes of waste by baling or burning.

*Exclude:*

- (1) Employees who are required to drive trucks or operate forklifts or power trucks.
- (2) Employees who repetitively perform routine tasks in a production-line operation such as those who feed and remove materials or products and whose work pace is governed by the production process.
- (3) Dockmen or platform men who also perform such duties as freight checking, rerouting freight, spotting trucks, and/or operating forklifts or hi-lo's (usually at trucking or transfer establishments).

### **4. Maintenance Laborer**

**Grade: 3**

- Performs maintenance laboring tasks in an establishment.
- *Typically* these include *one or more* of the following:
  - (1) Digs ditches and trenches using pick and shovel. Breaks up pavement, concrete, or other hard surfaces with sledge hammer or jackhammer.
  - (2) Fills excavations, levels, and tamps the dirt fill. Mixes, pours, and pushes wheelbarrow loads of concrete, asphalt, hot mix, gravel, and other materials to worksite. Lifts and holds materials used in setting up forms for pouring concrete. Removes forms after concrete has set.
  - (3) Carries and distributes ties and rails on roadbed. Drives spikes with sledge hammer to fasten rails to ties. Shovels ballast under ties, and tamps by hand tool or jackhammer. Tightens bolts between rails.

*Exclude:*

- (1) Employees who make concrete products.
- (2) Employees who spread and level cement.
- (3) Employees who are required to drive trucks or operate forklifts or power trucks.

### **5. Packer**

**Grade: 4**

- Packs a variety of items for storage or shipment.
- *Typical tasks* performed include *most* of the following:

- Selects a container from a limited assortment of boxes and cartons.
- Places items into appropriate container and inserts precut styrofoam or other molded synthetic braces, or stuffs with materials such as shredded paper, cotton, or wood shavings.
- Checks items against shipping lists to assure correctness of quantity and identification, and reports discrepancies.
- Seals, bands, wires, or nails containers, using hand tools, heat sealers, and hand-banding machines.
- Weighs and measures packages, and affixes markings and labels as prescribed.

*Exclude:*

- (1) Employees who perform repetitive production-line or routine packing of standard items and who have no choice of container type and size or method of packing.
- (2) Employees who also build wooden boxes or crates.
- (3) Employees who specialize in selecting items and filling orders from stock.

**6. Helper (Trades)**

**Grade: 5**

- Assists one or more journeymen in the *same* recognized skilled trade by performing tasks of lesser skill, of which the following are *typical*:
  - Uses hand tools or portable power tools of the trade to perform such work as cutting holes in walls and floors, and cutting pipe threads.
  - May operate power tools in performing the simple tasks of the trade.
  - Holds objects and keeps journeymen supplied with tools and materials.
  - Cleans machines and equipment.

*Note:* Include helpers to journeymen in a nonsurveyed recognized skilled trade such as Plumber, Millwright, or Refrigeration Mechanic.

*Exclude:*

Trainees and apprentices who are working under a formal training plan which provides classroom or on-the-job training and instruction and progressively more difficult assignments over a specific period of time.

**7. Warehouse Worker**

**Grade: 5**

- Performs a variety of warehousing duties which require storage responsibilities and an understanding of the establishment's storage plan.
- *Typical tasks* performed include:
  - Receives and verifies items against receiving documents, notes discrepancies, and reports findings.
  - Moves material or merchandise to the storage area.
  - Selects specific storage locations.
  - Stores, stacks, or palletizes items in accordance with prescribed storage methods, considering such factors as size, weight, quantity, spoilage, pilferage, and safety to others.

- Rearranges and takes inventory of stored materials or merchandise.
- Examines stock for deterioration and damage, and reports findings.
- May compile and forward inventory data for manual or automated systems.
- Locates and moves designated items from storage area, assembles, prepares, and makes ready for shipment.
- Insures that shipments are properly labeled, packed, or crated.
- *May* operate material handling equipment when incidental to performance of warehousing duties.

*Exclude:*

- (1) Employees who specialize in receiving and shipping functions, and who do not perform storage work described above or apply an understanding of an established warehouse plan or system.
- (2) Employees whose work is limited to order filling.
- (3) Employees who specialize in operating material handling equipment.
- (4) Employees who work at locations with temporary or transient storage facilities without a formalized storage plan.

**8. Forklift Operator**

**Grade: 5**

- Operates electric, gasoline, or diesel-powered forklift trucks with rated lifting capacity of less than 4500 kg (10,000 pounds) to a height of not more than 427 cm (168 inches).
- Operates the lifting and tilting controls, and steers the vehicle into position to load, move, transport, and stack goods and materials contained on pallets, skids, crates, or boxes about such locations as warehouses, piers, shipsides, and railroad car sidings.

**9. Material Handling Equipment Operator**

**Grade: 5**

- Operates gasoline, diesel, or electric powered warehouse tractors or tow trucks to move materials or equipment in and around such locations as warehouses or manufacturing plants.
- *May also* operate forklift trucks with rated lifting capacity of less than 4500 kg (10,000 pounds) to a height of not more than 427 cm (168 inches).

*Note:* Include employees who operate non-standard forklifts such as a “push-pulls,” clamp trucks, and spike trucks.

*Exclude:*

- (1) Employees who are required to operate such specialized equipment as straddle lift trucks and front-end loaders, or other specialized types of towing or lifting equipment.
- (2) Employees who frequently operate hand transporters.
- (3) Employees who are required to tow aircraft.

**Truck Driver**

- Drives a truck within a plant, an establishment, or within a city or over public roads to

transport materials, merchandise, or equipment.

- May operate material handling equipment to load or unload the trucks when incidental to the performance of truck driver duties.
- For wage survey purposes, truck drivers are classified by manufacturer's rated load capacity of equipment as follows:

**10. Truck Driver (Medium)**

**Grade: 6**

*Over one ton (0.9 metric ton) but less than four tons (3.6 metric tons)*

**11. Truck Driver (Heavy)**

**Grade: 7**

*Four tons (3.6 metric tons) and over, other than trailer type*

*Exclude:*

- (1) Route salesmen.
- (2) Over-the-road drivers.
- (3) Drivers who operate truck-mounted specialized equipment (such as cherry pickers or augers) other than to load or unload the trucks.
- (4) Tractor-trailer operators.
- (5) Bus drivers.

*Note:* Over-the-road drivers are those who do long-distance hauling involving overnight trips or hauls of more than one day's duration. These drivers are usually paid mileage rates.

**12. Machine Tool Operator II**

**Grade: 8**

- Operates one machine tool *or* several machine tools with similar spindle and table movements, with comparable speed, feed controls, and with similar cutting tools or performs the same machining operation for production runs when the machine tools have been set up and checked by a more experienced worker. Examples of machine tools include lathes, milling machines, grinders, shapers, and planers.
- *Typical* tasks performed:
  - Machines casting, forgings, or bar stock of various metals, metal alloys, and other materials.
  - Aligns work in machine according to set methods and given reference points.
  - Operates machine, controlling speed and feed and using various tools in successive operations.
  - Checks dimensions as necessary, using such measuring instruments as scales, micrometers, and various standard or preset snap, plug, or ring gages.
  - Obtains assistance in case of machine malfunctions or major change in setup or sequence of operation.
  - *May* operate numerically controlled (NC) or computer numerically controlled (CNC) machines in the automatic mode.

*Exclude:*

Employees who specialize in the operation of electrical-discharge, woodworking, or machines which do not use cutting tools to perform machining operations such as extrusion machines, presses, and brakes.

