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DICTIONARY OF OCCUPATIONAL TITLES (4th Ed., Rev. 1991) -- OCCUPATIONAL GROUP ARRANGEMENT

Note: The DOT was created by the Employment and Training Administration, and was last updated in 1991. It has been replaced by the [O*NET](#).

[TITLE PAGE](#)
[HOW TO READ PARTS OF AN OCCUPATIONAL TITLE](#)**7 BENCHWORK OCCUPATIONS**
726.685-058 to 737.367-010

This category includes occupations concerned with the use of body members, handtools, and bench machines to fit, grind, carve, mold, paint, sew, assemble, inspect, repair, and similarly work relatively small objects and materials, such as jewelry, phonographs, light bulbs, musical instruments, tires, footwear, pottery, and garments. The work is usually performed at a set position in a mill, plant, or shop, at a bench, worktable, or conveyor. At the more complex levels, workers frequently read blueprints, follow patterns, use a variety of handtools, and assume responsibility for meeting standards. Workers at the less complex levels are required to follow standardized procedures.

726.685-058 WAFER MOUNTER (electron. comp.)

Tends press that mounts semiconductor wafers in templates for polishing: Cleans templates, using cleaning solution and brush or towel, or tends machine that automatically cleans templates. Places cushion in template depressions and places wafers on cushion, or places wafers on waxed template. Positions templates in press and activates press that presses wafers into templates. May tend machine that automatically removes polished wafers from templates. May tend machine that laps templates to restore flatness. May tend press that attaches template to carriers before mounting wafers.

GOE: 06.04.09 STRENGTH: M GED: R2 M1 L2 SVP: 2 DLU: 86

726.685-062 PROGRAMMING EQUIPMENT OPERATOR (electron. comp.) alternate titles: die equipment operator; prom burn-off operator

Tends equipment that automatically transfers programmed information onto integrated circuits (ICs) on \$T3dies\$T1 or IC packages, such as PROMs (programmable read only memory): Reads work order that accompanies ICs for processing to determine programming specifications. Secures master PROM or die in equipment. Keys in codes, using computer keyboard and presses buttons to activate equipment that reproduces master program in programmer. Observes digital displays on equipment to ensure that master program is not defective and to determine when reproduction of program is completed in programmer. Positions blank PROMs and pushes lever to lock PROMs in sockets of programmer; or positions blank dies on platform of die probe equipment, views dies through microscope, and turns knobs on equipment to position specified areas of dies under probes prior to programming. Presses switches to activate programmer that reproduces program on blank PROMs or dies. Observes defect indicator lights to detect defective PROMs or dies and to determine completion of programming. Maintains production records. May load defective PROMs into equipment that exposes PROMs to ultraviolet light for timed intervals to erase programmed information in order to reuse PROMs.

GOE: 06.04.19 STRENGTH: S GED: R3 M2 L3 SVP: 3 DLU: 86

726.685-066 BONDER, SEMICONDUCTOR (electron. comp.)

Tends automatic bonding machine that bonds gold or aluminum wire to integrated circuit dies to connect circuitry to package leads: Reviews schematic diagram or work order to determine bonding specifications. Turns dials to set bonding machine temperature controls and to regulate wire feeding mechanism. Mounts spool of wire onto holder and inserts wire end through guides, using tweezers. Positions semiconductor package into magazine of automatic feed mechanism, and observes package, using microscope or equipment display screen, to ensure connections to be bonded are aligned with bonding wire. Adjusts alignment as necessary. Activates machine that automatically bonds wire to specified connections on semiconductor package leads. Removes packages from bonding machine and places packages in work tray. May test tensile strength of bonded connections, using testing equipment. May locate connections and bond wire to connect circuitry of hybrid circuits, using precision-bonding machine.

GOE: 06.04.09 STRENGTH: S GED: R2 M1 L2 SVP: 2 DLU: 86

726.686-010 WAVE-SOLDER OFFBEARER (electron. comp.)

Removes printed circuit boards (PCB's) from discharge conveyor of automatic wave-soldering machine following completion of soldering process: Places empty carrier on workbench at discharge end of wave-soldering machine conveyor. Removes pallets containing wave-soldered PCB's from conveyor and places pallets in carrier. Examines boards to detect defects, such as missing solder, spots, or warped boards. Submits defective boards to supervisor for approval or correction of defects. Stacks acceptable boards on carrier or in tub for final assembly. May assist others in setting up and operating equipment for wave-soldering process. May assist in cleaning equipment, using scraper and airhose. May complete production report for supervisory use.

GOE: 06.04.40 STRENGTH: M GED: R2 M1 L2 SVP: 2 DLU: 86

726.687-010 ELECTRONICS WORKER (electron. comp.)

Performs any combination of following tasks to clean, trim, or prepare components or parts for assembly by other workers: Receives verbal or written instructions from supervisor regarding work assignment. Cleans and deglosses parts, using cleaning devices, solutions, and abrasives. Trims flash from molded or cast parts, using cutting tool or file. Applies primers, plastics, adhesives, and other coatings to designated surfaces, using applicators, such as spray guns, brushes, or rollers. Fills shells, caps, cases, and other cavities with plastic encapsulating fluid or dips parts in fluid to protect, coat, and seal parts. Prepares wires for assembly by measuring, cutting, stripping, twisting, tinning, and attaching contacts, lugs, and other terminal devices, using handtools, and power tools and equipment. Positions and fastens together parts, such as laminates, electron tube mounts and cages, variable capacitor rotors and stators, paper loudspeaker cones, faceplates, and shells and cases for various electronic components, using handtools and power tools. Prints identifying information on components and parts, using silk screen, transfer press, or electro-etch printing devices, or ink pad and stamp. Moves parts and finished components to designated areas of plant, such as assembly, shipping and receiving, or storage. Loads and unloads parts from ovens, baskets, pallets, and racks. Disassembles and reclaims parts, using heating equipment and handtools.

GOE: 06.04.34 STRENGTH: L GED: R2 M1 L2 SVP: 2 DLU: 88

726.687-014 PLUG WIRER (elec. equip.)

Attaches insulated wire to terminals of electric plugs, using handpress: Positions wire in slot of plug shell and places brass terminal prongs in clamp of press. Moves lever that causes press to force exposed ends of wire into contact with prongs and secures contacts firmly in plug.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 3 DLU: 77

726.687-022 ENCAPSULATOR (elec. equip.; electron. comp.)

Performs any combination of following tasks to encapsulate electrical and electronic parts, components, and assemblies with epoxy, plastic, and other protective coating material: Weighs and mixes encapsulating material, following prescribed formula. Positions module or transformer case under outlet of encapsulating fluid tank and moves controls to force preset amount of fluid from tank into module or transformer case. Places components on racks or hooks, dips racks or hooks containing components into encapsulating fluid, and places dipped components on drying frame or into oven to harden coating. Fills capacitor shells or semiconductor caps with encapsulating fluid or applies encapsulating fluid to specified surfaces on component, using manually- or electrically-powered syringe or other applicator. Molds protective casing around component, using compression molding machine. Places component into mold and pours encapsulating fluid into mold to surround component. Heats component in oven or curing device prior to or after encapsulating to remove moisture or cure encapsulating material. Inspects encapsulation for defects, such as chips and pinholes. Stamps color code or trademark on encapsulated components. Bonds flexible printed circuit boards to rigid boards, using bonding solution and potting equipment. May weigh and mix materials, following formula, and be designated Compound Mixer (elec. equip.; electron. comp.). May be designated Bonder (electron. comp.); Dipper (elec. equip.; electron. comp.); Filler (elec. equip.; electron. comp.); Potter (electron. comp.).

GOE: 06.04.24 STRENGTH: L GED: R2 M1 L2 SVP: 2 DLU: 87

726.687-026 LAMINATION ASSEMBLER, PRINTED CIRCUIT BOARDS (electron. comp.)

Assembles layers of laminating materials and printed circuit board (PCB) panels to prepare for multilayer PCB laminating process: Assembles and aligns inner and outer layers of PCB panels and laminating materials over guide pins in holding fixture to prepare multilayer PCB panels for laminating process, following established procedures. Examines inner layers of panels during assembly for defects, such as chips, dust, or dents. May tend laminating machine that bonds assembled panels to form multilayer PCB panels [LAMINATOR, PRINTED CIRCUIT BOARDS (electron. comp.) 692.685-282]. May heat materials in oven to remove moisture prior to laminating process.

GOE: 06.04.34 STRENGTH: M GED: R2 M2 L2 SVP: 2 DLU: 88

726.687-030 LOADER, SEMICONDUCTOR DIES (electron. comp.)

Loads \$T3dies,\$T1 using vacuum wand, into carriers that hold and protect dies during fabrication of semiconductor packages: Pours dies from container onto filter paper. Picks up and places dies circuit-side up in indentations in carrier, using vacuum wand. Secures lid on carrier, using manual pressure. May clean dies prior to loading, using solutions and cleaning equipment. May sort semiconductor devices to remove defective devices marked in inspection department.

GOE: 06.04.40 STRENGTH: S GED: R2 M1 L2 SVP: 2 DLU: 86

726.687-034 MASKER (electron. comp.)

Applies liquefied soldering mask to designated terminal areas of printed circuit boards (PCB's) to prevent molten solder from collecting on circuitry during wave soldering process, using squeeze bottle of soldering mask, and following premasked sample. Removes excess mask from PCB's, using towel. Places masked PCB's in storage racks for movement to next work station.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L2 SVP: 2 DLU: 88

726.687-038 PREASSEMBLER, PRINTED CIRCUIT BOARD (electron. comp.)

Attaches preassembled components, such as terminal pins, connectors, and labels, to printed circuit boards (PCB's) and stamps identification codes on boards preparatory to further assembly: Examines PCB's for illegible issue numbers and removes and restamps numbers, using eraser and handstamp. Reads work specifications to determine type of labels, components, and locations on PCB's to attach items. Cuts component pins (wires) to specified length, using wire cutters, inserts pins in specified holes on PCB's, and secures pins to PCB's, using holding block and hammer or pneumatically powered stamping device. Affixes labels and tape to boards and stamps identification codes on boards.

GOE: 06.04.34 STRENGTH: L GED: R2 M1 L2 SVP: 2 DLU: 86

726.687-042 SEALER, SEMICONDUCTOR PACKAGES (electron. comp.)

Positions and seals solder-coated lids or tops on semiconductor packages, using heated chuck or automatic furnace: Places lids on semiconductor packages, using tweezers. Places semiconductor packages on heated chuck in nitrogen box or places container of semiconductor packages on furnace conveyor to heat and seal semiconductor packages. Maintains production records.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 86

726.687-046 WAFER BREAKER, SEMICONDUCTORS (electron. comp.)

Breaks semiconductor wafers into individual \$T3dies,\$T1 using equipment and handtools: Places semiconductor wafer on pad, using tweezers. Taps wafer, using pencil tip, awl, or tweezers to break wafer into quarters. Places semiconductor wafer quarter on plastic square. Presses semiconductor wafer, using roller or air pressure

equipment, to break wafer quarter into individual dies. Places individual dies in containers, using vacuum wand or brush. May break wafers, using chemical solutions and breaking equipment.

GOE: 06.04.34 STRENGTH: S GED: R2 M1 L2 SVP: 2 DLU: 86

727 OCCUPATIONS IN ASSEMBLY OF STORAGE BATTERIES

This group includes occupations concerned with assembling grids, plates, separators, and connectors to form wet- and dry-cell batteries, and filling with electrolyte.

727.130-010 SUPERVISOR, BURNING, FORMING, AND ASSEMBLY (elec. equip.)

Supervises and coordinates activities of workers engaged in assembly and repair of storage batteries: Coordinates activities pertaining to grouping and fusing plates into elements and elements into complete batteries, processing (forming and drying) plates preparatory to final assembly, charging finished batteries, and repairing defective batteries. Adjusts machines or equipment, such as automatic plate stackers and burners, dry-charge processing machine, and sealing machines. Inspects in-process or finished units, such as elements, batteries, and containers to determine conformance to specifications. Observes meters, thermometers, hydrometers, temperature controls, and operation of machines and equipment to detect malfunction. Performs other duties as described under SUPERVISOR (any industry) Master Title. May be designated according to process supervised as Supervisor, Battery Assembly (elec. equip.); Supervisor, Lead Burning (elec. equip.); Supervisor, Plate Forming (elec. equip.).

GOE: 06.02.01 STRENGTH: L GED: R4 M3 L3 SVP: 7 DLU: 77

727.137-010 SUPERVISOR, DRY-CELL ASSEMBLY (elec. equip.)

Supervises and coordinates activities of workers engaged in producing and assembling components of primary (dry) cells to make batteries: Coordinates activities, such as extruding cores, inserting cores and carbon rods in cans, welding wires (pins) to cans, capping and sealing cells, soldering pins to rods of other cells to make battery, inserting cells in tubes or sleeves, and testing, repairing, and packaging batteries. Inspects subassemblies and finished units for conformance to specifications. May assist machine operators with setup or adjustment of machines for change in size of cans or to correct malfunction. Performs other duties as described under SUPERVISOR (any industry) Master Title.

GOE: 06.02.01 STRENGTH: L GED: R4 M3 L3 SVP: 7 DLU: 77

727.381-010 BATTERY RECHARGER (elec. equip.)

Tests and treats rejected storage batteries and mixes acid solutions: Determines specific gravity of electrolyte in rejected batteries and adjusts solution to specified concentration and height in cells [ACID FILLER (elec. equip.)]. Tests batteries for specific defects [BATTERY TESTER (elec. equip.); FINAL INSPECTOR (elec. equip.)]. Fills batteries with fresh electrolyte, charges battery and tests battery for performance, using voltmeters and ammeters. Segregates batteries that fail performance test. Turns valves to fill vats with specified quantity of acid and water for use in forming and charging processes. Activates agitator to diffuse liquids, and tests solutions for specified concentration, using hydrometer.

GOE: 06.02.32 STRENGTH: M GED: R3 M2 L2 SVP: 5 DLU: 77

727.381-014 BATTERY REPAIRER (any industry) alternate titles: battery tester; storage-battery charger

Repairs and recharges electric-storage batteries: Melts sealing compound on cover, using gas torch. Loosens compound from sides of case, using putty knife. Removes and disassembles cells and inspects parts to detect defects. Replaces defective parts, fuses lead parts, using oxyacetylene torch, reassembles battery, and pours hot seal (tar compound) over cover. Fills cells with acid solution and determines specific gravity of solution, using hydrometer and thermometer. Adds acid or water to obtain specified concentration. Attaches leads from charger to battery posts and starts charger. Reads meters and adjusts rheostat to control flow of current through battery. May repair battery-charging equipment.

GOE: 05.10.03 STRENGTH: M GED: R3 M2 L2 SVP: 6 DLU: 77

727.381-018 DRY-CELL TESTER (elec. equip.)

Tests dry cells and dry-cell batteries to determine length of life, capacity, shelf-life, effects of temperature on battery output, and other characteristics, using direct current voltmeters, ammeters, and programmed test equipment: Mounts cells or batteries on test racks and connects terminals to testing equipment. Discharges cells or batteries through fixed resistances at specified time intervals. Reads meters and records voltages during discharge intervals. Tests cells and batteries for open-circuit voltage and electrical output at specified intervals for prescribed periods to measure shelf-life. May test new compounds as directed.

GOE: 06.03.01 STRENGTH: L GED: R4 M3 L3 SVP: 6 DLU: 77

727.381-022 STORAGE BATTERY INSPECTOR AND TESTER (elec. equip.) alternate titles: battery analyst; quality auditor; test technician

Inspects and tests storage batteries in process of manufacture or before shipment to verify conformity with mechanical, chemical, and electrical specifications, using specified and standardized tests, procedures, and equipment and applying knowledge of battery performance, specifications, manufacture, and construction: Disassembles batteries following specified procedures. Examines battery for defects and measures battery to determine if specifications are met, using such instruments as gauges and scales. Tests specific gravity of battery acid, using hydrometer and thermometer. Places battery in water tank or refrigerator to control temperature and test electrical capacity of battery. Attaches leads to meters and equipment to charge or discharge battery as specified to determine amperage delivered at given rate. Records inspection and test results, compares results with specifications, and writes reports used in correcting manufacturing defects or developing new products. May test and disassemble returned batteries to determine cause of failure.

GOE: 06.01.05 STRENGTH: L GED: R4 M2 L4 SVP: 7 DLU: 77

727.384-010 BATTERY TESTER (elec. equip.) alternate titles: electrical tester, battery

Tests storage batteries, using electric testing instruments: Sets dials on testing instruments according to battery voltage. Places positive and negative wired plugs on posts and intercell-connector terminals of corresponding polarity and observes indicator on instrument that measures resistance capacity in terms of pass or reject. Tests rejected batteries to determine specific defects, using voltmeter. Computes comparative figures and test data to determine deficiencies and attaches slip to battery indicating type of defect. May test battery assemblies on conveyor line. May test batteries used in field equipment and be designated Battery Tester, Field (elec. equip.).

GOE: 06.03.01 STRENGTH: L GED: R3 M3 L2 SVP: 3 DLU: 77

727.484-010 ACID ADJUSTER (elec. equip.) alternate titles: balancer

Adjusts (balances) specific gravity of electrolyte (acid solution) in battery cells or in plate-forming tanks to concentration specified: Ascertains temperature and specific gravity of solutions, using thermometer and hydrometer. Turns valves or lever to drain acid or water into cells or tanks to adjust specific gravity of solutions. Connects batteries to charging line and charges batteries for specified time.

GOE: 06.04.34 STRENGTH: L GED: R2 M2 L2 SVP: 2 DLU: 77

727.587-010 BATTERY CHARGER (elec. equip.)

Charges storage batteries: Groups batteries on tables according to type and specified rate and length of charge. Attaches positive lead wire (jumper) from current source to positive post and negative lead wire to negative post of group. Starts charge and reads ammeter and adjusts rheostat to obtain specified charging rate. Records data indicating location, type, and number of batteries on circuit and rate and length of charge specified. Marks ends of tables with chalk indicating when batteries are to be disconnected and removed. May ascertain specific gravity of acid in batteries during charge, using hydrometer and thermometer and notify ACID ADJUSTER (elec. equip.) to correct variation. May record instrument readings during charging cycle and regulate current.

GOE: 06.04.34 STRENGTH: L GED: R2 M2 L1 SVP: 3 DLU: 77

727.662-010 LEAD BURNER, MACHINE (elec. equip.) alternate titles: group burner, machine

Sets up and operates rotary lead-burning machine to fuse straps to grouped plates to form storage battery elements: Adjusts machine fixtures and torch, according to size of grouped plates, using handtools. Observes pressure gauge, ignites torch, turns gas and air valves to set flame of specified size and color, and starts machine. Visually inspects fused elements for lead runs, and defective plates and separators. Places specified number of elements in battery box in prescribed position, using shims when necessary. Directs workers engaged in machine stacking of plates (grouping), loading groups into machine, and fitting straps to lugs prior to fusing. Inspects materials prior to grouping for specified size and type. Directs or performs adjustment of feeding mechanisms and electric counter on stacking machine, using handtools. May operate two-station lead-burning machines.

GOE: 06.02.19 STRENGTH: M GED: R3 M2 L2 SVP: 5 DLU: 77

727.664-010 BATTERY ASSEMBLER, DRY CELL (elec. equip.)

Performs any combination of following duties to assemble batteries for commercial use in products, such as photographic equipment, flashlights, and pagers: Fills electrolyte or mercury dispensing devices to specified levels. Pours partial battery assembly parts into respective conveyor line bowl feeders, places spools of metal strips and paper on holding brackets, or positions battery subassemblies in conveyor holding attachments. Observes automatic equipment that cuts blotter and cathode inserts, places inserts in subassembly, joins top and bottom subassembly of batteries, dispenses specified amounts of electrolyte or mercury, and spot welds metal strip to each battery; or tamps pellets into bottom sections of battery subassembly. Positions inserts, such as poly ring and anode ring, in subassembly before or after designated steps of assembly process. Notifies supervisor or setup personnel, or signals coworkers, to stop conveyor when malfunctions occur. Gathers batteries with metal strips attached, and places specified number of batteries in concave work aid that facilitates positioning metal strips over side of batteries in stack prior to spot welding. Positions each battery of stack under spot welder and depresses pedal to spot weld strips to successive batteries to join stacks of batteries. Spot welds battery top to joined batteries. Inserts battery stacks into battery sleeves with crimped tops, positions battery sleeves in crimping machine, and presses button to crimp bottom of sleeves to secure stacks in sleeves. Positions batteries in test equipment to determine whether batteries meet standard for acceptability. Tends equipment that automatically cuts out blotter and cathode battery inserts and places inserts in partial battery assemblies. Packs batteries meeting company standards for shipment.

GOE: 06.04.23 STRENGTH: M GED: R3 M2 L2 SVP: 4 DLU: 88

727.684-010 BATTERY ASSEMBLER (elec. equip.)

Assembles cells and other components in container (battery case) to make complete storage battery: Inserts cells into container according to prescribed polarity arrangement. Installs covers on cells [CELL COVERER (elec. equip.) 727.687-042] and fits intercell connectors on posts. Burns (fuses) connectors to post. Pours compound over cells to fill cracks and seal battery in case [SEALER (elec. equip.) 727.684-030]. May invert special-type cover onto jig, position cells in cover, ladle molten lead into cover to form posts and connectors and fuse parts to cells, pour plastic seal into grooves, and press container into cover to assemble battery.

GOE: 06.02.23 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

727.684-014 BATTERY ASSEMBLER, PLASTIC (elec. equip.)

Performs any combination of following tasks to prepare and assemble components of plastic-cased batteries: Places state-of-charge indicator in case in prescribed channel position and attaches glass mat to rear surface of ball channel, using adhesive. Applies liquid-level lines to case according to drawing, using marking devices. Inserts bushings in post openings in cover to provide leak-proof junction between post and cover. Places filler-plugs and washers in cover and attaches baffle plate to cell vent to reduce acid spray during charging. Inserts (interleaves) separators of specified size between plates of elements and applies liner to exposed edges and outside plates to insulate surfaces and serve as reservoir for electrolyte. Fits baffle plate onto top of element and between connecting straps to protect tops of separators and reduce acid spray during charging. Inserts cells in single or multicell containers according to specified polarity arrangement. Tests each cell electrically by determining resistance of cell to flow of applied current of specified voltage, using meter. Lubricates inner surface of bushings in cover. Applies cement to top edge of container and positions cover. Places clamps on cover to apply pressure until cement sets. Removes clamps. Fuses wire or cast terminals to posts, using torch. Inspects battery for defects. Applies air pressure to battery submerged in water to detect leaks. Dates, codes, and labels case, using marking and labeling devices. Inspects finished batteries for appearance and packages and seals batteries in cartons.

GOE: 06.04.23 STRENGTH: L GED: R2 M2 L2 SVP: 2 DLU: 77

727.684-018 CELL REPAIRER (elec. equip.) alternate titles: battery tester and repairer

Repairs multiple-cell dry batteries: Inspects batteries for defects, such as dented cans, damaged carbon rods and terminals, and defective sealing. Repairs or replaces defective parts, using handtools. Tests cells and batteries for capacity, using voltmeter. Cuts wires to remove faulty cells, using hand shears. Connects replacement cell to batteries, using soldering iron.

GOE: 06.04.34 STRENGTH: L GED: R2 M2 L2 SVP: 3 DLU: 77

727.684-022 LEAD BURNER (elec. equip.)

Burns (fuses) together lead and lead-alloy connections and builds up storage-battery parts, using oxyacetylene torch and lead bar: Ignites torch, observes color of flame, and turns handwheel or valve to regulate flow of gas and air to obtain flame of specified temperature. Moves flame over contact points of parts to puddle (melt) metal and fuse parts, melting lead bar and adding metal when required. Seals fusion points of parts, such as straps and lugs, posts and links, intercell connecting bar, and sleeves; wires or strips connecting plates and lead forming tanks; and bars connecting dry-charge elements. Guides torch and bar to add metal and build up parts, such as battery posts, to prescribed level, using template to ensure specified height. Fills cavities or corrects malformation in lead parts. May install and remove post builders or burning dams used to position molten lead. May install assembled units and posts in mold, heat mold with torch, and brush liquid soap on mold to prevent

sticking.

GOE: 06.04.31 STRENGTH: L GED: R2 M1 L2 SVP: 3 DLU: 77

727.684-026 PLATE ASSEMBLER, SMALL BATTERY (elec. equip.) alternate titles: bench assembler, battery

Assembles plates in series for small batteries: Positions plates vertically between teeth of rack and pushes rack under electrode of welding machine. Places terminal assembly (a short wire welded to screw terminal) on plate edge. Depresses pedal to lower electrode and weld terminal wire to plate, repeating operation until all plates are fitted with terminals. Interleaves positive and negative plates in assembly rack and fuses wire across tops of grouped plates. Cuts wire to separate positive and negative units from series of plates, using knife. Aligns units in jig so grouped plates are parallel.

GOE: 06.02.23 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 77

727.684-030 SEALER (elec. equip.) alternate titles: flamer-sealer

Seals storage battery cells in containers (battery box) to form airtight and watertight battery: Loads thermostatically controlled kettle (preheater) with chunks of compound. Ignites burners and adjusts temperature controls to heat and melt compound. Opens valve to drain compound into pot and empties compound into tank (sealing machine). Holds hose attached to tank and presses lever to control flow of compound over cells. Starts conveyor to move batteries through flamer (fixed and preset gas torches) or manipulates gas torch to melt and level off compound to produce seal. Scrapes excess compound from container, using putty knife and cloth. May clip posts, using handtool. May stamp numbers on battery, using marking dies. May install covers on cells [CELL COVERER (elec. equip.) 727.687-042]. May melt compound in hand-manipulated container and pour compound over cells. May use heated dipper equipped with trigger mechanism to deposit sealing compound over cells.

GOE: 06.04.34 STRENGTH: L GED: R2 M1 L2 SVP: 3 DLU: 77

727.685-010 PLATE SLITTER-AND-INSPECTOR (elec. equip.)

Tends machine that slits panels of storage-battery plates to specified widths, and inspects slit plates for defects in casting or pasting, such as cracked frames (grids), broken lugs, holes, and incomplete or uneven pasting: Adjusts slot in feeding mechanism (plate transfer) to thickness of plate, positions saw used to trim lugs on plate to specified length, and positions cutting rollers according to widths specified for plates. Starts conveyor and slitter. Examines plates and segregates defective plates. Cleans edges of lugs, using handtools and stacks plates on truck. Records date, type of plate, and inspector's name on ticket and attaches ticket to load.

GOE: 06.04.24 STRENGTH: L GED: R2 M2 L2 SVP: 2 DLU: 77

727.687-010 ACID DUMPER (elec. equip.) alternate titles: acid changer; forming acid dumper

Starts conveyors and pushes incoming storage batteries onto conveyor leading to machine which inverts batteries over receiving tank to drain used forming acid or manually unloads batteries from forming trucks, inverts batteries, and places batteries on rack to drain. Places drained batteries on conveyor leading to refilling station or on truck. May strip connectors and dummy vents from battery before draining, replace them after draining, and refill battery with acid, using vacuum filling machine [ACID FILLER (elec. equip.)]. May ascertain specific gravity of acid in battery, using thermometer and hydrometer and add acid or water to obtain specified concentration.

GOE: 06.04.40 STRENGTH: M GED: R2 M1 L1 SVP: 2 DLU: 77

727.687-014 ACID FILLER (elec. equip.)

Fills storage battery cells with sulfuric acid solutions of specified concentration preparatory to forming and charging: Arranges batteries in groups on tables or trucks according to specified acid concentration. Holds spouts of hoses on gravity flow or siphon-type fillers over battery vents. Adjusts valves manually or pushes pedal to control flow of acid to cells. Fits rubber gaskets on multiple filler head of vacuum filling machine to set level of fill. Positions filler head on battery vents and adjusts controls to start vacuum action and fill cells. May mix acid and water and adjust solution to prescribed specific gravity. May bring acid in insufficiently filled batteries to specified level and be designated Acid Leveler (elec. equip.).

GOE: 06.04.36 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

727.687-018 ALUMINUM-CONTAINER TESTER (elec. equip.) alternate titles: battery-container tester, aluminum

Tests efficiency of enamel insulation of finished aluminum battery containers, using electrical testing apparatus and chemical solutions: Places lid on metal fixture wired to instrument panel to test coating on lid. Dips instrument terminal in chemical solution and rubs terminal over surface of lid, observing sparks that indicate insufficient insulation. Outlines areas that emit sparks with crayon to guide workers in applying additional enamel coating. Fills container with chemical solution to test interior insulation. Dips tip of rubber-covered rod, connected to ohmmeter, in solution and observes instrument dial to determine if insulation is effective within specified tolerance. Marks acceptance symbol on satisfactory containers. Moves testing rod around interior of container until panel light indicates defect in container. Pours solution out of container to level of defective area (light goes out when level of solution is below defect). Moves tip of wired bar over surface of container until sparks occur indicating location of defect. Marks and segregates defective containers.

GOE: 06.03.02 STRENGTH: L GED: R2 M2 L2 SVP: 3 DLU: 77

727.687-022 ASSEMBLER, DRY CELL AND BATTERY (elec. equip.)

Performs any combination of following tasks to assemble dry cells and dry batteries: Removes cans (cell containers) from cartons and racks cans in trays. Drops washer into bottom of cans. Pulls lever to drain measured amount of liquid paste into can. Places paper liner (spider) over open end of can. Drops core into can, forcing spider to line can and wrap core. Observes conveyor-fed electrical-test-and-reject mechanism that contacts and tests finished cells and removes defective cells from conveyor. Inserts cells in partitioned containers to make battery. Positions perforated metal plate (cover) on carbon rods of cells in battery to straighten and center rods. Places battery on conveyor leading to next station, where worker removes and returns cover. Bends wires on cells preparatory to soldering of wires to cells in adjacent row. Drains or pours hot asphalt into battery-container, using dispensing device or ladle. Places battery in container and presses it into asphalt. Places finished batteries in cartons. May be designated according to task performed as Core Dropper (elec. equip.); Wire Bender (elec. equip.).

GOE: 06.04.23 STRENGTH: L GED: R1 M1 L1 SVP: 2 DLU: 77

727.687-026 BATTERY CHARGER, CONVEYOR LINE (elec. equip.)

Performs any combination of following tasks to charge storage batteries: Sets acid-filled batteries apart from batteries requiring acid and routes batteries requiring acid to designated areas. Places charging plugs (filler-vent caps) loosely over cells of acid-filled batteries to prevent escape of battery acid during charging process. Clears jams on conveyors leading to and from acid-dumping machine. Reads charging record cards and chalk marks on charging tables to determine batteries ready to be removed. Disconnects charged batteries from electric circuit and slides batteries from table onto conveyor. May carry boxes of plugs to designated areas. May be

known as Charging-Plug Placer (elec. equip.).
GOE: 06.04.34 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

727.687-030 BATTERY STACKER (elec. equip.) alternate titles: battery loader

Loads batteries from conveyor or handtruck to two-level (double decker) trucks, according to specified polarity arrangement, preparatory to further processing, such as forming or charging. Clamps or pushes connectors or links onto posts. May perform other tasks, such as wiping excess sealing compound from battery, clipping posts, using handtool, inspecting batteries for defective covers or posts, and rejecting defective batteries.
GOE: 06.04.40 STRENGTH: M GED: R1 M1 L1 SVP: 2 DLU: 77

727.687-034 BATTERY-CONTAINER-FINISHING HAND (elec. equip.) alternate titles: container finisher

Sprays, dips, or liquid-treats battery containers and terminal boxes and loads containers and boxes into drying ovens: Rubs surfaces of products, using sandpaper to smooth surfaces preparatory to painting. Arranges items on drying racks after painting and pushes racks into oven, or hooks parts on conveyor which carries parts through drying tunnel. Turns temperature dials as specified according to products being dried. May insert rubber liners through acid vents in containers and glue liners in place. May move materials between processing stations. May position bolts in slots of jig preparatory to spray painting. May glue labels on containers. May file paint from rims of containers.
GOE: 06.04.33 STRENGTH: L GED: R1 M1 L1 SVP: 2 DLU: 77

727.687-038 BATTERY-PARTS ASSEMBLER (elec. equip.) alternate titles: cell assembly, booker; cell assembly, pinner

Performs any combination of following tasks to complete assembly of storage batteries, according to specification: Threads positive and negative battery plates onto separate connecting bolts, inserts washers between each plate to assemble grouped plates, and attaches nuts to ends of bolts of grouped plates to secure plates, using hydraulic hand wrench. Joins grouped plates and positions joined plates in battery base, or inserts element (cell) in single-cell container or inserts number of cells in multiple-cell containers, according to specified order of polarity. Wraps insulating material around cell or inserts wooden shims in container to secure tight fit. Inserts plastic separating rods (or pins) on plates, following notched guides on each plate. Positions batteries or cell containers in jig and attaches, inserts, or positions battery parts, such as gaskets, washers, battery posts, and battery lids, according to color-coded assembly procedures. Applies glue to edge of lids and positions batteries in vises for specified time to seal batteries. Adds compound to fill cavities to secure tight seal and improve appearance, using hand torch. Tests sealed units for air leaks, using air pressure testing device. Attaches terminal cables, using handtools. Removes excess metal around posts, using handtools. Dips posts in soda solution or brushes paint or molten wax on posts and connectors to prevent acid corrosion. May be designated according to part assembled as Battery-Vent-Plug Inserter (elec. equip.); Element Setter (elec. equip.); Separator Inserter (elec. equip.).
GOE: 06.04.23 STRENGTH: L GED: R2 M1 L2 SVP: 3 DLU: 88

727.687-042 CELL COVERER (elec. equip.)

Fits covers on storage battery cells preparatory to sealing: Burns soda and acid deposits from battery posts, using gas torch. Lubricates bushings. Fits and presses cover of specified size onto cell. May place gasket over threaded posts and screw down locknuts, using wrench. May tap down covers over posts, using mallet. May clip posts, using handtools.
GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

727.687-046 CELL TUBER, HAND (elec. equip.)

Inserts finished dry cells in paper tubes and attaches cover to complete assembly of dry cell batteries: Places cell in tube and positions cover over cell. Positions tubed cell in hand-crimping press and pulls lever to crimp top of tube over cover. Inspects cell to detect faulty crimping and places cell in tray.
GOE: 06.04.23 STRENGTH: L GED: R1 M1 L1 SVP: 2 DLU: 77

727.687-050 ELECTRIC-CONTAINER TESTER (elec. equip.) alternate titles: dielectric-testing-machine operator

Tests aircraft storage battery containers for defects, using dielectric testing device: Places storage battery container on table and connects cables from testing device to battery. Starts device that transmits high voltage electric current through battery. Observes dial on testing device that indicates if container has any defects, such as cracks or holes. Stops device, disconnects cables, and places tested battery aside for further processing. Marks defective battery, using chalk.
GOE: 06.03.02 STRENGTH: L GED: R2 M2 L2 SVP: 3 DLU: 77

727.687-054 FINAL INSPECTOR (elec. equip.) alternate titles: polarity tester

Tests polarity connections on finished storage batteries and inspects final assembly for defects: Positions metal prongs of testing unit over terminals of intercell connecting straps and observes bulb on testing unit that lights when cell arrangement is correct. Examines assembly for defects, such as omission of symbols on battery posts, uneven sealing, and cracked covers.
GOE: 06.03.02 STRENGTH: L GED: R2 M2 L2 SVP: 2 DLU: 77

727.687-058 FORMING-PROCESS-LINE WORKER (elec. equip.)

Performs any combination of following tasks pertaining to forming (treating) storage battery plates: Positions plates or elements in forming tank. Breaks forming lugs from formed plates and pulls lead wires from lugs, using pliers. Collects wires and lugs for salvage. Cleans lugs on positive plates, using brush. Washes formed plates to remove forming acid in running water bath. Stacks washed plates on drying machine. Stacks batteries in specified polarity arrangement on forming trucks. Attaches connectors preparatory to forming. Slides positive and negative plates into slots of partitions that prevent buckling during forming process. Ascertain voltage of batteries, using voltmeter, and adjusts rheostat to regulate current. Reads meter to detect deviations in discharge rate from prescribed range. Removes connectors from posts and plates from forming tanks. Dumps forming acid from batteries. Refills treated batteries with finishing acid. Pumps used forming acid to reclaiming tanks and cleans reclaiming tanks, using brushes, scrapers, and water hose. May be designated according to task performed as Battery Plate Remover (elec. equip.); Lug-Breaker-And-Wire-Puller (elec. equip.); Plate-Put-In Worker (elec. equip.); Plate Washer (elec. equip.); Tank Cleaner (elec. equip.).
GOE: 06.04.24 STRENGTH: M GED: R2 M1 L1 SVP: 2 DLU: 77

727.687-062 INSPECTOR (elec. equip.)