**13. Machine Tool Operator I**

**Grade: 9**

- Operates the same machine tools as the Machine Tool Operator II and, in addition, sets up and checks own machines; also adds and uses such attachments as rotary tables, magnetic chucks, gear changing boxes, angular drive heads, taper attachments, and universal milling attachments.
- *May* operate numerically controlled (NC) or computer numerically controlled (CNC) machines when the manual input required is limited to operations such as changes in coolant flow, increase or decrease in speeds or feeds, or stops are programmed for dimensional checks or minor adjustments.

*Exclude:*

- (1) Employees who specialize in the operation of electrical-discharge, wood working, or machines which do not use cutting tools to perform machining operations such as extrusion machines, presses, and brakes.
- (2) Employees who primarily set up machines for other workers to operate.

**14. Carpenter**

**Grade: 9**

- Performs carpentry duties necessary to construct and maintain a variety of articles and structures typically made of wood, such as bins, cribs, counters, benches, partitions, doors, floors, stair casings, and trim. (Doors, paneling, floors, etc., may occasionally be made of substances other than wood.)
- *Typical* tasks performed:
  - Plans and lays out work from blueprints, drawings, or oral instructions.
  - Selects materials and tools to be used.
  - Measures and cuts materials to required lengths.
  - Uses hand or portable power tools of the carpentry trade, shop woodworking equipment, and such standard measuring instruments as rulers, carpenter's squares, and levels.
  - Make standard shop computations.

*Exclude:*

- (1) Employees who regularly construct or repair high-grade wooden items such as fine cabinets or furniture.
- (2) Employees who primarily construct or repair wooden boats.
- (3) Employees who primarily fabricate wooden boxes and crates.
- (4) Employees who primarily block and brace materials and equipment on vehicles or railroad cars.
- (5) Employees who primarily build wooden bridges or trestles.



- (6) Employees who primarily build keel blocking, cradles, shoring, cribbing, and other structures to support ships in drydocks, marine railways, or shipways.

### ***15. Electrician***

***Grade: 10***

- Performs a variety of electrical trade functions such as the installation, maintenance, and repair of equipment and systems for the distribution or utilization of electric energy.
- *Typical* tasks performed:
  - Diagnoses trouble in the electrical system or equipment.
  - Uses specialized measuring and testing instruments such as voltmeters, ammeters, wattmeters, ohmmeters, and meggers.
  - Makes standard computations relating to load requirements of wiring or electrical equipment.
  - Plans and lays out work from blueprints, sketches, wiring diagrams, or specifications.
  - Installs, repairs, and tests electrical systems, electrical equipment, emergency or standby generation systems, or such internal electrical power distribution facilities as switchboards, controllers, circuit breakers, motors, heating units, and conduit systems.

*Exclude:*

- (1) Employees who specialize in armature winding or cable splicing.
- (2) Employees who specialize in electrical work on overhead and underground distribution systems or power plants.
- (3) Employees who specialize in communications (telephone, radio) or electronics.
- (4) Employees who specialize in the installation and repair of home appliances.
- (5) Employees who specialize in automotive, aircraft, or diesel locomotive electrical systems.

### ***16. Automotive Mechanic***

***Grade: 10***

- Overhauls and repairs internal combustion powered automobiles, buses, trucks, forklifts, or truck tractors.
- *Typical* tasks performed:
  - Diagnoses the source of trouble and determines the extent of repairs required on engines, power transmissions, suspension, steering, exhaust, and braking systems, and related electrical, electronic, fuel, and hydraulic emission control systems, and wheel assemblies.
  - With the aid of manuals or diagnostic computer printouts, tears down, adjusts, repairs, reassembles, and runs operational checks on units or assemblies of these systems.
  - Tunes and adjusts vehicle components to prescribed operating tolerances.
  - Uses such specialized testing equipment as compression testers, motor analyzers, and test benches; and such specialized measuring instruments as micrometers, vernier calipers, and dial indicators.

*Note:* Include engine overhaul specialists.

*Exclude:*

- (1) Employees who only overhaul and repair a major assembly such as brakes, transmissions,

or ignition systems.

- (2) Employees who repair vehicles but do not perform overhauls.
- (3) Employees whose primary duties are to overhaul and repair heavy duty equipment such as cranes, crawler tractors, bulldozers, graders, or scrapers.

### **17. Sheet Metal Mechanic**

**Grade: 10**

- Develops patterns, lays out, makes, installs and repairs a variety of sheet metal articles and products.
- *Typical* articles and products have combined straight and curved edges and irregular curves and planes such as gutter systems, air and liquid distribution systems, metal containers, airframes, scoops, instrument panels, and other items or systems with specific requirements.
- *Typical* tasks performed:
  - Plans and lays out work from blueprints, drawings, and other specifications, using shop mathematics.
  - Selects materials, equipment, and tools to be used.
  - Sets up and operates a variety of sheet metal machines such as sheers, brakes, bending rods, etc.
  - Cuts, bends, and forms the sheet metal into desired shapes, allowing for seams, joints, laps, and shrinkage.
  - Joins parts by riveting, soldering, and spot welding and assembles and installs with bolts, rivets, metal screws, and other fastenings.
  - Uses hand and power tools of the sheet metal trade.

*Note:* Sheet metal is generally metal or alloy that can be bent and formed with hand and power tools of the trade without the use of heat.

*Exclude:*

- (1) Employees whose work is limited to repetitive production-line operations or to sheet metal items having predominately straight edges and regular curves.
- (2) Employees who, as a recurring part of the job, perform complex sheet metal work such as for experimental or one-of-a-kind items.

### **18. Pipefitter**

**Grade: 10**

- Installs or repairs high-pressure water, steam, gas, or other high-pressure pipes or pipe fittings.
- *Typical* tasks performed:
  - Diagnoses trouble and determines nature and extent of repairs.
  - Plans and lays out work from blueprints, drawings, or other written specifications.
  - Determines size of pipe needed to maintain pressure and flow to overcome high-pressure expansion.
  - Selects tools to be used.
  - Works with a variety of metal and nonmetal pipe and pipe fittings, including those made of copper, brass, lead, glass, and plastic.

- Measures, cuts, bends, and threads pipe; packs and joins piping to pipe fittings.
- Installs valves, traps, thermostats, and gages to maintain flow and pressure.
- Makes pressure test of system to assure pressure tight joints and proper circulation and flow.
- Uses hand and power tools of the pipefitting trade.

*Note:* Include employees who may perform work on low-pressure systems (water supply, sanitation, or low-pressure heating systems including gas) in addition to regular and recurring work on high pressure systems.

### **19. Welder**

**Grade: 10**

- Using a variety of gas torch or electric arc-welding process (including inert-gas shielded methods), or both, welds a wide variety of metals and their alloys in the fabrication and repair of metal structures, equipment, and items.
- *Typical* tasks performed:
  - Plans and lays out work from blueprints, drawings, or other written specifications.
  - Selects materials and processes to be applied.
  - Sets up and adjusts equipment.
  - Welds, in vertical, horizontal, flat, and overhead positions, items of various sizes and shapes.
  - Brazes, flame-cuts, beads, heat treats, pressures, and tacks welds.
  - Welds are subject to x-ray analysis, magnaflux inspection, dye check, water or gas tight pressure, and other tests, or formalized quality assurance methods.
  - Uses hand and power tools of the welding trade.
  - When necessary, uses templates in measuring, marking, scribing, and cutting.

*Exclude:*

- (1) Employees who perform repetitive production-line welding or who only operate automatic electric resistance welding machines.
- (2) Employees who, as a recurring part of the job, perform unusually complex welding such as using experimental metals or alloys.
- (3) Boilermakers, plate fabricators, structural iron workers, and other trades workers whose duties may include welding as an *incidental* part of the work performed.