Inspects finished or in-process dry cell or storage batteries for defects, such as dents, scratches, short electrodes, or missing parts: Examines batteries to detect defects and places defective batteries in box. May test batteries, using voltmeters and ammeters. May replace damaged parts.

GOE: 06.03.02 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

727.687-066 INSPECTOR, CONTAINER FINISHING (elec. equip.) alternate titles: battery-container inspector

Inspects battery containers to determine if finishing and dimensional specifications are met: Examines battery containers for surface defects, such as cracks and damaged terminal posts. Verifies dimensional specifications of battery containers, using templates or other measuring devices. Places covers over cell partitions of battery containers to determine if spacing requirements are met.

GOE: 06.03.02 STRENGTH: L GED: R2 M2 L2 SVP: 2 DLU: 77

727.687-070 LEAD-BURNER HELPER (elec. equip.)

Assists LEAD BURNER (elec. equip.) in preparing storage battery parts for fusing (lead burning): Positions specified number of positive and negative plates in burning rack to ready equipment for fusing lugs to connecting straps. Places intercell connectors on assembled batteries. Places post builders (templates) over posts to aid LEAD BURNER (elec. equip.) in adding lead to build up posts to specified levels. Removes post builders from posts after burning, using tongs. Places positive and negative post builders in separate containers. Selects burning racks according to size of plates grouped. May stamp polarity symbols on posts, using hand marking dies. May haul plates from storage to burning area, using handtruck. Performs other duties as described under HELPER (any industry) Master Title. May be known according to task performed as Intercell-Connector Placer (elec. equip.); Post-Form Remover (elec. equip.); Rack Loader (elec. equip.).

GOE: 06.04.23 STRENGTH: M GED: R2 M1 L2 SVP: 2 DLU: 77

727.687-074 MOLDED-PARTS INSPECTOR (elec. equip.) alternate titles: molded-grid-and-parts inspector

Inspects molded storage battery parts, such as grids, straps, vent plugs, washers, and gaskets for conformance to specifications: Examines parts for defects, such as cracks, airholes, or other surface defects. Measures parts to determine dimensional accuracy, using gauges, such as micrometers and vernier scales. Rejects faulty parts and prepares inspection reports.

GOE: 06.03.02 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 77

727.687-078 SPARK TESTER (elec. equip.)

Tests encased storage batteries for air-tightness, using electric spark tester: Places frame of tester over battery container and presses plug terminal of testing apparatus to posts of battery. Moves frame of tester over surface of container to detect leaks indicated by bright sparks emitted at contact points. Examines assemblies for defects, such as uneven sealing, misplaced intercell connectors, and covers. Attaches slip to rejected batteries indicating type of defect. May stamp polarity symbols on posts, using hammer and dies.

GOE: 06.03.02 STRENGTH: L GED: R2 M2 L2 SVP: 2 DLU: 77

727.687-082 WAFER-LINE WORKER (elec. equip.) alternate titles: wafer-cell-battery assembler

Performs any combination of following tasks to assemble wafer-type dry cell batteries: Removes stack of cells from machine and inspects and counts cells. Positions stack in handpress and pulls lever to compress stack to form battery. Wraps battery in rubberized wrapping and places wrapped battery on hot iron to seal. Marks positive terminal, using pencil, and places battery in tray. Tests capacity of battery, using voltmeter. Closes and seals ends on hot iron. Touches ends of cell to device to coat ends with hot asphalt. Manually presses carbon end plates on asphalt. Presses copper lead to end plate, using hot iron. Applies strip of tape around battery to hold lead in position. Stamps code on battery, using hand stamp. Rubs cover with emery paper to remove wax from terminal covers and applies silver wax to terminals, using hot iron. Inserts battery, pads, and bottom in can. Crimps can over bottom, using hand-crimping press.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

728 OCCUPATIONS IN FABRICATION OF ELECTRICAL WIRE AND CABLE

This group includes occupations concerned with fabricating insulated, shielded (armored), or waxed electrical conductors made from purchased wire.

728.684-010 WIRE HARNESS ASSEMBLER (elec. equip.; electron. comp.; office machines) alternate titles: cable maker; harness maker; wirer

Routes and ties wires to form wire harness (cable) used in electrical and electronic equipment or systems: Reads instructions, such as work orders, diagrams, and wire lists to determine materials needed and sequence of assembly. Selects wires of specified color, marking, or length, and loops wires between guide pegs on harness board, following color-coded lines or sequential numbers on board or diagram. Wraps and ties wires together at designated points to form harness, manually or using tie-wrap gun. May apply sealing liquid to secure knots in ties, using brush. May attach ends of wires to components, plugs, or terminal strip, using soldering iron or crimping device. May insert cable in plastic tubing or inject plastic sealant around terminals to protect cable from dust and moisture. May test wiring continuity, using continuity tester. May mark identifying data on completed harness.

GOE: 06.02.32 STRENGTH: L GED: R2 M1 L1 SVP: 3 DLU: 88

728.684-014 ELECTRICAL-LINE SPLICER (petrol. & gas) alternate titles: cable splicer

Splices conductor cables used to lower electrical testing or surveying instruments into oil or gas wells or boreholes, using handtools: Unwraps armor strands (protective covering) from end of cable. Strips insulation from stranded conductor cable, using stripping pliers. Cuts ends of conductor cable, using pliers. Clamps cable ends together in vise to form butt joint. Solders joint, using silver solder and iron. Wraps joint with insulating tape to form smooth insulation of same diameter as original cable. Wraps armor strands over joint. Trims ends of armor strands, using cutters, to form smooth butt joints and solders joints, using silver solder and iron. May test conductor cables, using equipment, such as voltmeters and capacity and resistance bridges.

GOE: 05.10.03 STRENGTH: M GED: R3 M2 L2 SVP: 5 DLU: 77

728.684-018 SPARK TESTER (elec. equip.; nonfer. metal) alternate titles: sparker and patcher

Tests electric wire and cable to locate defects in insulation, using spark tester, and repairs insulation, using portable vulcanizer: Threads wire through spark tester and onto takeup spool. Locates defect indicated by dark spot on insulation. Removes defective insulation with knife and wraps uncured rubber tape around cable to form patch. Clamps electric curing block around patch and turns switch on for specified period. Smooths cured patch, using power grinder. May braze wire lengths together to

form continuous cable, using gas torch.

GOE: 06.03.02 STRENGTH: L GED: R2 M2 L2 SVP: 4 DLU: 77

728.684-022 WIREWORKER (elec. equip.; electron. comp.) alternate titles: wire-preparation worker

Performs any combination of following tasks involved in cutting, stripping, taping, forming, and soldering wires or wire leads of components used in electrical and electronic units, such as communication equipment, ignition systems, electrical appliances, test equipment, or other electrical or electronic systems: Cuts wire to specified lengths, using wire cutters and ruler or measuring jig. Strips insulation from wire ends, using stripping tool. Twists wire ends and dips ends into pot of solder to prevent fraying. Solders wires to specified connectors and terminals, using soldering iron, or crimps connectors and terminals to wire ends, using handtools. Wraps numbered or colored identification tape around wires. Rolls wires of identical number or color together and attaches tag to roll. Inserts wires into plastic insulation tubing. Bends, cuts, and crimps component leads to prepare component for mounting onto printed circuit board or other assembly, using handtools. Inserts wires in automatic numbering or color-coding machine to imprint part numbers or color codes. Dips wire or component leads into paraffin solution to insulate wire and leads. Applies protective coatings onto wires, using brush. Tests wire and cable assemblies and repairs defective assemblies. May use automated equipment or bench-mounted devices to cut, strip, bend, or crimp wire. May be designated by type of wire worked as Component Lead Former (electron. comp.).

GOE: 06.04.34 STRENGTH: L GED: R2 M1 L2 SVP: 2 DLU: 86

728.685-010 WIRE PREPARATION MACHINE TENDER (any industry)

Tends machines that automatically cut, strip, and mark identifying stripes or other information on wire used in electrical installations or assemblies: Places reel of specified wire onto play-out spindle of machine and threads wire through feed rolls. Adjusts machine controls to regulate factors, such as wire thickness, pressure, heat, and cutting and stripping length. Starts machine and observes operation to detect machine malfunction. Places boxes under ejection roll or manually removes and bundles or boxes cut, stripped, and marked wire. Examines wire for conformance to specifications and removes defective pieces. Observes automatic counter or counts finished pieces, and records data on tags or boxes. May install drive adjustment and tension or adjustment rolls in machine. May install ram and dies that bend finished pieces of wire to specified angles. May replace dull or broken cutting or stripping blades. May tend machine that automatically bends wire to specified angle. May tend machine that crimps and attaches connectors and terminals to wire ends. May tend numerical control wire preparation machine and be designated Numerical-Control-Wire-Preparation-Machine Tender (aircraft mfg.).

GOE: 06.04.09 STRENGTH: L GED: R2 M1 L2 SVP: 2 DLU: 88

729 OCCUPATIONS IN ASSEMBLY AND REPAIR OF ELECTRICAL EQUIPMENT, N.E.C.

This group includes occupations, not elsewhere classified, concerned with assembling, fabricating, or repairing electrical and electronic equipment.

729.130-010 SUPERVISOR, ELECTRICAL ASSEMBLY (elec. equip.)

Supervises and coordinates activities of workers engaged in assembly, inspecting, and testing of electrical equipment such as motors, generators, voltage regulators, capacitors, and switches, applying knowledge of assembly techniques, machine setup, and testing procedures: Interprets blueprints, specifications, and job orders and assigns work stations to workers. Demonstrates machine setup and operation, and procedures of assembly, wiring, and soldering techniques, using handtools and soldering equipment. Performs other duties as described under SUPERVISOR (any industry) Master Title.

GOE: 06.01.01 STRENGTH: L GED: R4 M3 L3 SVP: 6 DLU: 77

729.131-010 INSPECTOR, CHIEF (elec. equip.)

Supervises and coordinates activities of workers engaged in inspecting and grading quality of graphite electrodes during each step in manufacturing process: Maintains production records, such as grade and quality of electrodes manufactured and types of defects detected in electrodes during inspection. Determines inspection procedures according to plant production schedules and type and size of inspection instruments to be used. Examines defective electrodes for possible salvage. Performs other duties as described under SUPERVISOR (any industry) Master Title.

GOE: 06.01.01 STRENGTH: L GED: R4 M3 L3 SVP: 6 DLU: 77

729.131-014 RELAY-SHOP SUPERVISOR (utilities) alternate titles: chief, relay tester; lead-relay tester

Supervises and coordinates activities of RELAY TESTERS (utilities) engaged in testing, adjusting, and repairing relays, meters, capacitors, and other parts of electric power-distributing equipment: Schedules periodic tests of all operating equipment. Directs workers in installation of equipment. Prepares diagrams and drawings of new installations. Performs other duties as described under SUPERVISOR (any industry) Master Title.

GOE: 05.05.10 STRENGTH: L GED: R4 M3 L3 SVP: 7 DLU: 77

729.281-010 AUDIO-VIDEO REPAIRER (any industry) alternate titles: audiovisual-aids technician

Installs and repairs audio-video equipment, such as tape recorders, public address systems, slide and motion picture projectors, and record players, using handtools, soldering iron, and special testing equipment. Inspects equipment for defects and repairs or replaces parts. Returns equipment to shop for more complicated repairs.

GOE: 05.05.10 STRENGTH: L GED: R4 M3 L3 SVP: 6 DLU: 77

729.281-014 ELECTRIC-METER REPAIRER (utilities) alternate titles: meter repairer

Inspects, adjusts, and repairs electric meters used for recording electric current consumption: Disassembles defective meters, using handtools. Examines parts of meter for wear and detects warped or bent parts, using straightedge. Soaks electric parts in chemical solutions to clean parts. Removes dirt from other parts, using brushes, sandpaper, and soap and water. Reassembles meter, using new or repaired parts. Turns setscrews or makes other adjustments required to bring meter accuracy within prescribed limits. May test meters for accuracy [ELECTRIC-METER TESTER (utilities)] or for correctness of assembly and dielectric strength, using testing apparatus. May repair demand register mechanism of demand meters. May repair such electric components as instrument transformers and relays. May install meters.

GOE: 05.05.10 STRENGTH: L GED: R4 M2 L3 SVP: 7 DLU: 77

729.281-018 ELECTRIC-METER-REPAIRER APPRENTICE (utilities) alternate titles: meter-repairer apprentice

Performs duties as described under APPRENTICE (any industry) Master Title.

GOE: 05.05.10 STRENGTH: L GED: R4 M2 L3 SVP: 7 DLU: 77

729.281-022 ELECTRIC-TOOL REPAIRER (any industry) alternate titles: power-tool repairer

Repairs electrical handtools and bench tools, such as drills, saws, grinders, and sanders, using lathe, circuit testers, handtools, and power tools: Tests motors, switches, and wiring for grounds, shorts, and loose connections, using electrical circuit testers. Turns motor commutators, using bench lathe. Repairs or replaces defective electrical parts, using handtools, power tools, and soldering and welding equipment. Inspects parts, such as mechanical gears, bearings, and bushings, for wear and damage, and repairs or replaces parts.

GOE: 05.10.03 STRENGTH: L GED: R4 M3 L3 SVP: 6 DLU: 77

729.281-026 ELECTRICAL-INSTRUMENT REPAIRER (any industry) alternate titles: instrument maker; instrument repairer

Repairs, calibrates, and tests instruments, such as voltmeters, ammeters, resistance bridges, galvanometers, temperature bridges, and temperature controlling and recording gauges and instruments, using jewelers' tools, electricians' tools, handtools, and measuring instruments: Tests instruments for resistance, voltage, and other characteristics, using potentiometer, voltage divider, and other testing devices. Disassembles instruments, using handtools, and examines parts for defects. Measures, cuts, and fits glass for meters and instruments, using glass cutter. Repairs or replaces defective parts of instruments, using handtools, soldering equipment, grinders, calipers, micrometers, and dividers. Reassembles instruments, following circuit diagrams and using jewelers' tools. Tests new and repaired instruments, using test board. May operate lathe and drill press to make replacement parts. May plan, construct, and assemble test panels for experimental and production testing. May keep records on repair and calibration of instruments. May rebuild induction cores for electric furnaces. May install, repair, and adjust electronically controlled dynamometers and be known as Dynamometer Repairer (elec. equip.).

GOE: 05.05.10 STRENGTH: L GED: R4 M3 L3 SVP: 6 DLU: 77

729.281-030 ELECTROMEDICAL-EQUIPMENT REPAIRER (any industry) alternate titles: electromedical service engineer

Tests and repairs electromedical equipment, such as electrocardiographs, electroencephalographs, sterilizers, operating room lamps and tables, and diathermy machines, following schematic diagrams and using handtools and test meters: Tests electrical circuits and components to locate shorts, faulty connections, and defective parts, using test meters. Solders loose connections and replaces defective parts, such as tubes, transformers, resistors, condensers, and switches, using handtools and soldering iron. Disassembles equipment and repairs or replaces faulty mechanical parts, such as control lever mechanisms and water impellers. Adjusts and repairs stylus, graph, and other recording mechanisms. May replace x-ray tubes. May be designated according to type of machine or equipment repaired as Diathermy-Equipment Repairer (any industry): Electrocardiograph Repairer (any industry).

GOE: 05.05.11 STRENGTH: M GED: R4 M3 L3 SVP: 6 DLU: 77

729.281-034 INSIDE-METER TESTER (utilities) alternate titles: electric-meter tester, shop; inside tester

Tests electric meters to detect cause of malfunctions and inaccuracy, and repairs meters: Connects meter to test panel mounting standard meter and determines recording accuracy [ELECTRIC-METER TESTER (utilities)]. Changes connections to test panel and observes whether parts, such as coils and magnet, function according to standard. Adjusts test panel controls and observes dials to determine if meter's electrical readings are correct and turns setscrews to correct deviations. Determines if meter gears mesh properly by tactile examination and tightens or loosens screws to make adjustments. Adjusts timing mechanism on demand meters. Makes minor repairs, such as replacing wornout screws, jewels, and registers, and routes meters needing major overhaul to ELECTRIC-METER REPAIRER (utilities). May test accuracy of meters, using stroboscope to compare tested meter disk revolutions to those of standard. May test relays [RELAY TESTER (utilities)]. May install and maintain test boards used to test function and accuracy of meters.

GOE: 05.05.10 STRENGTH: L GED: R4 M3 L3 SVP: 7 DLU: 77

729.281-038 RELAY TESTER (utilities) alternate titles: network-relay tester; relay-shop tester

Tests, cleans, repairs, and adjusts relays used to protect and control functions of equipment, such as circuit breakers, transformers, and automatic switches in generating stations, substations, and distribution facilities: Connects relay to test board and adjusts test board controls to simulate operating conditions. Observes ammeters, voltmeters, and related test board recording and indicating instruments to determine if relay performs all functions correctly, according to specifications of manufacturer and relay history card. Analyzes reactions of relay to tests to identify cause of malfunction. Tightens bolts, springs, and electrical connections, and adjusts screws to correct malfunction. Adjusts electrical, thermal, and timing elements to calibrate relay, according to installation specifications. Dismantles, cleans, or replaces worn or defective relays, using handtools and brush or feather. Records test results, repairs, adjustments, and related data on relay history card. May periodically inspect and test relays at functioning points. May test and repair related equipment, such as telemetering and supervisory-control devices.

GOE: 05.05.05 STRENGTH: L GED: R4 M3 L4 SVP: 7 DLU: 77

729.281-042 WIRER (office machines)

Installs, adjusts, and repairs wiring and cables in punched card office machines and adding machines according to wiring diagrams, blueprints, and engineering specifications, using handtools, soldering iron, and plugging gun: Reads wiring diagrams, blueprints, wire routing and standards sheets, and engineering specifications to determine lengths, types, routing, and colors of wiring and cables to be installed in machines, such as collators, adding machines, reproducing punches, card reader punches, and interpreters. Selects specified wires and cables, routes according to instructions, and fastens connections by bolting, screwing, soldering, or plugging, using wrenches, screwdrivers, soldering iron, and plugging gun (pneumatic gun that forces plug ends of wires into jacks). Inspects previously wired units, such as plugboards, fuse holders, keyboards, and indicator lights, for conformance to specifications, using test devices, such as voltmeters and ohmmeters.

GOE: 06.02.32 STRENGTH: L GED: R3 M3 L2 SVP: 6 DLU: 77

729.281-046 X-RAY-EQUIPMENT TESTER (any industry) alternate titles: x-ray consultant; x-ray equipment servicer; x-ray service engineer

Tests x-ray machines and accessory equipment to locate defects, using voltmeter and laboratory testing instruments: Compares readings on x-ray control meter and timer with measurements taken with standard instruments during machine operation to verify or adjust meter and timer calibration. Tests performance of transformer and measures voltages, using voltmeter, and compares results with standard graphs. May plan layouts of x-ray departments and install equipment.

GOE: 06.01.05 STRENGTH: L GED: R4 M3 L3 SVP: 6 DLU: 77

729.360-010 PROBE TEST EQUIPMENT TECHNICIAN, SEMICONDUCTOR WAFERS (electron. comp.)

Sets up and maintains wafer probe and test equipment that test electrical properties of circuits on semiconductor wafers, following setup manual specifications: Reads process sheet and setup manual to determine test program required and setup specifications. Inserts test probe card in wafer probe equipment. Inserts floppy disk or magnetic tape into slot on test equipment and pushes buttons on test equipment or types commands on keyboard to enter test program. Places sample wafer from specified wafer lot on wafer probe equipment chuck, using vacuum wand or tweezers. Observes wafer through microscope attached to wafer probe equipment and

turns knobs on equipment to align and position wafer circuit under probes on probe card, according to setup manual specifications. Activates test equipment to make trial run to ensure correct equipment setup and informs equipment operator that setup is completed. Removes and sharpens worn probes, using handtools and burnishing blade. Replaces defective probes or probe cards and solders joints on replacement probes, using soldering iron. Tests electrical continuity of cable connecting wafer probe and test equipment, using ohmmeter. Replaces defective connector cables. Removes, cleans, and refills reservoir of ink on wafer probe equipment that marks defective circuits with ink spot.

GOE: 06.01.02 STRENGTH: L GED: R3 M2 L3 SVP: 5 DLU: 86

729.361-010 INSPECTOR, ELECTROMECHANICAL (inst. & app.)

Inspects and tests components, housings, and finished assemblies of electromechanical instruments and equipment, such as oceanographic instruments, navigational systems, medical diagnostic equipment, and measuring, indicating, and controlling instruments, for conformance to specifications, using magnifying devices, test equipment, and precision measuring instruments: Reviews work orders, blueprints, or other specifications and confers with supervisor, engineer, and other personnel to determine product dimensions and specifications. Examines electrical, structural, and mechanical components and housings for defects in assembly, soldering, bonding, and finish. Measures dimensions and verifies locations of parts, holes, grooves, and other points, using precision measuring instruments, such as calipers, micrometers, gauges, dial indicators, and optical comparators. Tests electrical components and finished devices for electrical functioning, using electrical test equipment, such as oscilloscope, multimeter, voltmeter, and computerized test equipment. Tests functional characteristics, such as freedom of movement, leaks, and torque, and tests performance of device under simulated operating conditions, using specialized test equipment. Maintains records of inspection and test results and presents results to other staff for corrective action. May inspect and calibrate precision measuring instruments used to measure electromechanical instruments and equipment, using calibrating equipment. May inspect and test purchased parts and materials and be designated Receiving Inspector (inst. & app.).

GOE: 06.01.05 STRENGTH: M GED: R4 M3 L4 SVP: 7 DLU: 90

729.381-010 ELECTRICAL-EQUIPMENT TESTER (aircraft mfg.) alternate titles: inspector, precision electrical assembly; tester, electrical accessories

Tests and adjusts electrical equipment and accessories prior to installation in aircraft to ensure conformance to specifications, using precision measuring instruments and testing equipment: Examines electrical equipment and accessories, such as batteries, bells, chimes, solenoids, booster coils, circuit breakers, electric actuators, and starter control valves, for defects. Connects electrical equipment and accessories to testing equipment, such as voltmeter, ammeter, oscilloscope, and torque indicator, and tests for voltages under varying loads, output and input of power at various operating temperatures, amount of current used at different voltages, electrical leakages, short circuits, open circuits, and electric motor torques. Compares test performance results with prescribed values, and adjusts moving parts as indicated by tests, using handtools and measuring instruments. Stamps or attaches tags to approved equipment. Records results of tests. May test effects of vibration on equipment and accessories, using vibration testing equipment. May design, lay out, and construct special testing jigs. May measure parts of electromechanical assemblies for conformance to specifications, using micrometers, calipers, and gauges. May test and adjust electronic equipment.

GOE: 06.01.05 STRENGTH: L GED: R3 M3 L3 SVP: 6 DLU: 88

729.381-014 PIN-GAME-MACHINE INSPECTOR (svc. ind. mach.)

Inspects and repairs pinball and games machines: Plays machine and observes mechanism in operation to detect defects. Disassembles defective machines, using handtools. Adjusts or replaces defective parts, following electrical schematic diagrams. May return machine to department where defect occurred.

GOE: 05.10.03 STRENGTH: L GED: R4 M2 L3 SVP: 5 DLU: 77

729.381-018 STREET-LIGHT REPAIRER (utilities)

Tests, adjusts, and repairs mercury-vapor, fluorescent, electric-arc, or incandescent street lights and traffic signals in shop: Disassembles lamp, using handtools. Tests and examines components to determine need for repair or replacement, using electrical testing devices, such as test lamps, voltmeter, and wattmeter. Repairs or replaces broken connections, defective coils, cracked insulators, and other electrical components. Connects repaired lamp to test circuit and regulates such adjustable components as shunt coils until lamp meets operating specifications, according to electrical gauge readings, using screwdriver. Winds replacement coils on bench lathe and bakes freshly insulated coils in oven. Installs repaired lamp in outside casing or canopy.

GOE: 05.05.05 STRENGTH: L GED: R4 M2 L3 SVP: 7 DLU: 77

729.381-022 WIRER, CABLE (comm. equip.; elec. equip.)

Installs cables and solders wires to connect electrical instruments mounted on control apparatus, such as panelboards and telephone crossbar frames, according to diagrams and blueprints: Pulls assembled crossbar frame or unit to work area, using monorail chain hoist or handtruck. Ties preformed wiring cable to brackets. Positions arms of cable (groups of wires tied off from trunk of cable) and spreads wires to facilitate wiring. May strip insulation from ends of wires with pliers to prepare for connections. Connects color-coded wires to terminals, using soldering iron or pneumatic wire-wrapping tool. Examines and feels wires to detect loose connections. Writes and ties tickets to wires or terminals in apparatus to identify surplus or missing wires. May secure parts, such as diodes and resistors to specified locations on equipment, using soldering iron or screwdriver. Tapes insulating sleeves over auxiliary lead wires of cable. Pulls or carries wired apparatus to storage area. May be designated according to equipment wired as Crossbar-Frame Wirer (elec. equip.); Crossbar-Unit Wirer (elec. equip.); Switchboard Assembler (comm. equip.).

GOE: 05.10.03 STRENGTH: M GED: R3 M2 L2 SVP: 6 DLU: 77

729.384-010 ASSEMBLER, ELECTRICAL ACCESSORIES II (elec. equip.)

Assembles electrical instruments, such as ammeters, galvanometers, and voltmeters, performing any combination of following duties: Winds fine wire around $\$T3$ coil forms $\$T1$ on winding machine. Joins coils, plates, hairsprings, and other parts, connects and solders wires, using handtools, tweezers, and soldering iron. Inserts and tightens setscrews to secure components to housing. Cleans lens and glass faceplate and cements parts in place. Tests assembled units, using potentiometer and similar equipment to ensure that meters perform according to specifications. May be designated according to type of meter being assembled as Galvanometer Assembler (elec. equip.).

GOE: 06.02.23 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 77

729.384-014 FARE-REGISTER REPAIRER (motor trans.)

Repairs and adjusts electromechanical fare recording boxes used in buses and streetcars: Disassembles unit to locate defects. Tests electrical circuit, using ammeters, ohmmeters, and voltmeters. Inspects mechanical components and repairs or replaces defective or worn parts, using handtools and soldering iron. Cleans, oils, adjusts, and reassembles recording mechanism.

GOE: 05.10.03 STRENGTH: L GED: R3 M2 L2 SVP: 6 DLU: 77

729.384-018 SALVAGE REPAIRER II (utilities)

Reconditions salvaged parts of equipment used in electric-power system and rebuilds equipment, such as air circuit breakers and lightning arrestors: Removes bolts and screws to disassemble salvaged materials, using handtools, and discards parts beyond repair. Dips parts in acid, lye, or soap solution to clean parts, and polishes parts, using buffing wheel. Solders, wraps, and coats lightning rod arrester wires to connect and insulate wires during repair, using soldering iron, tape, and varnish. Bolts porcelain insulators to wood parts to assemble hot stools (insulated stools on which line workers stand). Replaces broken porcelain insulating parts to rebuild air-circuit breakers and other protective devices, using cement.

GOE: 05.10.03 STRENGTH: M GED: R3 M1 L2 SVP: 5 DLU: 77

729.384-022 WINDING INSPECTOR (house. appl.)

Performs any combination of following tasks to inspect appliance motors and parts, such as armatures and field assemblies: Examines parts, such as commutators, laminations, windings, and shafts for centering of commutator slots, depth of mica undercutting, loose copper and mica chips, positioning and winding of armature coils, and excess varnish or paint. Gauges parts, such as shafts, laminations, commutator bars, for specified length and diameters, using micrometers, fixed and snap gauges, rule, and dial indicator. Places armatures in bearings of bench fixture, rotates armatures manually, and observes dial indicator for eccentricity. Taps off-center shafts with mallet to straighten shafts. Repairs defects, such as damaged threads and rough commutators, and cleans copper chips from slots, using threading dies, end reamers, knives, picks, brushes, and sandpaper. Routes repairs, such as off-center commutator slots and shallow undercutting. Stamps date code on acceptable armatures, using rubber stamp. Writes transfer tickets and inspection reports to include quantity and classification of rejected and accepted armatures. May be designated according to part inspected as Brush-Holder Inspector (house. appl.); Commutator Inspector (house. appl.); Shaft Inspector (house. appl.).

GOE: 06.03.01 STRENGTH: L GED: R3 M2 L3 SVP: 4 DLU: 77

729.384-026 ELECTRICAL ASSEMBLER (aircraft mfg.) alternate titles: assembler, radio and electrical; assembler, wire group; bench assembler, electrical

Routes, wires, assembles, and installs electrical and electronic components in aircraft and missile units, such as main junction and terminal boxes, main control switch panels, and instrument and radio panels, according to specifications, using jig boards, handtools, and equipment: Reads work orders, blueprints, and specifications to determine established assembly methods. Cuts wire to specified lengths, using wire cutters. Cuts plastic sleeves and slips sleeves over wire ends to insulate connections. Crimps terminal eyelets and lugs to wire ends, using hand or machine crimping device. Routes, combs, twists, wraps, ties, and attaches wire to terminal points, according to jig board layout, using soldering gun and handtools. Connects wiring to accessories, such as relays, circuit breakers, plugs, condensers, switches, and solenoids, and installs accessory assemblies in electrical or electronic units, using soldering gun and handtools. Conducts functional and continuity tests of electrical assemblies, components, wire harness, and plugs, using ohmmeter, test lights, and other electrical testing instruments. Pots or encapsulates electrical and electronic details [ENCAPSULATOR (elec. equip.; electron. comp.) 726.687-022]. May attach eyelets, terminals, and mounting studs to etched circuit boards.

GOE: 06.02.23 STRENGTH: L GED: R3 M2 L3 SVP: 3 DLU: 87

729.387-010 DEICER INSPECTOR, ELECTRIC (rubber goods) alternate titles: electric deicer inspector; ice-guard inspector

Inspects electrical airplane deicers for defects and conformance to blueprints: Examines deicers for such defects as cracks, blisters, and separation of rubber plies (layers). Verifies dimensions of deicers and assembly of deicer parts, using rule, snap gauge, and magnifying glass. Weighs deicers to determine conformance to weight tolerance. Examines heat element of deicers under fluoroscope to verify wire spacing and detect broken and loose connections. Marks defective deicers and records inspection results. May clamp deicers to testing device to verify electrical resistance.

GOE: 06.03.01 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

729.387-014 DEICER TESTER (rubber goods) alternate titles: final inspector and tester; ice-guard tester

Tests performance of electric airplane deicers: Connects deicer to controlled electric circuit or battery to test for electrical shorts and faulty insulation. Turns control switch to expose deicer to specified voltage, and observes surface of deicer to detect melting or smoking rubber. May submerge activated deicer in water to detect bubbles or electrical flash that indicate defective area. Dusts deicer with zinc stearate and exposes deicer to specified voltage to test heating performance. Verifies dimensions of deicer, using rule and snap gauge. Marks and sorts defective deicers for scrap or repair. Records test data. May examine rubber plies (layers) of deicer for defects, such as cracks, blisters, and ply separations.

GOE: 06.03.01 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

729.387-018 FINISHING INSPECTOR (elec. equip.) alternate titles: final inspector

Inspects brushes, electrodes, nipples, and other graphite products after machining or prior to shipment to verify conformance to specifications: Examines products for defects, such as breaks, burns, cracks, and pits. Measures dimensions of product for conformance to specifications, using calipers, gauges, micrometers, rules, or other inspection tools. Determines cause of defects and whether parts are salvageable or scrap. Records inspection data.

GOE: 06.03.01 STRENGTH: L GED: R3 M2 L3 SVP: 5 DLU: 77

729.387-022 INSPECTOR (house. appl.)

Inspects and tests electrical household appliances, such as ranges, water heaters, and food mixers for appearance and mechanical and electrical characteristics, using testing devices and handtools: Examines metal, glass, and enamel surfaces for scratches, dents, and color matching. Observes alignment of doors, panels, and control dials with adjacent parts. Opens doors and sliding compartments to inspect movement along guides and operation of catches. Taps panels, housing, frame, or frame supports, using fiber hammer, to eliminate binding or align bearings with armature shaft. Connects unit with power source and testing devices, such as wattmeter, voltmeter, and potentiometer. Runs unit through operating cycles, observes meters, and compares readings against standards to determine electrical characteristics. Observes mechanical operation of parts, such as nozzles, blowers, pulleys, and transmission. Records information on inspection ticket. May wrap wire racks, pans, glass, and burner irons in paper and install fiber packing. May specialize in inspection of appearance and mechanical operation and be designated Appliance Inspector (house. appl.). May specialize in electrical testing and be designated Appliance Tester (house. appl.).

GOE: 06.03.01 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

729.387-026 INSULATOR TESTER (utilities)

Tests dielectric strength of porcelain insulators, using testing apparatus: Fastens one hooked end of insulator to metal rod of testing set and connects other hook to grounded wire. Turns dial on test set to specified voltage. Presses button to produce voltage and observes meters on test set to verify dielectric strength of insulator. Discards defective insulators.

GOE: 06.03.01 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

729.664-010 TEST-DEPARTMENT HELPER (comm. equip.; elec. equip.)

Positions electrical equipment, such as motors, generators, transformers, telephone apparatus, and electrical controls in test area and connects to test equipment preparatory to final testing: Builds up timbers and steel beams on test floor to form base for testing platform. Directs OVERHEAD CRANE OPERATOR (any industry) 921.663-010 or uses jib crane to lift electrical unit to test bench or platform and secures unit, using bolts. Connects equipment to dynamometer or test load, using belt or couplings and adapters. Hooks up electric connections from power supply to unit, using plug, clamp, and screw-type connectors. Observes meters and reports readings to tester.

GOE: 05.12.16 STRENGTH: H GED: R2 M2 L2 SVP: 3 DLU: 77

729.682-010 OPERATOR, CAVITY PUMP (elec. equip.)

Operates pump to inject or extract fluids into or from electrical component cavities to improve component electrical characteristics: Mounts electrical components, such as switches or transformers in holding device. Turns controls or pushes buttons to activate equipment such as welders, cooling systems, heater coils, ammeters, or vacuum and injection pumps. Inserts coupling device into component, reads pressure gauge and turns pump controls to extract or inject fluids such as air, oil, or inert gases at specified pressures and turns off pump. Heats component casing while extracting coupler to seal component, using heating devices such as coil, oven or welder. May connect testing device such as coil or ammeter to component leads and compare reading with specifications, or immerse unit in liquids to determine if unit leaks.

GOE: 06.02.18 STRENGTH: L GED: R3 M2 L3 SVP: 4 DLU: 77

729.684-010 BATTERY-CHARGER TESTER (elec. equip.)

Tests electric battery chargers, using portable testing unit: Clamps battery charger cables to appropriate tester terminals. Pushes control buttons to supply battery charger with specific amount of current that registers on charger meters and compares meter reading with tester meter to determine that meter is registering accurately. Increases current flowing from tester to charger to heat battery charger coil until grease and dirt are burned out. Turns off switches and removes battery charger cables from tester, approving satisfactory battery chargers and returning defective battery chargers for adjustments.

GOE: 06.03.02 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 77

729.684-014 CAPACITOR ASSEMBLER (elec. equip.)

Assembles capacitors for electric transmission equipment, using handtools and soldering equipment: Solders banded porcelain bushing to cover, terminal and tube to top of bushing, and tins areas of bushing holes in top cover, using stationary or hand gas-heating equipment. Covers bushings with protective cap to prepare covers for sandblasting, buffing, and degreasing. Folds, creases, and pounds insulation to fit over top of wound foil and tissue, using rawhide hammer. Hammers drive screws to fasten nameplate to capacitor. Places cover on capacitor and tightens seal-off screw to hold cover during assembly, using screwdriver. Twists goose-neck filler pipe to capacitor tank and removes pipe after impregnation. Inserts brass plug and seals plug with solder, using gas torch. May bolt capacitors to frames and connect capacitors in banks, using bare copper or insulated conductor. May repair capacitors and be designated Capacitor Repairer (elec. equip.).

GOE: 06.02.23 STRENGTH: M GED: R3 M2 L2 SVP: 4 DLU: 77

729.684-018 DIAL MARKER (elec. equip.)