### **20. Machinist**

**Grade: 10**

- Sets up and operates most types of conventional or computer numerically controlled (CNC) machine tools such as lathes, vertical and horizontal boring mills, bench, plain and universal milling machines, shapers, planers, internal and external grinders, and radial drills.
- Takes bar stock of various metal, metal alloys, and other materials from raw stock to finished product.
- *Typical* tasks performed:
  - Plans and lays out work from blueprints, drawings, and other specifications.

- Determines speeds, feeds, tolerances, and sequence of machine operations on a variety of machine tools or performs a complete sequence of operations on a single CNC machine.
- Selects and shapes cutting and grinding tools.
- Makes all setups and adjusts machines, making trial cuts as necessary.
- Finishes metal by hand or machine.
- Fits parts of assemblies with small hand and power tools and assembles individual parts into complete units.
- Uses such specialized measuring instruments as vernier calipers, inside and outside micrometers, surface gages, centerhead protractors, and dial indicators.
- Uses shop mathematics and standard handbook formulas in computing dimensions for planning and laying out work.

*Exclude:*

- (1) Employees who only operate but do not set up machines, and employees whose duties are limited to setup and production operation of a single machine.
- (2) Employees who regularly produce experimental or prototype items.
- (3) Employees who write or edit programs for CNC machines.

**21. Electronics Mechanic**

**Grade: 11**

- Installs, overhauls, maintains, or repairs one or more types of electronic equipment and related devices, such as different kinds of radar equipment, radios (single side band, UHF, VHF), sonars, or navigational aids containing circuitry designed to accomplish multiple functions (for example, transmission and reception, induction and transformation).
- *Typical* tasks performed:
  - Determines nature and extent of repair required using wiring diagrams, schematics, technical publications, test equipment, and visual examinations.
  - Troubleshoots malfunctions by using such specialized test and measuring instruments as oscilloscopes, digital meters, signal generators, spectrum analyzers, and wave meters.
  - Replaces defective parts such as transistors, solid state diodes, printed circuits, integrated circuits (IC), capacitors, resistors, vacuum tubes, and inductors.
  - Makes complete operational tests, aligns interrelated circuits, and assures that all circuits of related equipment and systems are balanced and working within close tolerances prescribed by operational performance specifications.

*Exclude:*

- (1) Employees who perform work limited to specific components of equipment.
- (2) Employees who perform repetitive production-line assembly and test of equipment.
- (3) Employees who primarily repair such appliances as radios and television receivers.
- (4) Employees who primarily maintain and repair electronic controls and indicating devices used on industrial machinery.
- (5) Employees who primarily maintain digital and analog computers.
- (6) Employees who primarily maintain and repair electronic components of complete equipment that is identified with another occupation, for example, Central Office Telephone Equipment Repairers.

- (7) Employees who primarily maintain and repair such electronic test equipment and instruments as oscilloscopes and wave meters.

**22. Toolmaker**

**Grade: 13**

- Constructs, repairs, and calibrates tools, jigs, fixtures, dies, punches, or gages used to manufacture or repair the equipment or products of an establishment.
- *Typical* tasks performed:
  - Plans and lays out work from blueprints, drawings, models, and other specifications.
  - Sets up and operates various machine tools to work with a variety of metals, metal alloys, and other materials.
  - Uses specially constructed devices to hold work in position.
  - Calibrates work while in process and upon completion.
  - Precision fits and assembles parts to produce end items of specified finish and tolerances.
  - Uses precision measuring instruments such as computing devices, toolmaker's microscopes, air gage devices, optical flats, and master gage blocks.
  - Makes shop computations relating the dimensional sizes and relationships of parts and working tolerances and clearances.

**24. Aircraft Structures Assembler B**

**Grade: 7**

- Assembles and mates aircraft or guided missile parts, assemblies, and complete structures, where required production information is furnished, sequences are standardized, and assemblies are built with the benefit of tooling which establishes primary locations.
- Performs such typical duties as:
  - Lays out and locates rivet, bolt, and fastener hole patterns, trim lines, and parts by direct measurement from established locations.
  - Works the assembly in proper sequence, loading jig, and doing necessary operations to complete the assembly, either in or after removal from jig.
  - Performs such assembly and installation operations as minor reforming of parts to correct contour, by crimping, trimming, and filing parts to fit; framing, skinning, drilling, reaming, riveting assemblies, and attaching fittings and installations required to obtain a finished structure.
  - Modifies incomplete and complete assemblies to incorporate on or out of station changes to structure and/or installations, when pertinent information is supplied and normal installation practice is not affected.
  - Disassembles and/or reassembles structure and installations where units are returned to their original position, or where their position previously has been established.

*This optional survey job may be used in reporting wage data for workers when establishments assigned Standard Industrial Classification Codes 37, Aircraft and Parts; or 45, Transportation by Air, are represented in the survey sample.*

## **25. Aircraft Structures Assembler A**

**Grade: 9**

- Assembles and mates aircraft or guided missile parts, assemblies, and complete structures, where required information is not readily available, operational sequences change or vary considerably, and tooling is inadequate, or not provided for.
- Performs such typical duties as:
  - Lays out for, locates to all ship reference points, and secures coordination of, assemblies in building initial production, and subsequent production structures, and in incorporating design or modification changes, working to station, water, center, butt, and chord lines, shown on engineering documents.
  - Performs structural pickup and/or rework, such as removing, replacing, or realigning ribs, bulkheads, stringers, or fittings in completed skinned assemblies, or reforming, recontouring, or refitting parts to provide an acceptable assembly.
  - Works structural changes which materially alter previous assembly references and sequences.
  - Performs trimming, reforming, and alteration of parts and structures as required.

*This optional survey job may be used only in reporting wage data for workers when establishments assigned Standard Industrial Classification Codes 37, Aircraft and Parts; or 45, Transportation by Air, are represented in the survey sample.*

## **26. Aircraft Mechanic**

**Grade: 9**

*At a terminal:*

- Makes all repairs possible with available tools and facilities to jet and piston engine powered aircraft short of a major shop overhaul.
- Checks operation of powerplant, propeller, control cables instruments, automatic pilot, hydraulic system, electrical system, radio, and navigation systems to detect and diagnose malfunctions.
- Adjusts or replaces defective parts or entire components.
- Taxis aircraft to make brake check or to move aircraft.

*At a major overhaul shop performs most of the following:*

- Dismantles, repairs, and/or replaces metal and fabric ailerons, trim tabs, elevators, wings, wing tip, and other types of flying or control surfaces.
- Installs and rigs control cables.
- Cuts out damaged sections; shapes, welds, and rivets sheet metal patches.
- Removes, disassembles, repairs, and installs landing gear, powerplant, propeller, cabin pressurizing mechanisms, electrical equipment, and other aircraft accessories.
- Jacks aircraft and performs operational check of landing gear retracting mechanism.

*At an aircraft manufacturing plant:*

- Works on production, prototype, experimental, and modified aircraft, including:
  - (1) the performance of all necessary lay out, fabrication, assembly, and installation, or
  - (2) the complete operational check out and subsequent rework prior to delivery to flight line for field and service operations, or
  - (3) a combination of both.

Under work situation (1) performs *most of the following*:

- Lay out and mockup operations without benefit of complete tooling and engineering data.
- Establishes locations for such items as brackets, supports, cutouts, lines, and cables before final or exact locations have been established.
- Assembles, installs, or reworks structural assemblies which require progressive development, coordination, mating, or installation and where weight, strength, clearances, and relationship of parts and assemblies are critical factors and information is not complete.
- Removes, reworks, and replaces sections of skin to correct overlapping, cam, wrinkles, or tears where work is difficult of access and requires the removal and replacement of other installations or assemblies.