Draws scale markings by hand on dials of electric meters: Measures and marks specified number of equal distances between calibrations, designated by pinpoints, on dial with dividers or by judging distances. Draws scale according to markings with special pens and black or white ink to contrast with dial. Stamps outline of numbers on scale, using rubber stamp, and fills in outlines with ink. Marks danger points on scale in red ink.

GOE: 01.06.03 STRENGTH: S GED: R2 M2 L2 SVP: 2 DLU: 77

729.684-022 ELECTRIC-SIGN ASSEMBLER (fabrication, nec)

Assembles electric signs, mounts tubing, and connects electrical equipment to sign box: Fastens back of sign to precut metal frame to form sign box, using screws and screwdriver. Fits precut glass, plexiglass, or plastic pane into bottom channel of metal frame. Crimps frame channel to secure pane, using pliers. Attaches tubing support brackets to sign box with self-tapping screws, using screwdriver. Screws or clamps glass elevation posts to brackets. Binds neon sign scroll to posts with wire. Connects wires between tubing electrodes and secondary-winding terminals of transformer. Attaches animation mechanism to back of sign, and connects part to be animated. May assemble fiberboard or cardboard cutout parts for animated window display signs.

GOE: 06.02.22 STRENGTH: M GED: R3 M2 L2 SVP: 3 DLU: 77

729.684-026 ELECTRICAL-CONTROL ASSEMBLER (comm. equip.; elec. equip.)

Assembles protection, communication, and control devices, such as switches, relays, rheostats, transmitters, and switchboards, as laid out in drawings and wiring diagrams: Assembles in predetermined order, contact fingers, shafts, springs, gears, coils, terminals, and push buttons, using handtools, hand arbor press, and assembly fixtures. Fastens units in specified locations in switchbox or case. Cuts, strips, and mounts wires to connect electrical units, using soldering iron, staking machine, and plugging devices. Connects lead wires to buzzer, ohmmeter, or resistance tester to test connections for resistance, shorts, and grounds. May adjust contacts, springs, and shafts to meet specifications. May be designated according to unit assembled as Relay Assembler (elec. equip.); Rheostat Assembler (elec. equip.); Speaking-Unit Assembler (comm. equip.; elec. equip.); Switchbox Assembler (comm. equip.; elec. equip.) II; Telephone-Diaphragm Assembler (comm. equip.; elec. equip.); or according to type of equipment assembled as Assembler, Communications Equipment (comm. equip.; elec. equip.). May assemble strip of switches, of telephone switchboard type, and be designated Jack-Strip Assembler (comm. equip.; elec. equip.).

GOE: 06.02.23 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

729.684-030 MOLD OPERATOR (elec. equip.) alternate titles: assembler-insulator

Pours liquid or powdered insulating material into mold to form insulation for electric motor, generator, and switchgear mechanisms: Weighs specified amounts of plaster, cement, metallic, or plastic powders, dumps ingredients into mixing machine, and starts machine. Positions assemblies, such as contact arms, collector rings, rotor shaft coils, and core assemblies, into mold cavity or molding jig, using spacer blocks and pilot pins. Pours mixture into mold and allows mixture to set in hydraulic press or harden in furnace. Removes assembly from mold or jig and scrapes hardened insulation with knife and rasp to trim to specified size. Cuts, bends, shapes, and bolts together pieces of metal to adapt or improvise assembly fixtures to hold parts in mold. May touch leads to meter and observe dial readings to test assembly for electrical continuity. May be designated according to type of material used as Plaster-Of-Paris Molder (elec. equip.) or product insulated as Transformer Molder (elec. equip.).

GOE: 06.02.32 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

729.684-034 MOTOR-VEHICLE-LIGHT ASSEMBLER (light. fix.) alternate titles: automobile-light assembler

Assembles bulbs, lenses, socket insulators, springs, and other components to lamp shell to make lights for motor vehicles: Positions and clamps lamp shell in jig on assembly bench or table. Bolts, screws, or crimps specified components to lamp shell, using handtools. Inspects parts for defects, such as cracks or dents, and rejects defective ones. May be designated according to light assembled as Automobile-Headlight Assembler (light. fix.); Automobile-Taillight Assembler (light. fix.); Truck-Headlight Assembler (light. fix.).

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 3 DLU: 77

729.684-038 REPAIRER, SWITCHGEAR (comm. equip.; elec. equip.)

Repairs defects in electrical apparatus, such as relays and crossbar switches, used in protection, communication, and control devices: Verifies defects, such as burred screws, damaged coils, bent contacts, incorrect stampings, and misassembled parts indicated by inspection ticket. Disassembles apparatus to replace or relocate parts. Bends parts of apparatus, such as contacts and springs, using handtools to correct alignment, straightness, clearance, and tension defects, and verifies corrections, using gauges. Corrects wrong or illegible stampings, using inked hand stamp. May use equipment to test repaired apparatus for electrical characteristics, such as continuity, resistance, and grounds. May repair wiring defects, such as loose connections and misconnected wires, using soldering iron or wire-wrapping gun. May be designated according to apparatus repaired as Crossbar-Switch Repairer (comm. equip.; elec. equip.); Relay Repairer (elec. equip.); Telephone-Switch Repairer (comm. equip.; elec. equip.).

GOE: 05.10.03 STRENGTH: L GED: R3 M2 L2 SVP: 5 DLU: 77

729.684-042 SAFETY-LAMP KEEPER (mine & quarry) alternate titles: battery charger

Repairs and issues electric lamps and safety lamps used underground by miners: Cleans lamps and batteries, using rags and steel wool. Inspects lamps and replaces defective or worn parts, such as cables, bulbs, wicks, and batteries. Tests batteries to determine strength, using testing device. Inserts batteries into electric charger to restore charge. Fills battery cells with chemicals and distilled water, and fills safety lamp reservoirs with fuel. Keeps record of lamps issued to mine personnel.

GOE: 05.09.01 STRENGTH: L GED: R3 M2 L1 SVP: 4 DLU: 77

729.684-046 SPARK-PLUG ASSEMBLER (elec. equip.)

Assembles components to make spark plugs: Selects base and model according to type of plug to be assembled. Dips end of central electrode in cement and inserts electrode into porcelain insulator. Screws caps over threaded ends of electrodes to form posts for wire connections. Places metal gasket over outer end of porcelain insulator and inserts assembly into metal base (shell). Crimps metal base around insulator, using machine.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

729.684-050 STREET-LIGHT-REPAIRER HELPER (utilities)

Performs any combination of following tasks concerned with maintenance and repair of street lighting equipment in repair shop: Dismantles outside case and lamp preparatory to testing and inspection of electrical components by STREET-LIGHT REPAIRER (utilities). Examines components for defects, such as broken connections, cracks, or excessive wear, and replaces defective parts. Cleans lamp cases, reflectors, switches, transformers, and porcelain bases, using brush and solvent. Paints cases, reflectors, and lamp components subject to corrosion, and reassembles lamp and case as directed. Solders or brazes terminals or connectors, using soldering iron or torch. Assists in testing repaired equipment. May stamp metal tags to identify equipment, using embossing machine. May salvage metal from worn out or defective parts.

GOE: 05.12.16 STRENGTH: M GED: R2 M2 L2 SVP: 3 DLU: 77

729.684-054 SUBASSEMBLER (elec. equip.)

Performs any of following tasks to assemble electrical equipment and parts, such as armature cores, coils, electric motors, and switches: Tapes lead wires to coils to facilitate soldering. Solders coil and lead wires, using soldering iron. Trims leads and positions parts in specified relationship to each other, using hands and handtools. Bolts, screws, clips, cements, and fastens parts together, using hands, handtools, or portable powered tools. May remove burrs from parts prior to assembly, using file or electric grinder.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L2 SVP: 2 DLU: 77

729.684-058 TESTER, ELECTRICAL CONTINUITY (elec. equip.; house. appl.; light. fix.)

Tests electrical units, such as lamps, coils, armatures, and commutators to determine shorts, grounds, or efficiency of unit, using test lamp, meter, or growler: Clamps test wires to electrical unit, screws unit into socket, or inserts lead wires into mercury tube to make contact with testing device. Turns dials to set controls of test equipment and observes meter or test lamp which indicates acceptability of unit. Places armature in growler and manually rotates armature under steel strip. Listens for growling sound and watches for attraction of steel strip to armature surface indicating short circuit. May inspect unit and remove excess solder, mica, or copper chips, using buffing machine, pick, or brush. May demagnetize coils, using demagnetizing equipment. May test carbon pellets with attached shunt wires to determine current flow through pellets, during production of carbon brushes. May be designated according to unit tested as Armature Tester (elec. equip.) I; Carbon Brushes Tester (elec. equip.); Coil Tester (elec. equip.); Commutator Tester (elec. equip.); Electric-Switch Tester (elec. equip.); Light-Bulb Tester (elec. equip.); Resistor Tester (elec. equip.).

GOE: 06.03.02 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 88

729.684-062 WIRER, SUBASSEMBLIES (office machines)

Installs color-coded wires and cables in subassemblies, such as fuse panels, control key assemblies, and relay panels, for punched-card office machines according to wiring diagrams and blueprints by any combination of following tasks: Fastens eyelet or spade types of wire lugs to bolt or screw terminals, using wrenches and screwdrivers. Inserts plug ends of wires and cables into jacks, using pliers or special insertion tools. Attaches wire ends to terminal posts, using pneumatic wire-wrapping gun. May test wiring continuity and connections, using ohmmeter, test lights, or other testing devices.

GOE: 06.02.23 STRENGTH: L GED: R3 M2 L1 SVP: 4 DLU: 77

729.684-066 LAMINATION ASSEMBLER (elec. equip.; electron. comp.) alternate titles: stacking assembler

Stacks, aligns, and secures metal laminations and insulating separators, to assemble laminated cores for electrical parts, such as commutators, coils, armatures, and stators, according to specifications, using either of following methods: (1) Places core laminations and separators into holding device of machine. Starts machine that automatically measures and stacks specified quantity of laminations for each core and inserts separators between laminations. Unloads laminations from machine, and secures laminations using tape or other material. (2) Stacks specified quantity of laminations in holding fixture. Squeezes stack, manually, or presses laminations together in vise or press to reduce kinks or bulges. Measures stack, using rule, and adds or removes laminations and separators to obtain specified dimensions. Aligns

edges of laminations, using hammer, and secures laminations, using rubber wrapping material. May place stack of lamination cores into machine that automatically welds laminations into individual cores. May be designated according to method used or type of core assembled as Lamination Stacker, Hand (elec. equip.; electron. comp.); Lamination Stacker, Machine (elec. equip.; electron. comp.); Transformer-Core Assembler (elec. equip.).
GOE: 06.02.23 STRENGTH: L GED: R2 M1 L2 SVP: 3 DLU: 81

729.687-010 ASSEMBLER, ELECTRICAL ACCESSORIES I (elec. equip.; light. fix.) alternate titles: assembler; contact assembler; switchboard contact assembler

Assembles mechanical parts of electrical equipment, such as light sockets, switches, terminal boards, and plugging devices: Fits together parts, such as socket bases, shafts, contact fingers, and springs, in specified sequence, using fixtures, screwdrivers, and air nut runners. Tests actions of moving parts and listens for unusual sounds to detect defective parts or faulty operation. Verifies completed assembly against pictorial drawings. May be designated according to type of equipment assembled as Circuit Breaker Assembler (elec. equip.); Contact-Finger Assembler (elec. equip.); Plug Assembler (elec. equip.); Pull-Socket Assembler (elec. equip.); Push-Button-Switch Assembler (elec. equip.); Terminal-Block Assembler (elec. equip.); Tumbler-Switch Assembler (elec. equip.).
GOE: 06.04.23 STRENGTH: L GED: R2 M1 L2 SVP: 2 DLU: 88

729.687-014 ELECTRODE CLEANER (elec. equip.)

Scrapes surface of graphitized electrodes to loosen particles of coke or encrusted insulating mixture, using scraping tool. Wipes loose material from electrode, using steel wool, and places electrodes into cart for inspection.
GOE: 06.04.39 STRENGTH: L GED: R1 M1 L1 SVP: 1 DLU: 77

729.687-018 LAMINATION SPINNER (elec. equip.) alternate titles: lamination inspector; rotor-lamination inspector; spinner, iron

Spins core laminations on fixture shaft to align slots and wedge grooves: Slides stacks of laminations onto fixture shaft mounted on bench or floor. Spins or rotates laminations manually until key center-hole slots and wedge grooves are aligned. Inserts fixed gauge into peripheral slots to verify alignment and size of slots. Examines circumference of laminations to detect burrs and bent edges. Slides or lifts laminations from fixture shaft. Discards defective laminations and trucks approved laminations to storage. May file burrs from lamination slots.
GOE: 06.04.34 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

729.687-022 MICA-WASHER GLUER (mine & quarry)

Builds up (glues) mica washers for use as electrical insulators: Dumps washers into tumbler equipped with series of upright spindles onto which washers fall as tumbler spins. Removes spindles filled with washers, dips spindles into binding solution, and places spindles coated with binding solution into drying oven or ignites coated washers with match to dry washers. Removes spindles from dried washers and splits washers into specified thickness, using knife.
GOE: 06.04.33 STRENGTH: M GED: R2 M2 L2 SVP: 2 DLU: 77

729.687-026 PLATE STACKER, HAND (elec. equip.) alternate titles: grouper; stacker

Groups (interleaves) specified number of positive and negative plates and separators, and places stack on conveyor leading to burning (welding) station. Moves materials about work area, using handtruck.
GOE: 06.04.40 STRENGTH: L GED: R1 M1 L1 SVP: 2 DLU: 77

729.687-030 SALVAGER (utilities)

Dismantles and cleans electric equipment, such as insulators, fuses, wires, wire clamps, and conduit fittings to salvage serviceable materials: Removes rust and deposits of hardened material, using scrapers, wire brush, and abrasive paper. Dips parts in solvents to remove foreign matter. Paints components exposed to weather. Unloads materials from trucks and conveys materials about shop and warehouse, using handtruck. May drive forklift truck.
GOE: 05.12.18 STRENGTH: M GED: R2 M1 L1 SVP: 3 DLU: 77

73 OCCUPATIONS IN FABRICATION AND REPAIR OF PRODUCTS MADE FROM ASSORTED MATERIALS

This division includes occupations concerned with shaping, fitting, trimming, assembling, joining, finishing, and repairing products made from combinations of such materials as metal, wood, plastics, rubber, fabric, and paper.

730 OCCUPATIONS IN FABRICATION AND REPAIR OF MUSICAL INSTRUMENTS AND PARTS

This group includes occupations concerned with fabricating and repairing wind, string, and percussion musical instruments, including pianos and electric or electronic organs. Includes tuning.

730.131-010 SUPERVISOR (musical inst.)

Supervises and coordinates activities of workers engaged in manufacturing musical instruments. Trains new workers. May inspect material at various stages in production to ensure compliance with company standards. May verify accuracy and completeness of records, such as time and production cards. Performs duties as described under SUPERVISOR (any industry) Master Title.
GOE: 06.02.01 STRENGTH: L GED: R4 M3 L3 SVP: 7 DLU: 77

730.281-010 ACCORDION MAKER (musical inst.)

Lays out and constructs accordions, applying knowledge of accordion construction, using handtools and operating variety of wood and metalworking machines: Studies sketch of accordion or customer's specifications to plan work. Measures and marks woodstock to lay out wood parts. Operates woodworking machines, such as saw and sander, and uses carpenter handtools to cut, shape, and finish wood parts of instrument. Measures, cuts, and pleats cardboard to form bellows. Covers bellows

with sateen and cloth. Glues leather and places metal guards on corners of bellows. Applies celluloid to accordion parts, such as keys and box ends. Assembles wood and metal parts with screws, nails, or glue, using handtools. Examines fit and finish of instrument and plays notes and chords to inspect completed instrument. May tune accordion reeds and glue reeds in reed blocks [ACCORDION TUNER (any industry)]. May fabricate metal parts, using shop machines and handtools. May repair used instruments [ACCORDION REPAIRER (any industry)]. May be designated according to part made as Bass-Mechanism Maker (musical inst.); Bellows Maker (musical inst.); Box Maker (musical inst.); or by operation performed as Finisher, Accordion (musical inst.).

GOE: 05.05.12 STRENGTH: M GED: R4 M3 L3 SVP: 8 DLU: 77

730.281-014 ACCORDION REPAIRER (any industry)

Repairs and tunes accordions and concertinas, using handtools: Disassembles instrument and parts, such as base and treble mechanisms, bellows, reed blocks, and manuals (keyboards), using handtools. Moves parts, observing their action to detect defects. Files, realigns, and adjusts parts, using handtools. Recovers bellows with sateen and cloth. Glues leather on corners of bellows. Operates woodworking machines and uses handtools to make wood replacement parts. Repairs cracks in celluloid. Solders or removes and replaces defective metal parts. Reassembles instrument and plays notes and chords to determine accuracy of repair. May tune accordion or concertina reeds [ACCORDION TUNER (any industry)]. May repair electronic accordions, using electronic testing equipment, to determine defects and to verify repairs.

GOE: 05.05.12 STRENGTH: M GED: R4 M3 L3 SVP: 7 DLU: 77

730.281-018 ELECTRIC-ORGAN INSPECTOR AND REPAIRER (musical inst.)

Inspects and repairs electric and electronic organs: Plays organ to determine nature of malfunction. Studies circuit diagrams and performs standard tests to locate mechanical, electrical, or electronic difficulties. Replaces defective components and wiring and adjusts mechanical parts, using soldering equipment and handtools. Aligns, adjusts, and calibrates equipment according to specifications, following circuit diagrams and using alignment tools, handtools, and test equipment.

GOE: 05.05.12 STRENGTH: L GED: R4 M3 L4 SVP: 6 DLU: 77

730.281-022 FRETTED-INSTRUMENT MAKER, HAND (musical inst.)

Constructs fretted musical instruments, such as banjos, guitars, and mandolins, by hand, applying knowledge of wood properties and instrument design and construction. May construct bowed instruments [VIOLIN MAKER, HAND (musical inst.)]. May repair bowed instruments [VIOLIN REPAIRER (any industry)]. May repair fretted instruments [FRETTED-INSTRUMENT REPAIRER (any industry)]. May be designated according to instrument made as Guitar Maker, Hand (musical inst.).

GOE: 05.05.12 STRENGTH: L GED: R4 M3 L4 SVP: 8 DLU: 77

730.281-026 FRETTED-INSTRUMENT REPAIRER (any industry)

Repairs fretted musical instruments, such as banjos, guitars, mandolins, and ukuleles, using handtools: Inspects and plays instrument to determine defects. Disassembles instrument, using handtools. Removes, replaces, and dresses (levels) frets, using handtools. Fits wood and metal replacement parts. Reassembles and strings instrument. Adjusts truss rod and bridge to position neck and strings. Plays notes and chords and adjusts string tension to tune instrument. Replaces skin or plastic heads of banjos. Tests and replaces tubes, replaces defective parts, and solders new parts and loose connections on amplifiers, reverberation units, and pickups of electrically amplified instruments. May repair wood bodies or carve wood replacement parts. May be designated according to instrument repaired as Guitar Repairer (any industry).

GOE: 05.05.12 STRENGTH: M GED: R4 M3 L3 SVP: 6 DLU: 77

730.281-030 HARP MAKER (musical inst.)

Shapes and fits harp components to assemble new and repair damaged harps, using handtools and machine tools: Selects wood which will produce desired tonal quality and measures and marks it to lay out design of components. Shapes wood and metal into various parts, using drill press and handtools. Glues wood parts together. Fits metal and wood parts together to form completed harp. Knots each string between soundboard and tuning pin, and turns tuning pin with key to adjust string pitch [HARP REGULATOR (musical inst.)]. Sketches ornamental wood carvings onto graph paper, from customer's description, and orders them made, or carves them himself. May repair damaged harps only and be designated Harp Repairer (any industry).

GOE: 05.05.12 STRENGTH: H GED: R4 M4 L3 SVP: 8 DLU: 77

730.281-034 HARPSICHORD MAKER (musical inst.)

Lays out, machines, fits, assembles, and finishes wood, metal, and plastic parts to build harpsichords, applying knowledge of material properties and harpsichord construction: Measures and marks wood, metal, and plastic to lay out instrument components, applying knowledge of instrument design or following sketch or drawings. Operates woodworking machines and uses handtools to form wooden case parts. Sands and scrapes wood parts and applies varnish, stain, or oil to finish surfaces. Fits and assembles parts, using handtools, to assemble harpsichord case. Files cast metal soundboard to fit soundboard into case, using handtools. Operates drill press to drill holes for tuning pins, following template or drawing that locates holes. Bends metal bridges to specified contour, using vise and handtools, and installs bridges on soundboard. Bends nonmetal bridges to specified contour, using steam and clamps, or saws curve-shaped bridges, using bandsaw, and installs bridges on soundboards. Inserts tuning pins and strings instrument, using various gauge wires. Operates shop machines and uses handtools to cut and shape wood, plastic, and leather to form parts of keyboards and actions. Sets pieces of veneer into surface of wood sides of harpsichord to decorate instrument, using glue. Fits and assembles keyboard and action parts and installs them. Carves, shapes, and tapers plectrum (plucking device), using knife. Tunes instrument to specified pitch, using tuning fork, tuning wrench, and handtools. Visually and tactually examines completed instrument and corrects defects. Repairs used instruments. May apply decorative trim, such as stripes, decals, or gilt to finished instrument [DECORATOR (furniture; toy-sport equip.) 749.684-014]. May design and prepare working drawings to build harpsichords.

GOE: 05.05.12 STRENGTH: H GED: R4 M3 L3 SVP: 6 DLU: 77

730.281-038 PIANO TECHNICIAN (any industry)

Repairs, refinishes, and tunes pianos, using specialized tools and gauges: Tests components, such as keyboard, pedals, and action assembly, using special tools and gauges. Levels keys by inserting paper shims. Detaches action mechanism and replaces faulty, worn, or broken parts, such as hammers, shanks, and joint connections. Aligns hammers and turns screws to adjust striking action of keys [PIANO REGULATOR-INSPECTOR (musical inst.)]. Replaces broken or missing strings [PIANO STRINGER (musical inst.)]. Tunes strings, using tuning hammer and fork [PIANO TUNER (any industry)]. Examines wooden parts for splits, warps, and other defects. Repairs, replaces, resurfaces, and refinishes wooden parts.

GOE: 05.05.12 STRENGTH: M GED: R3 M2 L2 SVP: 7 DLU: 77

730.281-042 PIPE-ORGAN BUILDER (musical inst.)

Lays out, constructs, and assembles electrically controlled pipe organs, using handtools and machines, and following blueprints: Plans layout of organ, following

blueprints and sketches of installation site and customer specifications. Operates woodworking machines and uses handtools to cut, shape, fit, and assemble wood components, such as console, wind chest, and wooden pipes. Assembles and installs electrical parts in organ components and solders connecting wires to leads. Examines and tests components prior to transportation to installation site. Fits and assembles component parts of organ in allocated space at installation site [PIPE-ORGAN INSTALLER (musical inst.)]. May voice organ pipes [ORGAN-PIPE VOICER (musical inst.)].
 GOE: 05.05.12 STRENGTH: H GED: R4 M3 L3 SVP: 8 DLU: 77

730.281-046 VIOLIN MAKER, HAND (musical inst.)

Constructs bowed musical instruments, such as violins, cellos, and violas, using handtools: Selects wood according to type, grain, and seasoning. Lays out parts to be cut, using templates. Saws, carves, and shapes instrument parts, using handtools. Glues parts together, using jigs, forms, and clamps. Finishes surface with stain and varnish. Strings instrument. Plays instrument to evaluate tonal quality. Relocates bridge and sounding post, or shaves wood from bottom of instrument to improve tone. May repair bowed instruments [VIOLIN REPAIRER (any industry)]. May construct fretted instruments [FRETTED-INSTRUMENT MAKER, HAND (musical inst.)]. May repair fretted instruments [FRETTED-INSTRUMENT REPAIRER (any industry)]. May rebuild and restore bowed instruments and be designated Violin Restorer (musical inst.).
 GOE: 05.05.12 STRENGTH: L GED: R4 M3 L3 SVP: 8 DLU: 77

730.281-050 VIOLIN REPAIRER (any industry)

Adjusts and repairs bowed musical instruments, such as cellos, violas, and violins, using handtools: Inspects and plays instrument to determine defects. Disassembles instrument, using handtools. Removes cracked or broken sections, using heated knife and handtools. Glues cracked part, places it in plaster cast, and clamps cast in handpress. Cuts out broken sections, carves replacement parts, and fits replacements to original shape and dimensions of instrument. Reassembles body of instrument, using glue and clamps. Planes and replaces fingerboard, and fits and replaces pegs. Varnishes, rubs, and buffs instruments to protect and decorate them. Strings instrument and fits bridge and soundpost to obtain specified string tension and height. May repair bows. May be designated according to instrument repaired as Bass-Viol Repairer (any industry). When repairing bows, may be known as Bow Repairer (any industry).
 GOE: 05.05.12 STRENGTH: L GED: R4 M2 L2 SVP: 7 DLU: 77

730.281-054 WIND-INSTRUMENT REPAIRER (any industry)

Repairs, cleans, and alters brasswind and woodwind musical instruments: Inspects instrument, moves mechanical parts, or plays scale to determine defects. Unscrews and removes rod pins, keys, pistons, and other parts. Removes soldered parts, using gas torch. Reshapes parts, using handtools. Removes dents, using mallet or burnishing tool. Fills cracks in wood instruments, using either of following methods. (1) Inserts pinning wire into crack and covers wire with filler. (2) Operates lathe to cut groove around cracks, applies filler, and clamps retaining band into groove, using hand-operated press. Solders patches over cracks in brass instruments, using silver solder, and files patched area to contour of instrument. Resolders parts, using silver or soft solder. Operates lathe to cut off end of metal tubing, or solders attachments onto tubing to improve instrument's tone or intonation. Washes metal in lacquer-stripping solution and cyanide solution to remove lacquer coating and tarnish. Removes burrs from instrument valves, using scraping tool. Laps valves and pistons so they move freely. Heats key cups to melt shellac and removes pads. Polishes instruments, using rag and polishing compound, buffing wheel, or burnishing tool. Glues new pads and cork pieces on key cups, using hot shellac. Bends and cuts replacement springs and screws them into place. May be designated according to type of instrument repaired as Brasswind-Instrument Repairer (any industry); Woodwind-Instrument Repairer (any industry).
 GOE: 05.05.12 STRENGTH: M GED: R4 M2 L2 SVP: 7 DLU: 77

730.281-058 BOW MAKER (musical inst.)

Constructs bows for stringed instruments, using handtools and power tools: Selects specified wood to shape bow, utilizing knowledge of bow styles. Cuts and shapes bow blank from wood, using bandsaw, plane, file, and knife. Positions blank over alcohol flame and bends blank to obtain desired curve of bow. Cuts, glues, and solders ornamental material, such as ebony, ivory, tortoise shell, and silver, to form parts of bow, such as frog and ferrule, using bandsaw, torch, and caliper. Drills or chisels mortise in lead of bow or frog to insert bow hair, using lathe, chisel, and hammer. Ties knot in end of bow hair, combs hair to straighten strands, using brush, and inserts hair into mortise, through ferrule, and into frog of bow. Secures bow hair in place with wooden wedge. Smooths and stains bow to achieve desired appearance, using sandpaper, stain, and rags. Adjusts weight, balance, and stiffness of bow by adding or removing decorative material, using handtools. Replaces bow hair [BOW REPAIRER (any industry) 730.684-022] and repairs bows.
 GOE: 05.05.12 STRENGTH: L GED: R3 M2 L3 SVP: 6 DLU: 86

730.361-010 PIANO TUNER (any industry) alternate titles: tonal regulator; tuner

Tunes pianos in private and public establishments, using tuning fork and tuning hammer: Removes board from front of piano to expose strings. Places strips of felt or rubber between strings nearest to string to be tested to mute them. Strikes middle C and compares pitch with that of standard tuning fork. Turns string pin with tuning hammer to adjust tension on string until pitch of string and tuning fork correspond. Tunes remaining notes (strings) by comparing them with middle C and each other. May make initial adjustment of piano strings in factory [CHIP TUNER (musical inst.)].
 GOE: 05.05.12 STRENGTH: L GED: R3 M2 L3 SVP: 5 DLU: 77

730.361-014 PIPE-ORGAN TUNER AND REPAIRER (any industry)

Tunes and services pipe organs: Directs helper to depress organ console key and strikes tuning fork to sound A above Middle C. Adjusts pitch of organ A pipes to conform with pitch of tuning fork and adjusts pitch of other pipes with references to pitch of other pipes with reference to pitch of tuned pipes by any combination of following methods: (1) Raises or lowers tuning slides and stoppers of metal and wooden pipes. (2) Rolls or unrolls curled strips of metal across tuning holes of metal pipes. (3) Pinches or spreads metal lips that protrude from mouths of metal pipes. Flares or closes metal pipes, using cone-shaped tool. Cleans pipes, using vacuum cleaner, and repairs or replaces worn parts of pipes, console, bellows, and blower, using handtools and power tools, such as pliers and electric sander. May assemble and install new pipe organs in buildings, such as churches and theatres [PIPE-ORGAN INSTALLER (musical inst.)].
 GOE: 05.05.12 STRENGTH: M GED: R4 M3 L3 SVP: 8 DLU: 77

730.367-010 FINAL INSPECTOR (musical inst.)

Inspects finished musical instruments to ascertain conformance to standards for fit, finish, and tone: Fingers moving parts, such as keys and pedals, to inspect operation. Examines fit of parts at joints. Examines finish of instruments for scratches and defective plating or buffing. Corrects defects or notes defects and returns instrument to production department for correction. Plays notes and chords to test tone aurally or uses electronic tuning device. May adjust instrument to obtain specified tone. May be designated by family of instrument or instrument inspected.
 GOE: 06.03.01 STRENGTH: L GED: R3 M2 L3 SVP: 5 DLU: 77

730.381-010 ACCORDION TUNER (any industry)

Tunes accordions by aurally comparing pitch of reeds with master reeds and filing reeds to obtain standard pitch: Places set of reeds to be tuned in slots in tuning table. Depresses pedal to operate bellows and presses key to blow or draw air through reed to be tuned and master reed. Files reed being tuned until pitch corresponds to master. Replaces defective leather valves. Measures and mixes glue. Places tuned reeds in reed blocks and secures them with glue. Verifies pitch of master reeds by comparing with pitch of vibrating tuning bar or fork. Files reeds until pitch corresponds to pitch of tuning bar or fork. May disassemble and reassemble used instruments to tune reeds.

GOE: 05.05.12 STRENGTH: L GED: R3 M2 L2 SVP: 6 DLU: 77

730.381-014 BELL MAKER (musical inst.)

Lays out pattern and shapes sheet metal into brass-wind instrument bells and bell necks, using templates, machine tools, handtools, and blueprints: Traces pattern of bell onto metal, using scribe and template or blueprint. Cuts out bell blank, using hand or power shears. Hammers blank over bell-shaped mandrel, and butts seam, using notching tool. Brazes seam, using torch. Smooths seam, using hammer or file. Operates draw bench or arbor press equipped with expandable lead plug to shape and smooth bell and bell neck over mandrel. Operates spinning lathe to spin bell head and to form bead at tip of bell head [BELL SPINNER (musical inst.)]. Anneals previously shaped bell necks, using hand torch to soften metal for further bending. Removes scratches from bell, using abrasive-coated cloth. May be designated by instrument as Bell Maker, Sousaphones (musical inst.).

GOE: 05.05.12 STRENGTH: M GED: R3 M1 L2 SVP: 7 DLU: 77

730.381-018 BRASS-WIND-INSTRUMENT MAKER (musical inst.) alternate titles: assembler; band-instrument maker

Fabricates or alters brass-wind instrument parts, and assembles parts into completed instruments, ascertaining fabrication and assembly procedures from standard or customer's specifications: Reads specifications and makes calculations to determine procedures for fabricating and assembling instrument. Sets up and operates drawbench, bandsaw, and lathe to draw, cut, and machine instrument tubing. Bends tubing around forming blocks by hand. Measures tubing, using rule, to locate position of holes to be drilled for pistons and valve casings. Operates drill press, honing machine, and lapping machine to drill, hone, and lap metal components. Solders piston and valve components, using silver and soft solder. Hammers bell neck around bell-shaped mandrel, and brazes seams with oxyacetylene torch. Operates spinning lathe to shape bell head around mandrel. Assembles parts, such as braces, slides, valves, pistons, and bell head to form completed instrument, using handtools, measuring devices, and soldering iron. Plates assembled instrument with nickel, copper, or silver [PLATER (electroplating)]. May repair brass-wind instruments. May be designated according to instrument or part made as Saxophone Assembler (musical inst.); Valve Maker (musical inst.) I.

GOE: 05.05.12 STRENGTH: M GED: R4 M4 L4 SVP: 7 DLU: 77

730.381-022 ELECTRIC-ORGAN ASSEMBLER AND CHECKER (musical inst.)

Assembles electronic organ components: Wires, solders, and installs components, such as amplifier switches, keys, and pedals. Performs standard tests to ensure conformance to standards.

GOE: 06.02.23 STRENGTH: L GED: R3 M2 L2 SVP: 6 DLU: 77

730.381-026 HARP REGULATOR (musical inst.)

Completes assembly of harps and tunes them: Screws action to neck, using handtools. Inserts tuning pins in neck. Knots each string between soundboard and tuning pin. Adjusts tuning pins and regulating disks to tune instrument, using handtools and electronic tuning device.

GOE: 06.02.23 STRENGTH: M GED: R3 M2 L1 SVP: 6 DLU: 77

730.381-030 HARP-ACTION ASSEMBLER (musical inst.)

Fits, assembles, and inspects harp actions to obtain specified tolerances and operation: Reams metal parts, using machine tools and handtools. Rivets components to assemble action lines, using riveting machine. Inspects action line with level and micrometer to maintain specified tolerance and moves parts to inspect operation. Assembles action lines between action plates and assembles other metal parts onto plates to complete assembly. Inspects and oils completed action.

GOE: 05.05.12 STRENGTH: M GED: R4 M2 L2 SVP: 6 DLU: 77

730.381-034 METAL-REED TUNER (any industry)

Tunes metal reeds of musical instruments to standard pitch: Dismantles instrument and removes reed blocks, using handtools. Positions reed block over orifice in testing stand and actuates hand- or foot-operated bellows to sound reed. Strikes tuning bar and compares pitch of reed with that of bar to ascertain that reed is sharp or flat. Removes reed block from testing stand, inserts steel plate between reed and block to support reed, and files reed until it matches pitch of tuning bar. Tunes remaining reeds in their chromatic relationship to tuning bar. May lubricate and make repairs and adjustments to other parts of instrument.

GOE: 05.05.12 STRENGTH: L GED: R3 M2 L2 SVP: 7 DLU: 77

730.381-038 ORGAN-PIPE VOICER (musical inst.) alternate titles: voicer

Adjusts metal and wood organ pipes to obtain specified timber and strength of sound: Inserts unvoiced pipes in rack of tuning table and starts electric blower. Depresses key to blow air through unvoiced pipe and voiced master pipe. Listens to difference in tone and determines needed adjustments. Raises or lowers lips of metal flue pipes to regulate airflow over lips, and notches languet (inner tongue), using handtools. Files and raises or lowers reeds in reed pipes. Scrapes and sands lips in wooden pipes and raises or lowers them to regulate airflow. Enlarges or decreases opening in toe hole (hole at base of pipe), using handtools, to regulate loudness of sound. Tunes organ pipes [PIPE-ORGAN TUNER AND REPAIRER (any industry)]. May do final tuning and voicing of pipes in newly installed organs and be designated Organ-Pipe Finisher (musical inst.).