*This optional survey job may be used only in reporting wage data for workers when establishments assigned Standard Industrial Classification Codes 37, Aircraft and Parts; or 45, Transportation by Air, are represented in the survey sample.*

**27. Electrician (Ship)**

**Grade: 10**

- Installs and repairs electrical cable and wiring systems for ship's power, light, communications, and control circuits, following blueprints and wiring diagrams.
- Work involves *most of the following*:
  - Installs conduit to bulkheads with brackets and screws, using hand tools.
  - Threads wires through conduits to terminals, such as connection boxes, circuit breakers, voltage regulators, and switch panels.
  - Connects power-supply circuits to radio, radar, fire control, and other electronic equipment.
  - Tests electrical characteristics, such as voltage, resistance, and phase angles in circuits, using voltmeters, ohmmeters, and phase rotation indicators.
  - Constructs and repairs switchboards for main propulsion, other power, and various communication systems of ship, using hand tools and power drills.

*This optional survey job may be used in reporting wage data only when establishments assigned Standard Industrial Classification Code 373, Shipbuilding and Repairing, are represented in the survey sample.*

**28. Pipefitter (Ship)**

**Grade: 10**

- Lays out, cuts, bends, assembles and installs pipe, fittings, and fixtures to construct or maintain ship's piping systems, such as steam heating, steam power, hot water heating, hydraulic, high-pressure air, or oil line system.
- Work involves *most of the following*:
  - Plans layout of pipe sections, allowing for location of bulkheads, machinery, passageways, holes, and obstructions.
  - Cuts and bores holes in bulkheads and decks for installation of pipes.
  - Bolts or welds pipe brackets to support system.

- Connects pipes to fixtures, such as radiators, laundry and galley equipment, pumps and tanks, using wrench and hand torch to solder joints.
- Operates shop machines to cut and thread pipe and pipe fittings.
- Prepares, packs, and adjusts valves.
- Tests installed system for leaks and to assure that system meets specifications, using hydrostatic and other test equipment.

*This optional survey job may be used in reporting wage data only when establishments assigned Standard Industrial Classification Code 373, Shipbuilding and Repairing, are represented in the survey*

### **29. Shipfitter**

**Grade: 10**

- Lays out, fabricates, and assembles various metal structural parts of a ship such as plates, bulkheads, and frames, and braces them within hull of ship for riveting or welding.
- Work involves *most* of the following:
  - Lays out positions of parts on metal, working from blueprints or templates and using scribe and hand tools.
  - Positions parts in hull of ship, being assisted by a Rigger.
  - Aligns parts in relation to each other, using jacks, turntables, clamps, wedges, and mauls.
  - Marks location of holes to be drilled.
  - Installs temporary fasteners to hold parts in place for welding or riveting.
  - Rolls, bends, flanges, cuts, and shapes plates, beams, and other heavy metal parts, using shop machinery such as plate rolls, presses, bending brakes, and joggle machines.

*This optional survey job may be used in reporting wage data only when establishments assigned Standard Industrial Classification Code 373, Shipbuilding and Repairing, are represented in the survey sample.*

### **30. Shipwright**

**Grade: 10**

- Builds keel blocking, cradles, shoring, cribbing, and other structures to support ships in drydock marine railways or shipways during construction or repair.
- Work involves *most* of the following:
  - Sights, plots, and marks reference points and lines on building dock or way to maintain alignment of vessel, using transit, plumb bob, tapes, and levels.
  - Builds keel and bilge cradles, and shoring to support vessel in drydock or shipway, using power or hand wood-working tools.
  - Positions and secures blocking and other structures in relationship to center line and frame lines, building up heights according to plan of ship so that weight of ship will be evenly supported and distributed.
  - Establishes reference points above water level for aligning ship over blocks.
  - Sight on reference points, informs Riggers who handle vessel on alignment required for vessel to settle properly on keel blocks and other supports.
  - Establishes various reference points and lines during construction or repair, for use by



- other trades in locating hull parts, machinery, and other equipment.
- Performs various heavy and structural carpentry work in repair or construction of ships.
- Prepares ships for launching.

*This optional survey job may be used in reporting wage data only when establishments assigned Standard Industrial Classification Code 373, Shipbuilding and Repairing, are represented in the survey sample.*

### **31. Machinist (Marine)**

**Grade: 10**

- Installs, aligns, and repairs ship machinery such as propelling machinery, auxiliary motors, pumps, ventilating equipment, steering gear, laundry and galley equipment, working from blueprints and using hand tools, calipers, and micrometers.
- Work involves *most* of the following:
  - Lays out passage holes on bulkheads, decks, and other surfaces for connections such as shafting and steam line.
  - Aligns reduction gears, bearings, shafting, propellers, and rudder and steering engine assemblies.
  - Installs, below deck, auxiliaries such as evaporators, stills, heaters, pumps, condensers, and boilers and connects them to steam pipe systems.
  - Disassembles, repairs, and rebuilds machinery, testing, repairing, replacing, and aligning parts as necessary.
  - Performs on-site machining of parts, using portable machine tools such as boring bars, portable milling machines, facing machines, and drills.

*This optional survey job may be used in reporting wage data only when establishments assigned Standard Industrial Classification Code 373, Shipbuilding and Repairing, are represented in the survey sample.*

### **32. Cable Splicer (Electric)**

**Grade: 10**

- Splices overhead and underground conductor cables used in electric power distribution and transmission systems.
- Typical tasks performed include *most* of the following:
  - Cuts lead sheath from installed cable to gain access to cable connections, using hacksaw.
  - Cuts and peels lead sheath from new cables and conductors preparatory to splicing.
  - Trades or phases out each conductor to identify corresponding conductors on adjoining cable section or overhead wires.
  - Cleans, tins, and splices corresponding conductors.
  - Covers conductors with insulating materials.
  - Fits lead sleeve around cable joint and wipes molten lead into joint between sleeve and cable sheath to produce moisture proof joint.
  - Fills completed joint with insulating material such as insulating compound, oil, or gas.
  - May install pothead or the terminal connector.

### **33. Electrical Lineman**

**Grade: 10**

- Installs, maintains, and repairs electric wires, poles, supports, transformers, and other equipment and accessories of electric power for distribution and transmission lines between generating stations, substations, and consumers.
- Typical tasks performed include *most* of the following:
  - Opens required high-voltage switches to deenergize line or equipment to be worked on, tests for the voltage, and clamps grounding device to equipment to insure safety of workers.
  - Climbs poles to service broken or defective wires or equipment.
  - Secures new wires to crossarm insulators and connects wire to adjoining section of line to complete circuit.
  - Transfers wires from existing poles to other poles.
  - Erects new poles and crossarms, directs groundmen in digging holes, settings poles and installing guy wires and other supports, and pulls and sags wires.
  - Installs and maintains transformers, capacitors, insulators, lightning arrestors, switches, circuit breakers, and other accessories used in connection with high-voltage distribution and transmission lines.
  - When necessary, works in, near, or on “hot lines” using appropriate equipment.

*Note:* The term “pole or poles” may be wood or metal structures or towers.

*Exclude data for workers specializing in the installation, maintenance, and repair of low-voltage secondary electrical distribution systems within the consumers’ buildings.*

### **34. Electrician (Powerplant)**

**Grade: 10**

- Repairs and maintains electrical equipment in generating stations or substations.
- Operations require performance of *most* of the following:
  - Tests defective equipment to determine cause of malfunction or failure, using voltmeters, ammeters, and related electrical test apparatus.
  - Notifies proper authority of necessary equipment down-time requiring changes from normal generating and transmission equipment operation to maintain uninterrupted service.
  - Installs, repairs, and replaces equipment such as relays, switches, supervisory controls, and indicating and recording instruments.
  - Installs, tests, and repairs switchboard circuitry interpreting wiring diagrams to trace and connect numerous wires carrying current for independent functions.
  - Cleans and repairs brushes, commutators, windings and bearings of generators, motors, and converters.
  - Tests and maintains equipment such as oil and air circuit breakers, transformers, disconnects, capacitors, insulators, busses, and related power transmission and distribution equipment.

**35. Electronic Industrial Controls Mechanic**      **Grade: 11**

- Installs, maintains, troubleshoots, repairs, and calibrates a variety of highly complex electronic controls and indicating and recording systems on industrial and/or production equipment.
- Typical examples of electronic controls include multiple-axis numerically controlled (NC) machine tools, e.g., machining centers or omni mills; computer-controlled warehouse/material handling equipment; and centralized environmental control systems which use special-purpose, dedicated computers to store operating parameters and initiate adjustments.

*Exclude workers primarily engaged in the repair of electrically controlled equipment that is of moderate or lesser complexity and design, such as electrical controls and switches.*

**36. Electronic Test Equipment Repairer**      **Grade: 11**

- Tests, repairs, modifies, and/or calibrates electronic precision measuring equipment which serves as test equipment or standards.
- Examples of equipment are: signal generators, spectrum analyzers, frequency counters, frequency meters, transfer oscillators, voltmeters, computer testers, and pulse generators.
- Duties include *most* of the following:
  - Through visual examination and testing for defects, diagnoses likely source of trouble.
  - Using schematics or wiring diagrams, determines purpose and characteristics of each major section.
  - Troubleshoots by locating deviations in normal current performance and component causing malfunction.
  - Replaces tubes, capacitors, resistors, coils, transformers, relays, meters, and related parts and components.
  - Calibrates and certifies condition and accuracy of precision measuring equipment which services as test equipment or standards.
  - Balances circuits, increases or reduces resistance, and adjusts controls, potentiometers, and circuit components.

**52. Telephone Installer-Repairer**      **Grade: 9**

- Installs and/or repairs and maintains manual, dial, and touchtone telephone equipment.
- *Typical tasks* performed:
  - Determines work methods, tools, and material required to install or remove manual, dial, and touchtone telephone service.
  - Reads and interprets service orders and circuit diagrams and follows standard procedures.
  - Runs wire between components and to the outside cable system.
  - Installs molding, insulators, connectors, terminal boxes, and other protective and support items.
  - Installs telephone sets, transmitters, receivers, condensers, relays, induction coils, multiple switch keys, ringers, and buzzers.

- Checks the system for proper operation and for such characteristics as volume, clarity, and continuity.
- Replaces, adjusts, cleans, and lubricates system components while making repairs.
- May operate a crew truck to and from work area.
- Uses such test equipment as hand test sets, volt-ohmmeters, ammeters, and tone testers.

*Exclude:*

Employees who are required to install and repair key and private branch automatic exchange equipment, including such features as intercommunications, visual and audio signaling, hold, or other special features.

**53. Central Office Repairer**

**Grade: 11**

- Installs and/or repairs and maintains telephone central office automatic exchange equipment such as xy, all relay, or electronic systems.
- *Typical tasks* performed:
  - Reads and interprets service orders, wiring diagrams, complex schematics and circuit descriptions; installs and/or repairs the mechanical, electrical, and electronic components of the system.
  - Installs or rearranges equipment frames and shelves, and such equipment as line finders, switch banks, selectors, connectors, repeaters, peg counters, restricting post cams, and various trunk circuits.
  - Connects switching equipment, main distribution frame, manual switchboards, test desks, and associated auxiliary systems and power sources.
  - Troubleshoots by observing and listening to equipment operating and by using measuring tools and equipment to check for dirt, wear, adjustment, tension, and overheating of mechanical components and the function of electric or electronic circuits.
  - Repairs equipment by replacing such defective parts as relays, induction coils, and transistors; and by setting clearances, adjusting spring tensions, wipers, relay contacts, and other interrelated mechanisms.
  - Maintains equipment by performing routine performance checks and by lubricating, cleaning, and moving accumulated moisture.

**55. Heavy Mobile Equipment Mechanic**

**Grade: 10**

- Overhauls and repairs combustion-powered heavy duty vehicles and heavy mobile equipment such as bulldozers, road graders, crawler tractors, power shovels, mobile cranes, and fire trucks.
- Repair work includes overhauling or rebuilding and other major repair of systems such as the following: diesel, gasoline, and other types of internal combustion engines; automatic and nonautomatic transmissions; heavy duty drive line systems; and hydraulic utility systems and controls.
- *Typical tasks* performed:
  - Traces and locates defects and causes of mechanical problems, using a wide range of diagnostic and test equipment; determines type and extent of necessary repairs.

- Selects and complies with appropriate repair specifications and procedures.
- Fits and installs to appropriate tolerances such parts as pistons, valves, bearings, gears, and cylinders.
- Makes changes or modifications in accordance with specifications and guidelines.
- Connects, meshes, aligns, and adjusts items and systems to assure proper operation of the complete system or vehicle.
- May make field repairs as necessary.

*Exclude:*

- (1) Employees who specialize in the repair and overhaul of automobiles, semi-trailer truck tractors and other over-the-road trucks, warehouse tractors and forklifts, and vehicles whose major systems are more similar to those of passenger cars and over-the-road trucks.
- (2) Employees who regularly repair locomotives, derricks, or non-mobile cranes such as dock or floating cranes.

**64. Electronic Computer Mechanic**

**Grade: 11**

- Works on digital or precision analog computers of the differential analyzer type.
- Work assignments include the inspection, troubleshooting, repair, and calibration of computer systems and their auxiliary equipment.
- These operations require the performance of *most* of the following:
  - Adjusts, aligns, balances, calibrates, or modifies circuits for better performance; modifies power supplies to increase power accuracy or stability.
  - Troubleshoots portions of the system, or entire systems, to locate malfunctions and corrects by replacing defective components, rebalancing and realigning to achieve specific performance.
  - Inspects and performs preventive maintenance to the computer system and auxiliary equipment.

**65. Television Station Mechanic**

**Grade: 11**

- Accomplishes the full range of maintenance and repair on television equipment associated with closed circuit and/or broadcast television systems.
- Typical items of equipment involved in the operation include television camera systems, multiplexer equipment, projectors, video and audio tape recording devices, kinescope recording machines, synchronizing generators, video and audio monitors, and associated test equipment.
- Duties performed include *most* of the following:
  - Calibrates and aligns camera chains, multiplexer equipment, and slide and film projectors, using standard test procedures, special jigs, oscilloscopes, voltmeters, line indicators, and special alignment tools.
  - Operationally aligns master control room, switching consoles, distribution amplifiers, synchronizing generators, and master monitor.
  - Preoperationally aligns video tape recording equipment using multiburst generator, dual trace oscilloscope, and other specialized test equipment.

- Aligns the kinescope recorder in accordance with standards determined by special tests, including type of film, exposure time, and source of video signal.
- Troubleshoots all equipment of the television station, using established routines and procedures.