GOE: 05.05.12 STRENGTH: M GED: R4 M2 L2 SVP: 7 DLU: 77

730.381-042 PERCUSSION-INSTRUMENT REPAIRER (any industry)

Repairs percussion instruments, such as drums, cymbals, and xylophones: Removes drum tension rod screws and rods by hand or using drum key. Lifts rim hoop from drum shell and cuts drumhead from hoop. Cuts new drumhead from animal skin, using scissors. Soaks skin in water until it becomes pliable. Stretches skin over rim hoop and tucks it around and under hoop, using hand tucking tool. Reclamps rim hoop onto drum shell to allow drumhead to dry and become taut. Cuts out section around break in drum shells, and cuts new piece to fit, using power saw and handtools. Glues and clamps new piece in place. Removes dents in tympani, using steel-hitting block. Operates drill press or hand power drill to drill hole at inside end of crack in cymbal, gong, or similar instruments to prevent advance of crack, and cuts out section around crack, using shears or grinding wheel. Repairs bass drum and tympani foot mechanisms, and replaces percussion instrument hardware, such as tension

rods and rim hoops, and xylophone and marimba bars and wheels as needed, using handtools. Performs other duties, such as sanding, painting, and cleaning drum shells, and regluing simulated pearl onto shells. May solder or weld frames of mallet instruments and metal drum parts. May lay out and shape laminated wood, and apply decorative trim to fabricate drum shells, using handtools, machine tools, blueprints, and shop drawings, and be designated Drum-Shell Maker (musical inst.).
GOE: 05.05.12 STRENGTH: M GED: R3 M2 L2 SVP: 6 DLU: 77

730.381-046 PIPE-ORGAN INSTALLER (musical inst.) alternate titles: organ installer

Assembles and installs components of electrically or mechanically controlled pipe organs, using handtools and following blueprints: Installs and wires components, such as air chests, console, blowers, and airducts, using handtools. Mounts pipes above air chest in predetermined pattern. Secures pipes in wooden racks and fastens racks to chest, using dowels and screws. May tune, maintain, and repair organs [PIPE-ORGAN TUNER AND REPAIRER (any industry)]. May voice pipes [ORGAN-PIPE VOICER (musical inst.)].
GOE: 05.05.12 STRENGTH: M GED: R4 M3 L3 SVP: 7 DLU: 77

730.381-050 PLAYER-PIANO TECHNICIAN (musical inst.)

Installs, tests, and adjusts electronic mechanisms on pianos to convert pianos to self-playing, using handtools and electronic testing equipment and following blueprints: Drills holes in support blocks with portable drill and installs blocks under keyboard at specified angle with whip assembly, consisting of hammers that strike cords to produce musical sounds. Attaches track for mounting music roll and sliding carriage onto key bed of piano, using handtools, and positions electronic control box into carriage. Installs vacuum pump and unit, required to transmit action from music roll through controls to solenoids, using screws and handtools. Places bar containing electrical solenoids on attached support bars, aligning solenoids with whip assembly to ensure engagement of solenoids, whip assembly, and piano hammers. Wires, solders, and installs wiring to piano case and attaches vacuum hose to pump and controls. Places music roll on carrier, starts mechanism, turns controls, and determines if player mechanism functions as required. Makes adjustments or repairs to correct defects, using handtools and electronic testing equipment.
GOE: 05.05.12 STRENGTH: H GED: R3 M3 L3 SVP: 4 DLU: 77

730.381-054 TROMBONE-SLIDE ASSEMBLER (musical inst.)

Assembles, solders, and laps trombone slides: Solders slide components, such as tubing sections, braces, and water valves, using gas torch and soft solder, following pattern to form inner and outer sections. Ascertains whether slides are parallel and straight, using gauges. Inserts plugs into slides, and squeezes or separates them to align them. Pushes outer slide over motor-driven shaft coated with abrasive to smooth inner surface. Brushes lubricant on inner slide surfaces and laps inner and outer slides together by hand. May cut tubes, using rotary power saw. May repair trombone slides.
GOE: 06.01.04 STRENGTH: L GED: R3 M2 L2 SVP: 7 DLU: 77

730.381-058 TUNER, PERCUSSION (musical inst.)

Tunes wood and fiberglass bars used in marimbas and xylophones, metal bars used in bell-lyras and vibraharpes, and metal rods used in electronic carillons and tuning forks, using machines and handtools: Strikes bar with mallet and compares tone with tuned block or stroboscope. When tuning wood and fiberglass bars, removes wood and fiberglass with bandsaw and smooths bar with sanding machine or by hand until specified tone is obtained. When tuning metal bars and rods, removes metal with machine grinder and with hand files and scrapers to obtain specified tone. May assemble bars onto instruments. May be designated according to tuning operation performed as Harmonic Tuner (musical inst.); Octave Tuner (musical inst.).
GOE: 05.05.12 STRENGTH: M GED: R3 M2 L2 SVP: 6 DLU: 77

730.384-010 ASSEMBLER, PIANO (musical inst.)

Performs any combination of following tasks to assemble and install components in piano cases or benches: Positions parts in specified relationship to each other preparatory to assembly or installation. Joins parts and bolts, nails, screws, or glues parts to assemble or install parts, using handtools and portable power tools. Planes, sands, and files or adds shims and bushings to obtain specified fit and movement of parts. Machines parts to specifications prior to assembly, using machines, such as circular saw, or single-spindle-drill press. May verify alignment of parts, using ruler and gauge.
GOE: 06.02.22 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

730.681-010 PIANO REGULATOR-INSPECTOR (musical inst.) alternate titles: adjuster, piano action

Performs any combination of following tasks to inspect and regulate piano internal actions: Examines piano action components after installation for completeness and operation, and removes, repairs, or replaces defective or broken parts, using handtools, glue, nails, and power tools, such as saw, sander, and drill. Verifies alignment of parts, using ruler and gauges. Scrapes, files, bends or adds shims and bushings to adjust operation of alignment of parts as specified. Depresses piano keys to verify operation of piano actions and makes adjustments to obtain specified performance. May mix glue. May assemble parts on to complete assembly prior to regulating. May specialize in inspecting and regulating particular type piano actions, such as spinet, upright, or grand.
GOE: 06.01.04 STRENGTH: L GED: R3 M2 L3 SVP: 5 DLU: 77

730.681-014 PISTON MAKER (musical inst.)

Finishes brasswind instrument pistons and assembles piston parts, using handtools: Inserts crooks (curved tubes) through precut holes in piston blank and cuts them to length, using sheet metal snippers or table saw. Places piston blank over mandrel or die and pushes steel balls or works ball-ended handtool through crooks to expand crooks to limits of holes into which they are inserted. Presses in piston bottom and head, using small hand press. Solders bottom plate onto piston, and removes excess solder, using scraping tool. Rough trims crooks, after soldering, using table saw. Operates turning lathe to face and bevel piston ends, and to shape and smooth external surface of piston. Operates drill press to tap threads into piston. Solders crooks to piston blank, using silver solder and gas torch. Grinds piston to final size, using special piston grinder and gauge. Inspects finished pistons for defects, such as holes and dents.
GOE: 06.01.04 STRENGTH: L GED: R3 M2 L2 SVP: 5 DLU: 77

730.681-018 VALVE MAKER II (musical inst.)

Fabricates valves for brass musical instruments, using handtools and machine tools and performing any combination of following tasks: Cuts connecting tubes to specified length, using table saw. Drills connecting tube holes in valve, taps internal and external threads in valve and ballisters, and cuts recess in top of valve or ballisters, using drill press. Fits ballisters onto valve and solders them into place with soft solder. Inserts connecting tubes and braces between valves, and wires (ties) them into place, using pliers. Aligns valves, tubes, and braces, using gauge and hammer. Solders tubes and braces to valves with silver solder. Cuts connecting tubes from interior of piston and bores piston, using honing machine with changeable bits. Hones interior of valve and exterior of piston, using \$T3lapping\$T1 machine. Cleans excess solder from joints and deburrs inside of valve, using file, scraping tool, and sandpaper. Depresses piston into valve to ascertain that corresponding valve and

piston holes match, and solders piston head to piston when holes are matched. Numbers matched valves and pistons to facilitate final assembly.
 GOE: 06.02.24 STRENGTH: L GED: R3 M2 L2 SVP: 6 DLU: 77

730.682-010 SOCKET PULLER (musical inst.) alternate titles: body maker

Operates machine to draw, face (trim), and roll edges of tone holes of musical instruments, such as flutes and saxophones: Bolts mandrel for particular instrument to machine. Brushes compound on drawing buttons and places them in holes in mandrel. Places instrument body on mandrel with tone holes centered over drawing buttons and clamps it in place. Places bushing over revolving shaft head to form drawing die for each sized tone hole and drawing button. Moves controls to lower revolving shaft and screw it into button. Starts drawing machine that raises shaft and drawing button to draw out tone hole. Repeats operation for each tone hole. Changes mandrel and attaches tools to trim and roll back top edge of tone holes.
 GOE: 06.02.02 STRENGTH: M GED: R3 M1 L1 SVP: 4 DLU: 77

730.684-010 ASSEMBLER, MUSICAL INSTRUMENTS (musical inst.)

Performs any combination of following tasks to assemble and fasten together parts to form subassemblies or complete musical instruments, such as drums, keyed brass, woodwind, or stringed instruments according to specified instructions or diagrams: Drills, taps, or reams holes to prepare parts for assembly, using drill press or bench-mounted drill. Bends tubing and laps parts by hand to form or join parts. Applies abrasive solvents to sliding joints to cause parts to move freely. Fits or faces parts, using hand file or \$T3bench grinder\$T1 to trim parts to fit. Aligns metal brass-wind parts, such as valves, knobs, keys, and bars by sight, by placing them in jigs and clamping them on instrument, or by positioning parts, using rulers or gauges. Screws, clips, solders, and glues parts, such as drum hardware, corks, violin necks, wooden bridges, and metal snares, using handtools, portable powered tools, or hand torches. Removes excess solder, using scraping tool. Winds and bends spring wire around valve keys by hand to install valves on brass-wind instruments. Inserts steel bars and squeezes or separates bars to adjust tube spacing on brass-wind instruments. Cleans inside of tubes of brass-wind instruments with swab and cleaning solvent. Installs electric pick-ups in electrically amplified instruments, using screwdriver and soldering gun. May polish or buff exterior of instruments, using rotating buffing wheel. May cut tubing, using power saw. May inspect instruments for defects and reject instruments not meeting specifications. May be designated according to instrument assembled as Final Assembler, Brass-Wind Instruments (musical inst.); Mounter, Brass-Wind Instruments (musical inst.); Stringed-Instrument Assembler (musical inst.); or by part assembled as Bridge Fitter (musical inst.); Knobber (musical inst.); Neck Fitter (musical inst.). May be designated: Mounter, Clarinets (musical inst.); Mounter, Flutes And Piccolos (musical inst.); Mounter, Keyed Instruments (musical inst.); Mounter, Saxophones (musical inst.); Mounter, Sousaphones (musical inst.); Mounter, Trombones (musical inst.); Mounter, Trumpets And Cornets (musical inst.).
 GOE: 06.02.23 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 77

730.684-014 BELL-NECK HAMMERER (musical inst.) alternate titles: folder-and-notcher

Forms and shapes bell necks for brass musical instruments: Bends neck blank down middle by hand. Aligns blank on mandrel, using forming device. Rolls bent blank around mandrel to form seam, using wooden mallet and iron bar. Secures seam for brazing, using notching tool. Smooths brazed seam, using file. Places neck on mandrel and hammers neck to shape it and remove dents, using metal hammer and wooden mallet.
 GOE: 06.04.24 STRENGTH: M GED: R2 M1 L1 SVP: 2 DLU: 77

730.684-018 BELLY BUILDER (musical inst.)

Performs any combination of following tasks to fit and assemble wood soundboard, cast metal plate, and wood bridges to wood frame to fabricate back panel of piano: Glues supporting ribs and bridges to soundboard and glues soundboard to frame, using electronic gluing machine, gluing machine, or gluing press. Screws back panel to frame to reinforce gluing, using screws and screwdriver. Notches ribs and back frame to specifications, using chamfering machine. Clamps metal back plate to back panel, using air-clamp table, and measures and marks location for plate, using ruler, calipers, template, or gauge. Shapes bridges to specified height, using template, gauge, plane, and sandpaper. Presses pedal to release air-clamp and removes metal plate. Marks with punch and drills holes in back panel to attach metal plate, using drill press. Locates, marks, and drills bridge pin holes, using template, punch, hammer, and portable drill. Notches treble bridge with shaper machine or handtools. Hammers bridge pins into holes. Repositions metal back plate on back panel and secures plate to panel with bolts and screws. Verifies alignment of plate with back and bridges, using gauges. Inserts shims or removes wood from frame to adjust level of plate to obtain specified alignment. Hammers wood bushings into tuning pin holes in plate. Hammers tuning pins into bushings. May drill holes in bushings, using drill press. May varnish soundboard and ribs. May grind metal plate bearing bar to specified size, using portable grinder.
 GOE: 06.02.32 STRENGTH: H GED: R3 M3 L3 SVP: 3 DLU: 77

730.684-022 BOW REHAIRER (any industry)

Replaces bow hair of stringed instrument bows, using handtools: Disassembles bow and removes spent hair, using handtools. Examines and cleans bow parts. Hand-carves replacement wedges and plugs. Selects new hairs of similar color and binds one end with yarn and resin. Secures bound end in one end of bow and secures it with wedges. Combs hair and binds loose ends with yarn and resin. Secures end in bow with wedges.
 GOE: 05.05.12 STRENGTH: S GED: R3 M1 L1 SVP: 6 DLU: 77

730.684-026 CHIP TUNER (musical inst.) alternate titles: chipper

Adjusts piano strings to attain specified pitch, in first tuning of partially finished pianos: Rubs strings with wood block to remove irregularities, such as kinks. Plucks specified C or A string with pick and adjusts tuning pin with tuning wrench until pitch of string and tuning fork or bar are in unison. Plucks remaining string and adjusts to specified pitch by aurally comparing with previously tuned strings.
 GOE: 06.02.32 STRENGTH: M GED: R3 M2 L3 SVP: 3 DLU: 77

730.684-030 CONSOLE ASSEMBLER (musical inst.)

Assembles and connects organ components, such as speakers, pedal assembly, switch assembly, and amplifiers, on mockup. Makes mechanical adjustments to units. Removes units from mockup and installs in organ case.
 GOE: 06.02.23 STRENGTH: M GED: R3 M2 L2 SVP: 4 DLU: 77

730.684-034 FRETTED-INSTRUMENT INSPECTOR (musical inst.)

Inspects stringed instruments, such as banjos and guitars, for tone, finish, and mechanical action: Tightens strings of instrument by hand. Plucks and adjusts strings to test tonal quality and intonation. Examines instrument for flaws in construction and finish. Adjusts alignment of parts, using handtools. Files and sands rough areas and applies lacquer over areas with brush. Buffs lacquered areas, using power-buffing wheel.

GOE: 06.01.04 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

730.684-038 INSPECTOR, WOODWIND INSTRUMENTS (musical inst.)

Inspects woodwind musical instruments, such as clarinets, saxophones, or flutes, for defective finish and mechanical action, and makes repairs, using handtools and testing devices: Tests soldered joints for strength and keys for spring tension, using testing devices. Solders loose parts and adjusts spring tension, using soldering iron and handtools. Examines instrument for defects in finish, and touches up defects, using buffing wheel. Inserts instrument into device that closes all keys and admits compressed air. Observes manometer to ascertain presence of air leakage. Presses pads with finger to locate leakage and adjusts pad, using handtools. Marks other defects for correction.

GOE: 06.03.02 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

730.684-042 KEYBOARD-ACTION ASSEMBLER (musical inst.)

Assembles and adjusts action of electronic organs: Uncrates keyboards and removes keys from keyboard. Sends keyboard to cabinet shop for shaping. Replaces keys in keyboard and locks board in rotor rack. Adjusts travel (up and down action) of keys and spaces with spacing tool. Regulates tension of key springs. Inserts key action screws into slotted ends of keys and levels key ends. Places keyboard end plates in each end of jig and locks plates in place. Removes keyboard from rotor rack and places keyboard in jig between end plates. Drills holes through keyboard and end plates and inserts screws. Removes keyboard from jig and attaches key action mounting brackets to end plates. Attaches contact plates to underside of keys, using screwdriver. Solders connecting wire across all contact blocks, using soldering iron. Mounts subassembly under keys, using screwdriver. Adjusts level of key ends so key will activate key action.

GOE: 06.02.23 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

730.684-046 MANUAL WINDER (musical inst.)

Performs any combination of following tasks to assemble components for electronic organs: Inserts tension rod in manual to ease tension on resistance wires welded to contacts. Inserts contacts through actuators and locks actuators in place. Forms loops on ends of wires, using machine; and attaches loop ends to specified terminals. Winds excess wire into trough for tone control. Removes tension rod and ties assembly into place, using thread. Inserts rows of contacts in manual and wires preset stops for change of organ tone. Inserts contact separators in manual. Cleans bus bars, using chamois and alcohol, and inserts bars in manual to form junctions for electrical circuits. Straightens and replaces contacts, and rewires components to correct defective manuals. Inserts holder and wiring comb. Fastens assembly, using screwdriver.

GOE: 06.02.23 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 77

730.684-050 MUSICAL-STRING MAKER (musical inst.)

Performs any combination of following tasks to fabricate gut strings for musical instruments: Removes sheep intestine from barrel and places it in cleaning solution. Feeds intestines through stripping machine or runs hands or scraper over intestine to remove mucus. Splits intestine into four pieces and splices pieces together to make uniform lengths. Feels strands to select those of uniform size for various strings. Attaches loops to strands and stretches strands over posts. Twists specified number of strands together to form strings. Fumigates, dyes, and bleaches strings. Verifies gauge of string, using micrometer.

GOE: 06.02.32 STRENGTH: L GED: R3 M1 L1 SVP: 4 DLU: 77

730.684-054 PIANO STRINGER (musical inst.)

Threads wires through tuning pins to string pianos, using handtools: Selects specified wire, following chart for particular model, and threads wire through hole in tuning pin, around hitch pin (pin at base of cast plate used to hold string), and through another tuning pin. Cuts wire with cutters and draws it taut, using handtools. Aligns and spaces strings, using handtools. Attaches metal pressure bar, using screws and handtools to stabilize string pressure. May pluck string with pick and adjust tuning pin with tool to bring note to specified range. May insert and hammer tuning pins into previously drilled holes in back panel.

GOE: 06.04.24 STRENGTH: M GED: R2 M1 L2 SVP: 4 DLU: 77

730.684-058 PREASSEMBLER AND INSPECTOR (musical inst.)

Laps pistons and slides of brass musical instruments to ensure that joints slide freely: Screws piston onto shaft attached to handle, and brushes pumice compound onto piston. Inserts piston into matched valve, and laps it until it moves freely. Moves sliding joints to detect binding action. Applies abrasive compounds to slides, and files and laps them until they move freely. Inspects soldered joints for excess solder and rejects unacceptable joints.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 4 DLU: 77

730.684-062 RACKER, OCTAVE BOARD (musical inst.)