*This optional survey job may be used in reporting wage data only when establishments assigned Standard Industrial Code 483, Radar Broadcasting and Television, are represented in the survey sample. (Except for Puerto Rico)*

**130. Heavy Mobile Equipment Operator** **Grade: 10**

- Operates one or more types of heavy equipment such as graders, tractors with bulldozer or angledozer blades, frontend loaders, backhoes, trench diggers, and large industrial tractors with pan or scraper attachments used to excavate, backfill, grade, or level earth to rough specifications on such projects as breaking new ground for trails, roads, canals, and tunnels.
- *Typical tasks* performed:
  - Moves earth on mountains and deep slopes, graded curves and shoulders, rocky or soft ground, and hilly forests; grades surfaces, compacts soils, or rolls to exact specifications.
  - Adjusts attachments for proper positions without stopping the power unit or equipment in order to rough grade to the general contour desired as well as to fine specifications on flat or rolling terrain.

*Exclude:*

- (1) Employees who specialize in the operation of farm tractors, cranes, shovels, dragline buckets, orangepeel buckets, full time snow removal equipment, and aircraft towing.
- (2) Employees who operate equipment to grade to fine specifications on hilly or rough terrain.

**150. Air Conditioning Mechanic** **Grade: 10**

- Maintains large systems that provide for a variety of air conditioning functions such as heating, cooling, humidifying, dehumidifying, cleaning, filtering, and circulating.
- *Typical tasks* performed:
  - Works from shop sketches, blueprints, or wiring diagrams to repair and modify air conditioning systems for structures such as warehouses, ships, hangars, and large office buildings and complexes.
  - Troubleshoots system by means of test procedures and equipment.
  - Locates and repairs faulty components of systems such as electrical wiring and controls, pumps, impellers, compressors, chillers, receivers, and evaporators.
  - Repairs to these components include installing and fitting connecting rods, crank shafts, piston rings, bearings, and bushings; overhauling valves by adjusting or replacing gaskets, springs, floats, diaphragms, valve fittings, seals, and couplings; and aligning motors and flywheel drives.
  - May also maintain large refrigeration systems.

*Exclude:*

- (1) Employees who install or repair only small units such as window air conditioners, vehicle air conditioners and walk-in refrigerators, coolers and freezers.
- (2) Employees who specialize in the operation of air conditioning systems and equipment.
- (3) Employees who install, repair, or modify air conditioning systems where one kind of work [such as electrical or sheet metal] is performed on a regular and recurring basis and represents the highest skill and qualification requirement.
- (4) Employees who specialize only in the repair of large refrigeration systems.

**152. Rigger**

**Grade: 10**

- Selects, installs, and uses cables, ropes, chains, and other weight handling gear used to lift, move, and position heavy loads.
- Assembles, repairs, and installs standing and running rigging used to support, secure, or operate equipment, machinery, and other items.
- *Typical tasks* performed:
  - Plans, lays out, assembles, repairs, and installs complex weight handling gear and various standing and running rigging.
  - Uses such equipment as chain falls, gin poles, tackle blocks, gallows frames, or combinations of these to rig for moving objects through confined areas.
  - Cuts, splices, assembles, repairs, and installs a variety of complex standing and running rigging used to support, secure, or operate items such as elevators, mechanized stagings, antennas, and boat davits.
  - Uses complex multi-point suspension techniques to permit maneuvering over, under, and around obstacles by tilting, dipping, and turning the suspended load.

*Exclude:*

Employees who operate mobile equipment such as cranes, gantries, or similar equipment in addition to rigging.

**156. Trailer Truck Driver**

**Grade: 8**

- Operates gasoline or diesel powered truck or truck tractor equipped with two or more driving wheels and with four or more forward speed transmissions which may include two or more gear ranges.
- These vehicles are coupled to a trailer or semi-trailer by use of a turntable (fifth wheel) or pintle (pivot) hook.
- Drives over public roads to transport materials, merchandise, or equipment.
- Performs such difficult driving tasks as backing truck to loading platform, turning narrow corners, negotiating narrow passageways, and keeping truck and trailer under control particularly on wet or icy highways.
- May assist in loading and unloading truck.
- May also handle manifest, bills of lading, expense accounts, and other papers pertinent to the shipment.

*Exclude:*

- (1) Employees who do long distance hauling involving overnight trips or hauls of more than one day's duration. These drivers are usually paid mileage rates.
- (2) Employees who only drive trucks to and from service area, or who only spot trailers at assigned dock space for loading and unloading.

**166. Tool Crib Attendant**

**Grade: 6**

- Works in a tool and parts room, receiving, storing, issuing, signing out, and checking in various tools, equipment, shop supplies, and repair parts.
- *Typical tasks* performed:
  - Receives and verifies items against receiving documents, tags and stores or bins items according to prearranged location.
  - Issues items to users, selecting the proper tool or part by matching names, models, or part numbers with similar specific information at stock location; also issues items that are requested by trade or shop terms or from a description of their intended use, recommending possible substitutes and interchangeable items.
  - Recommends for stock items that are in short supply for various reasons and for items not previously stocked but which have been requested by employees.
  - Sets up and shifts storage locations in consideration of such factors as available space, turnover, and convenience of handling.
  - Assists in inventory by counting items in bins and other locations and by helping to determine basis for over, short, or misplaced items.
  - Determines when tools and equipment should be routed to appropriate shop for test, repair, or calibration.

*Exclude:*

- (1) Employees specializing in receiving, sorting, and issuing various bin and bulk supplies, materials and equipment within warehouses, open storage areas, air freight terminals, and similar operations.
- (2) Employees specializing in packing, crating, or preservation of various items of supply.

**169. Painter (Finish)**

**Grade: 9**

- Uses brush, roller, and/or spray to apply coating materials such as paint, varnish, lacquer, shellac, epoxy resin, and teflon on wood, metal, glass, synthetic, masonry, and other surfaces where a protective and decorative finish is required.
- *Typical tasks* performed:
  - Determines methods, techniques, devices, and materials that are best suited to the surface finish required.
  - Uses tools and equipment of the trade to build up, shape, and level surfaces with metal and synthetic resins, plastics, and patching compounds.
  - Prepares coating materials by tinting, toning, matching, blending, and mixing in various additives such as catalysts, drying agents, and retardants.
  - Applies coating materials so surfaces are free from skips, runs, and drips.



- Assures that the coating finish meets match, texture, decorative, thickness, and level requirements.
- May also perform glazing work.

*Exclude:*

- (1) Employees who specialize in refinishing the dials of instruments and gauges.
- (2) Employees who perform repetitive painting on a production-line.

**171. Light Vehicle Operator**

**Grade: 5**

- Drives a vehicle with a manufacturer's rated capacity of 0.9 metric ton (one ton) or less within a plant, an establishment, or within a city or over public roads to transport materials, merchandise, or equipment.
- May transport passengers.
- May also load and unload vehicle.
- Operates such vehicles as: pickup trucks, automobiles, jeeps, ambulances, panel-trucks, carry-alls, and station wagons.

**173. Boiler Plant Operator**

**Grade: 10**

- Starts, operates, adjusts, stops, and maintains power boilers either manually or through electronic controls/computer consoles.
- Boilers are fired by one or a combination of fuels including coal, oil, refuse derived fuel, or wood.
- For steam, boilers are operated at pressures exceeding 15 pounds per square inch (psi) (103,431.4 pascals).
- For water or other liquids, boilers are operated at pressures exceeding 160 psi (1,103,161.6 pascals) at temperatures exceeding 250 degrees Fahrenheit (121.1 Celsius).
- These boilers generate steam that supplies heat or power for buildings or industrial processes.
- *Typical tasks performed:*
  - Maintains combustion levels and ensures compliance with pollution laws.
  - Uses electronic, hydraulic, and pneumatic controls along with zone charts, meters, and gauges to determine proper operations and to make required adjustments in maintaining maximum combustion efficiency with changing load demands or variations in fuel quality.
  - Adjusts fuel feeds and draft volume and velocity as needed. Monitors gauges and readings to detect danger signals in operations.
  - Operates, adjusts, and maintains auxiliary pollution control equipment such as electrical or steam driven pumps, forced and induced draft fans, air compressors, deaerating equipment, etc.
  - Tests feedwater, boiler water, and condensate and controls chemical concentrations, removes impurities and entrapped gases, or stabilizes fluctuating water conditions in boilers.
  - Cleans, lubricates, and makes minor repairs on boiler plant equipment.

*Exclude:*

- (1) Employees who operate two or more utility systems such as heating, air conditioning, sewage treatment, or water distribution where the heating operation is not the primary responsibility.
- (2) Employees who function as “operator in charge” during a shift operation.
- (3) Employees who perform major repairs on boiler plant equipment.
- (4) Employees whose primary duties are to control the generation or distribution of electrical power.

*Note:* The capacity of boilers may be expressed in various terms. The following reference charts are provided to assist the data collector in making the proper grade level determination.

**REFERENCE CHART IN METRIC UNITS**

*Fire tube boiler Chand-fired:*

WG-9	WG-10	
Kilograms of steam per second	1.7640 to 12.5997	12.5998 and over
Boiler kilowatts	3,983 to 28,430	28,440 and over
Kilojoules	14,800,000 to 105,500,000	106,000,000 and over
Square meters of heating surface	377.19 to 2692.2	2,692.3 and over

*Fire tube boiler Cmechanically-fired:*

WG-9	WG-10	
Kilograms of steam per second	1.7640 to 12.5997	12.5998 and over
Boiler kilowatts	2,660 to 18,950	18,960 and over
Kilojoules	14,800,000 to 105,500,000	106,000,000 and over
Square meters of heating surface	251.8 to 1796	1,796 and over

*Water tube boiler Cmechanically-fired:*

WG-9	WG-10	
Kilograms of steam per second	1.7640 to 12.5997	12.5998 and over
Boiler kilowatts	1,991 to 14,200	14,200 and over
Kilojoules	14,800,000 to 105,500,000	106,000,000 and over
Square meters of heating surface	188.59 to 1,347	1,347.1 and over

**REFERENCE CHART IN NON-METRIC UNITS**

*Fire tube boiler Chand-fired:*

WG-9	WG-10	
Pounds of steam per hour	14,000 to 99,999	100,000 and over
Boiler horsepower (BHP)	406 to 2,898	2,899 and over
British thermal units (BTU)	14,000,000 to 99,999,999	100,000,000 and over
Square feet of heating surface	4,060 to 28,979	28,980 and over

*Fire tube boiler Cmechanically-fired:*

WG-9	WG-10	
Pounds of steam per hour	14,000 to 99,999	100,000 and over
Boiler horsepower (BHP)	271 to 1,932	1,933 and over
British thermal units (BTU)	14,000,000 to 99,999,999	100,000,000 and over
Square feet of heating surface	2,710 to 19,329	19,330 and over

*Water tube boiler Cmechanically-fired:*

WG-9	WG-10	
Pounds of steam per hour	14,000 to 99,999	100,000 and over
Boiler horsepower (BHP)	203 to 1,449	1,450 and over
British thermal units (BTU)	14,000,000 to 99,999,999	100,000,000 and over
Square feet of heating surface	2,030 to 14,499	14,500 and over

**176. Meat Cutter****Grade: 8**

- Cuts, trims, and removes bones from meat (usually whole, quarters, or sides); prepares fish and poultry.
- *Typical tasks performed:*
  - Cuts whole, side, or quarter beef, lamb, pork, and veal carcasses into large primal cuts such as hind shank, round rump, loin, flank, rib, chuck, and fore shank.
  - Processes large basic cuts into greater number of desirable pieces or such ready-to-cook portions as round steaks, cube steaks, blade chuck roasts, arm chuck roasts, rib roasts, short ribs, chops, stewing beef, lamb and veal roasts.
  - Also prepares poultry and fish.
  - Determines proper cutting angles to yield the greatest number of desirable cuts with minimum of waste.
  - Uses hand and power tools of the trade such as handsaws, knives, cleavers, meat hooks, electric saws, slicers, grinders, and tenderizers.

**178. Equipment Mechanic****Grade: 10**

- Installs, repairs, maintains, tests, and adjusts fixed and semi-fixed industrial equipment and machinery such as cranes, pumps, engines, motors, pneumatic tools, conveyor systems, and production machinery.
- *Typical tasks performed:*
  - Plans and lays out work from blueprints, diagrams, operational manuals, manufacturer's specifications, work orders, and other specifications.
  - Checks equipment while in operation to locate trouble.
  - Disassembles equipment, using hoists, cranes, hand tools, and power tools.
  - Determines nature of repair, examines parts to detect imperfections; uses rules, calipers, micrometers, and other measuring instruments to determine changes in dimensional requirements.
  - Makes repairs by replacing, reworking, or refinishing worn or damaged parts.
  - Adjusts functional parts of equipment and control instruments using handtools, levels, plumb bobs, and straightedges.
  - Installs special functional and structure parts in equipment.
  - Reassembles equipment and test performance.

**Exclude:**

- (1) Employees who specialize in the repair and maintenance of automotive equipment.
- (2) Employees who specialize in the repair and maintenance of construction equipment.
- (3) Employees who only set up and operate lathes, drill presses, grinders, and other metal working tools.

**184. Boom Crane Operator****Grade: 9**

- Operates boom cranes with standard boom lengths and angles for loads well within the lifting capacity of the cranes.

- The cranes may be equipped with attachments such as a hook, clamshell bucket, orangepeel bucket, magnet, piledriver, demolition hammer, or dragline bucket.
- *Typical tasks* performed:
  - Loads and unloads crates, lumber, or equipment at worksites or outdoor storage areas; loads and unloads sand, coal, gravel, or other loose material at loading docks; segregates and moves scrap metal into trucks, bins, or railroad cars within a salvage yard; or digs trenches in a sanitary fill area.
  - Allowances must be made by the operator for changes in the lifting capacity of the cranes caused by variations in the angle of the boom, length of the boom position, of the revolving frame, or slope of the terrain.

*Note:* Boom cranes have boom and varying maximum lifting capacities depending on the length, angle, and position of the boom.

### ***185. Boom Crane Operator (Precision)***

***Grade: 11***

- Operates boom cranes at various locations where maneuverability is restricted and accuracy is critical.
- The cranes may be equipped with attachments such as a hook, clamshell bucket, orangepeel bucket, magnet, piledriver, demolition hammer, or dragline bucket.
- *Typical tasks* performed:
  - Loads and unloads equipment and supplies on board ships where masts, antennas, or other obstructions are in the way; precision sets objects such as guns into mounts, sonar equipment on the ships, or wings on the aircraft; digs and moves earth or rock close to buildings, walls, or underground obstructions; or destroys obsolete brick and stone structures near high voltage power lines or other structures.
  - Operates cranes at all boom lengths, angles, and positions.
  - Operates cranes at or near lifting capacity within congested areas.
  - May participate in dual lifts.

*Note:* Boom cranes have boom and varying maximum lifting capacities depending on the length, angle, and position of the boom.

### ***186. Tool and Parts Attendant***

***Grade: 4***

- Works in a tool and parts room, receiving, storing, and issuing tools and parts.
- *Typical tasks* performed:
  - Receives items by checking numbers and names on labels of incoming items and matching this information with receiving documents.
  - Tags and stores or bins items according to a prearranged location.
  - Issues items, selecting the proper tool or part by matching names, models, or part numbers with similar specific information at stock location.
  - Posts from issue and turn in forms to stock records such entries as issue and turn in dates, item names, and stock or part numbers.
  - Counts items in bins and other locations during inventory of stock on hand and gives the

information to supervisory or supply personnel.

- May make such repairs as replacing wood handles on handsaws, changing blades on power saws, and greasing and oiling hand or power tools.

*Exclude:*

- (1) Employees who are required to operate power equipment to repair or alter tools or parts.
- (2) Employees who are required to recommend substitute parts.

### **187. Painter (Rough)**

**Grade: 7**

- Uses brush, roller, and/or spray to apply coating materials such as paint, varnish, and enamel to exteriors or interiors of buildings, vessels, equipment, machinery, and other surfaces where a *protective covering rather than a decorative finish* is required.
- *Typical tasks* performed:
  - Thins, stirs, and mixes coating materials and determines surface preparation and coating procedures.
  - Uses tools and equipment to prepare surfaces for painting such as scrapers, sandpaper, wire brushes, and putty knives.
  - Applies coating materials, using such accepted techniques as cutting in, dip, and overflow so that surfaces are free from skips, runs, and dips.

*Exclude:*

- (1) Employees who perform such techniques as rubbing out, marbling, mottling, and graining.
- (2) Employees who prepare coating materials by matching, tinting, toning, blending, and mixing in such additives as catalysts, drying agents, and retardants.
- (3) Employees who perform repetitive painting on a production-line.

### **189. Maintenance Mechanic**

**Grade: 10**

- Performs work at the journeyman level in *two or more of the skilled trades outlined below* to maintain and repair buildings, grounds, and exterior structures.
- Installs and maintains machinery, fixtures, and utilities.
- *Typical tasks* performed:
  - Plans and lays out work from blueprints, drawings, other written specifications, and/or oral instructions.
  - Selects materials, equipment, and tools to be used.
  - Uses hand and/or portable power tools.
  - Sets up and operates the full range of shop equipment and machines of each trade, working to close tolerances, and uses appropriate standard and specialized measuring and testing instruments.

*Electrical Work:*

- Maintains electrical lines, circuits, systems, and associated fixtures, controls, and equipment.

*Pipefitting:*

- Modifies and repairs new and existing high-pressure piping systems and equipment such as steamheating, steam generation and hydraulic systems, steam generators, flash and expansion tanks, and condensate, vacuum, and circulating pumps.

*Utility Systems Repairing:*

- Maintains and repairs one or more utility systems such as heating and/or air conditioning equipment and boiler plant equipment.

*Sheet Metal Work:*

- Forms, joins, assembles, and installs items and systems such as heating, air-conditioning and ventilating pipes, conduits, and other items and systems which have combined straight and curved edges or irregular curves and planes.

*Machining:*

- Repairs and rebuilds items from raw stock of different metals, metal alloys, and other materials, such as stainless steel alloys, aluminum, titanium, magnesium, rubber, plastics, and nylon, through the use of conventional or computer numerically controlled (CNC) machine tools.

*Welding:*

- Welds all types of commonly used metals and alloys of various sizes, shapes, and thicknesses, including dissimilar metals such as copper to steel.

*Industrial Equipment Repair:*

- Maintains various types of non-production industrial plant machinery equipment and systems.

*Production Machinery Repair:*

- Maintains numerous types of fixed and semi-fixed production machinery such as standard and numerically controlled (NC) machine tools and equipment such as that used for metal forming, pipe, forge, and foundry work; machining, welding and burning; and woodworking operations.

*Notes:*

- (1) This survey job description represents a consolidation of survey job descriptions for electrical work, pipefitting, utility systems repairing, sheet metal work, machining, welding, industrial equipment repair, and production machinery repair. The intent is to provide a survey job description for use in matching jobs only in a company whose normal maintenance operations and policy require the performance of journeyman level duties *in two or more trades*. For a full description of individual trade duties, including exclusion statements, refer to the survey job descriptions for covered trades.
- (2) A job match is to be based on work in combinations of the identified trades above, and can also involve lower level journeyman work, such as carpentry, painting, roofing, and plumbing, as long as it is performed less than the majority of the time.
- (3) A combination that includes electrician work is a non-match when the job involves specialized communication or electronics work.

**190. Laundry Worker**

**Grade: 1**

- Performs simple and repetitive laundry work with bulk laundry items such as sheets, towels,

pillow cases, and uniforms.

- Typical tasks performed include *one or more* of the following:
  - Sorts bulk laundry items by type of garment or linen.
  - Feeds laundry items into automatic folding machines, spreaders, or flatwork ironers.
  - Sorts and folds rough dry laundry according to set procedures.
  - Shakes out tangled items for flatwork ironing or hand feeding into spreader.
  - Stacks linen onto carts from linen folding machines.
  - Operates handkerchief press.

*Exclude:*

- (1) Employees who mark or sort bundles of personal laundry items.
- (2) Employees who operate laundry washers, extractors, tumblers, and steam press machines.
- (3) Employees who collect and transport soiled linen to the laundry or distribute clean linen to hospital wards.

### **191. Food Service Worker**

**Grade: 2**

Performs *one or more* of the following tasks:

*In Serving Area:*

- Sets up food counter, steam tables, dining room tables, and side service stands with hot and cold foods.
- Serves food cafeteria or family style.

*In Tray Assembly Area:*

- Serves food and beverage items on tray assembly lines, following written menus, simple code systems, or other specific instructions.
- Moves serving tray trucks from assembly area to eating area.

*In Food Preparation Area:*

- Makes coffee in large urns.
- Makes a variety of fruit and vegetable salads.
- Puts standard portions of food and beverages in small dishes or glasses.
- Prepares sandwiches which require no cooking.

*In Dishwashing Area:*

- Operates the dishwasher, setting water temperature and level and adding proper amount of detergent.
- Cleans the dishwasher unit inside and out.
- Scours and scrubs large pots and pans.

*Note:* In addition to the above duties, may also be required to clean and set tables, sweep and mop floors, load and unload dishwasher, stack and store dishes, or move food supplies by hand or hand truck.

*Exclude:*

- (1) Employees who are required to cook food or to prepare food from recipes.
- (2) Employees who are required to apply a knowledge of common modified diets in preparing and serving food or setting up diet trays. For example, employees required to serve proper foods when only the type of diet is indicated, to check the accuracy of diet trays assembled



by other workers, or to spot obvious dietary errors in food selections when patients order from checklist menus.

**192. Cook**

**Grade: 8**

- Performs a full range of quantity cooking.
- *Typical tasks* performed include:
  - Prepares a full variety of meats, poultry, seafood, vegetables, stews, sauces, and gravies using proper seasoning, correct cooking methods, and recipe adjustments for number of servings.
  - Prepares menu items (usually four or more) for one meal, planning and coordinating a variety of steps to assure all items are ready for serving at the same time without overcooking or waste.
  - Prepares items using special or difficult recipes involving many steps, many ingredients, or long preparation time, such as spaghetti sauce, barbecue sauce, and sweet and sour pork.
  - In accomplishing own cooking work, may be assisted by kitchen help or lower-level cooks, and may provide work guidance to such co-workers.

*Exclude:*

- (1) Employees who primarily perform short-order cooking.
- (2) Employees who exercise the full range of supervisory functions over other cooks or kitchen help or who regularly function as leaders.
- (3) Employees who work under close supervision while learning the typical complex cooking tasks described above.