Assembles octave rack for electronic organ, according to blueprint or diagram: Clamps rack in jig table. Places octave boards in designated rack sections and staples edges to rack, using stapling gun. Solders wires between boards to connect octave board circuits, using electric soldering iron. Positions wire cable on rack and octave boards, according to blueprint or diagram, and solders cable ends to solder buttons on boards. Attaches hinges to rack, using screwdriver.

GOE: 06.02.23 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 77

730.684-066 SANDER-AND-BUFFER (musical inst.)

Sands unlacquered wooden sections of guitars, using sandpaper and portable-power sander. Repairs cracks in wood, using knife and putty. Stains instrument, using brush, pad or spray gun. Rubs stained surface with cloth or felt pad to remove excess stain and evenly distribute stain. Scrapes away shading from binding to top, back, rim, and neck of instruments, using steel scraper tools and sands instrument smooth, using sandpaper. Hand-buffs lacquered sections of guitar, using cheesecloth and buffing compound.

GOE: 06.04.25 STRENGTH: L GED: R2 M1 L2 SVP: 3 DLU: 77

730.684-070 SEAM HAMMERER (musical inst.)

Smooths brazed seam of copper, nickel, silver, or brass musical instruments, using power roller or hammer: Files seam, using metal file. Places instrument on anvil or mandrel with seam uppermost. Starts hammer and moves instrument piece across anvil to expose seam to hammer, or positions workpiece under wheel of rolling machine and activates wheel to compress seam to specified thickness.

GOE: 06.02.24 STRENGTH: L GED: R3 M1 L1 SVP: 3 DLU: 77

730.684-074 SHEET-METAL-PATTERN CUTTER (musical inst.)

Lays out and cuts sheet metal for brass-wind instrument bells and bell necks, using templates and power tools or handtools: Positions templates on sheet metal to obtain minimum of waste. Marks cutting and forming lines on sheet metal with scribe, following outlines of templates. Cuts metal, following guidelines, using hand shears or power shears.

GOE: 06.02.24 STRENGTH: L GED: R2 M2 L1 SVP: 3 DLU: 77

730.684-078 SLIDING-JOINT MAKER (musical inst.)

Cuts tubing, solders tubes together, and fits into brass wind instrument sliding joints: Sets length gauge of table saw, and cuts tubes to length. Secures tubes in chuck of turning lathe, and works handtools against tube ends to bevel, burr, and ream tubes. Solders tubes, braces, and attachments together and assembles joints, using mallet.

GOE: 06.02.24 STRENGTH: S GED: R3 M2 L2 SVP: 3 DLU: 77

730.684-082 STOPBOARD ASSEMBLER (musical inst.)

Assembles electronic organ stopboards, attaching components, such as stop tabs, brackets, switches, and lights: Drills holes, using electric drill. Attaches holding brackets with screws. Inserts holding screws, stop tabs, and spring clips. Levels stop tabs, using measuring tool. Drills holes and installs stack switch. Attaches bank of indicator lights. Tests lights with battery tester. Installs music rack lighting panel. Attaches face board to exposed ends of stopboard sections, using screwdriver.

GOE: 06.02.23 STRENGTH: L GED: R3 M3 L3 SVP: 4 DLU: 77

730.684-086 TESTER (musical inst.)

Tests pitch of reed and brass instruments by sounding note and observing effect on stroboscope: Sets dial on stroboscope to note to be tested. Plays note on musical instrument into microphone connected to stroboscope. Observes whether revolving lights on stroboscope appear to stand still, indicating correctness of pitch, or move slowly to right or left, indicating sharp or flat. Pushes or pulls tuning slide or pulls out mouthpiece to adjust instrument until exact pitch is obtained. Rejects defective instruments. Tests accuracy of stroboscope by striking standard pitch chime and noting indicator.

GOE: 06.03.02 STRENGTH: L GED: R3 M2 L2 SVP: 6 DLU: 77

730.684-090 TONE CABINET ASSEMBLER (musical inst.) alternate titles: pedal assembler

Assembles pedal board and keyboard-coupler assemblies, and mounts speakers and parts to tone cabinets of electronic organs, following detailed drawings, and using handtools: Cements felt strips to wood frames of chassis. Lays out and drills holes in frame, using ruler, pencil, and hand drill. Mounts metal guide bars in holes and secures them to frame with wood screws. Scribes line for mounting felt to note-mounting channel, using straightedge. Cements felt strips on channel. Fastens pedals to mounting channel, inserts and crimps pedal tension springs on pedal frames, and adjusts tension of springs. Cements felt strips to channel tips. Cuts speaker and speaker adapter portholes in panel of tone cabinet. Installs front and top speakers and solders connecting wires to speakers. Mounts grille cloth over speakers. Cuts hole in rear panel of cabinet for receptacle of connector cable and connects cable wires to speakers. Mounts insulation in speaker enclosures. Assembles keyboard kit and attaches mounts to brackets of keyboard assembly. Cements felt to keynote channels. Clamps keyboard assembly to coupler assembly and attaches assemblies to chassis frame.

GOE: 06.02.23 STRENGTH: M GED: R3 M2 L2 SVP: 3 DLU: 77

730.684-094 TONE REGULATOR (musical inst.)

Compresses or loosens felt on piano hammers to brighten or soften tone of piano strings: Depresses piano key and listens to piano tone. Sands defective hammers with sanding paddle or brushes lacquer on hammer to harden felt and increase tonal brilliance. Jabs felt hammer with needles to soften hammers and increase tonal mellowness. Removes excess felt from hammer, using file. Inspects and adjusts string spacing and striking point of hammers, using wrench and burner. Files burrs from tuning pins.

GOE: 06.04.34 STRENGTH: L GED: R2 M1 L1 SVP: 4 DLU: 77

730.685-010 LOOPER (musical inst.) alternate titles: ball-ender

Tends machine that twists loop around fitting at end of wire musical-instrument strings: Positions cylindrical fitting (brass cylinder with hollow center) onto post on horizontal shaft of looper machine. Inserts wire-string into securing hole in machine table. Draws loose end of wire-string around fitting on shaft and back across machine table. Pulls bar over wire-string on machine table to hold wire-string secure. Depresses treadle, causing wire-looped cylinder to revolve, twisting loop and fastening fitting to end of wire-string. Stops machine and removes looped fitting from machine. Places wire-string in holder for collection. May test loop strength, using applied tension. May verify gauges of wire with micrometer.

GOE: 06.04.24 STRENGTH: S GED: R2 M1 L2 SVP: 3 DLU: 77

730.685-014 MOUTHPIECE MAKER (musical inst.)

Tends shop machines that form and shape mouthpieces for woodwind instruments: Screws mouthpiece into boring machine that follows template to automatically form base of piece. Positions mouthpiece in chuck of automatic turning lathe and shapes outside of mouthpiece. Feeds mouthpiece in sloping machine to cut slope to specified dimensions. Presses tip of mouthpiece against abrasive wheel to grind to specified curvature. Places mouthpiece in fixture of chambering (shaping) machine to shape inside opening. Cuts and attaches cork around forward part of mouthpiece to ensure fit of mouthpiece into instrument, using knife and glue. Verifies dimensions, using micrometers and gauges. Operates power buffing wheel to buff mouthpiece.

GOE: 06.04.09 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 77

730.686-010 CUTTER, WOODWIND REEDS (musical inst.)

Feeds machines that saw and abrade cane (cultivated bamboo) into woodwind instrument reeds: Places stalk of cane against length guide on table of bandsawing machine that cuts cane to length. Sorts cut pieces by diameter. Splits pieces into strips, using hand-operated splitting device. Places strips into blanking-machine that cuts excess material from strips to form reed blanks. Places blanks on conveyor belt that feeds against rotating sanding disk. Inserts blank into holding device of cutting

machine that tapers one end of reed blank. Removes tapered reeds and sorts, using gauge.
 GOE: 06.04.25 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

731 OCCUPATIONS IN FABRICATION AND REPAIR OF GAMES AND TOYS

This group includes occupations concerned with fabricating and repairing BB guns, trains, toy musical instruments, models, poker chips, dolls, chess and checker sets, and children's vehicles. Occupations concerned with fabricating such textile products as doll clothing and children's costumes are included in Division 78.

731.131-010 SUPERVISOR, TOY ASSEMBLY (toy-sport equip.)

Supervises and coordinates activities of workers engaged in assembly, cleaning, and painting of metal, plastic, and wooden toys: Assembles toys to aid in meeting schedule or to determine cause of production delays. Directs workers in assembly methods by demonstrating assembly tasks. Trains workers in operation and maintenance of equipment used in assembly and painting of toys on production line. Schedules conveyor line changes according to production requirements. Inspects toys for finish and operation. Maintains production and personnel records. Performs other duties as described under SUPERVISOR (any industry) Master Title. May supervise workers engaged in constructing prototype toys and be designated Supervisor, Model Making (toy-sport equip.).
 GOE: 06.02.01 STRENGTH: L GED: R4 M3 L4 SVP: 7 DLU: 77

731.280-010 MODEL MAKER (toy-sport equip.)

Constructs mechanically functioning prototypes of toys from blueprints, using metalworking, woodworking, and plastic-forming machines and handtools: Studies blueprint design and selects stock material, such as aluminum, wood, styrene, and fiberglass, according to design specifications. Lays out design of parts on stock, following blueprints and using measuring and drawing instruments. Designs and casts molds from resin for use in injection-molding and plastic-forming machines. Sets up and operates machines, such as injection-molding machine, vacuum plastic-forming machine, drill press, lathe, jointer, milling machine, and sanding machine, to cut, shape, and sand model parts. Assembles and fastens parts together, using handtools, glue, bolts, nails, and clamps.
 GOE: 01.06.02 STRENGTH: L GED: R4 M4 L4 SVP: 7 DLU: 77

731.381-010 DICE MAKER (toy-sport equip.)

Fabricates dice from precut nitric-celloid cubes according to specifications: Places nitric-celloid cubes in electrically heated metal box to remove volatile solvents. Operates milling machine to shape cubes to specified tolerance, according to dimensions specified on work order. Measures cubes with vernier caliper. Operates drill press to drill spots in cubes. Paints spots on cubes, using implement. Finishes dice to tolerance of 0.001 inch, using buffing wheel or draws dice over various grades of sandpaper to achieve dull finish.
 GOE: 06.02.24 STRENGTH: L GED: R3 M2 L2 SVP: 6 DLU: 77

731.587-010 FINISHER, HAND (toy-sport equip.)

Dresses and decorates toys or dolls with ready-made clothes, ribbons, and ornaments, such as bells and collars: Glues precut facial features and hats on toy. Directs air from blower over toys to remove dust and lint. Records production. May dress dolls with unfinished garments and sew them onto doll. May glue heads of toys onto bodies.
 GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

731.684-010 COIN-MACHINE ASSEMBLER (svc. ind. mach.) alternate titles: switchpanel mounter

Mounts and connects switch panels to control boxes of electric pinball machines. Attaches switch panels to control boxes, using screws and screwdriver, and solders switch panel wires to electric plugs of control boxes, using soldering iron.
 GOE: 06.04.23 STRENGTH: L GED: R2 M1 L2 SVP: 3 DLU: 77

731.684-014 DOLL REPAIRER (any industry)

Repairs damaged dolls: Examines doll to determine extent of damage and repairs needed. Disassembles doll to remove damaged parts. Repairs or replaces parts and reassembles doll. Repaints dolls, retouches lips, and cheeks, using paint and brush. Replaces eyelashes and hair, using glue. May package or otherwise prepare repaired doll for shipment or storage.
 GOE: 05.10.04 STRENGTH: L GED: R2 M1 L1 SVP: 3 DLU: 77

731.684-018 TOY ASSEMBLER (retail trade)

Assembles knocked-down toys for delivery to customers, using handtools and manufacturer's diagram or instructions.
 GOE: 05.12.15 STRENGTH: L GED: R2 M2 L2 SVP: 3 DLU: 77

731.684-022 TOY-ELECTRIC-TRAIN REPAIRER (retail trade)

Repairs toy electric trains in retail toy store, using pliers, screwdrivers, and soldering iron: Removes defective parts and replaces with new ones. Adjusts coils and moving parts. Does touchup painting as required.
 GOE: 05.10.03 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 77

731.685-010 ROOTER OPERATOR (fabrication, nec) alternate titles: doll-wig maker, rooted hair; hair-rooting-machine operator

Tends machine that roots (stitches) prescribed quantity of hair onto doll head: Places one or more cones of precurled synthetic hair at rear of machine. Pulls single strand of hair from cone, threads needle, and positions doll head on machine post. Depresses pedal to activate needle and maneuvers head under needle in prescribed manner until machine stops at end of rooting cycle. Releases pedal to activate device that cuts hair from cone at specified length. Places completed head in containers for removal to finishing department. May tend machine that curls hair as it is being sewn onto doll heads.

GOE: 06.04.09 STRENGTH: S GED: R2 M1 L2 SVP: 3 DLU: 77

731.685-014 STUFFER (toy-sport equip.) alternate titles: blower; toy stuffer

Tends machine that blows filler into stuffed-toy shells: Inserts precut supporting wire into shell. Places shell opening over stuffing machine nozzle. Depresses pedal to blow cotton or chopped foam rubber filler into shell to impart shape to toy. Places stuffed toy in tote box. Records production. May stuff toys by hand.

GOE: 06.04.34 STRENGTH: S GED: R2 M1 L1 SVP: 2 DLU: 77

731.685-018 TIRE SETTER (toy-sport equip.)

Tends machine that attaches rubber tires or semipneumatic tires to wheels of children's vehicles, such as tricycles or bicycles, using either of following methods: (1) Starts machine and positions rubber tire material against machine fence in line with threading hole. Depresses pedal causing machine to thread wire through tire and cut wire to specified length. Inserts protruding ends of wire in slots and holes of machine forming loop with tire. Positions vehicle wheel inside loop formed by tire and depresses pedal to activate machine and draw wire, twist wheel, trim wire, and secure wire on wheel. Slides wheel onto shaft between rollers of machine with wire twist up and depresses pedal causing rollers to push ends of tire over wire-twist to complete tire. (2) Places tire in jaws of machine and starts machine to stretch tire. Positions wheel inside stretched tire on machine, holds wheel, and depresses pedal to release tire onto wheel rim. May install sprocket, dust cap, and secure sprocket with snap ring on bicycle wheel, using metal cone.

GOE: 06.04.34 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

731.687-010 ASSEMBLER (svc. ind. mach.)

Assembles ball-propelling units of pinball games, using handtools: Screws cap on rod with pliers and slips spring on rod. Inserts end of rod through hole in housing and attaches pull knob, using screwdriver. Pulls knob to test spring tension of assembly.

GOE: 06.04.23 STRENGTH: L GED: R1 M1 L1 SVP: 2 DLU: 77

731.687-014 FINISHER (fabrication, nec)

Sets doll hair into specified style by combing, brushing, and cutting: Places doll head on holder and combs and brushes hair in prescribed manner to smooth and untangle hair, using wire brush and petroleum jelly. Cuts hair to desired length, using scissors. Sets hair into specified style and secures in place, using rubber bands. Wipes doll face to remove smudges, using damp cloth. Places plastic bag over finished head and tucks edges under base to prevent damage to hair and face.

GOE: 06.04.34 STRENGTH: S GED: R2 M1 L1 SVP: 2 DLU: 77

731.687-018 HACKLER, DOLL WIGS (toy-sport equip.)

Grasps and pulls synthetic hair through teeth or bristles of hackle to remove tangles and soften fibers preparatory to making doll wigs. May arrange and finish doll wigs, using comb, and be designated Wig Comber (toy-sport equip.).

GOE: 06.04.34 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

731.687-022 INSPECTOR, TOYS (toy-sport equip.)

Inspects subassembly or finished metal, plastic, and wooden toys for conformance to specifications: Examines toys at end of assembly line for items, such as paint scratches or nicks, inclusion of accessories, operation of moving parts, and decal application. Removes defective toys from line or performs repairs, such as touching up paint, tightening screws, or bending fastening tabs. Cleans toys with damp sponge and transfers them to packing section. Weighs specified quantities to fill orders for toys. May test operation of toys, using testing equipment.

GOE: 06.03.02 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

731.687-026 MOLD FILLER, PLASTIC DOLLS (toy-sport equip.)

Fills molds with plastic compound to cast doll heads, arms, and legs: Inspects molds and covers for cleanliness and cleans them as required with solvent and rags. Ignites hand-operated gun and inserts nozzle into fill plug of mold. Presses trigger of gun which automatically discharges premeasured amount of plastic compound into mold. Places cover on mold and bolts it in place, using pneumatic wrench. Pushes mold onto conveyor. May strip mold after curing.

GOE: 06.04.32 STRENGTH: H GED: R2 M1 L1 SVP: 3 DLU: 77

731.687-030 PUZZLE ASSEMBLER (toy-sport equip.)

Fits together pieces of jigsaw puzzles to form completed unit: Removes puzzle forms and paint trays from conveyor and stacks them according to color code. Removes puzzle parts from trays and fits part into form. Places assembled puzzle on conveyor.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

731.687-034 TOY ASSEMBLER (toy-sport equip.)

Assembles parts of various materials, such as plastic, wood, metal, or fabric to mass produce toys, performing any combination of following tasks: Selects parts specified and positions parts in designated relationship to each other, using hands, tweezers, or pliers. Assembles and fastens parts of toys together, using clips, glue, jig, screws, dowels, nails, handtools, and portable powered tools. Inspects toys for specified color and operation of parts. May tend previously set up machines, such as drill press, reamer, welding machine, nailing machine, flanging press, and punch press to drill, cut, weld, trim, fit, or insert toy parts on assembly line. May be designated according to item assembled or material used as Assembler, Toy Voices (toy-sport equip.); Doll-Eye-Setter (toy-sport equip.); Stuffed-Toy Joiner (toy-sport equip.); Toy Assembler, Plastic (toy-sport equip.); Toy Assembler, Wood (toy-sport equip.); Wheel Assembler, Baby Carriage (toy-sport equip.).

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

731.687-038 WIRE CUTTER (svc. ind. mach.)

Cuts copper wire to specified length, using hand shears, for use in manufacture of pinball machines.
 GOE: 06.04.24 STRENGTH: L GED: R1 M1 L1 SVP: 1 DLU: 77

732 OCCUPATIONS IN FABRICATION AND REPAIR OF SPORTING GOODS

This group includes occupations concerned with fabricating and repairing golf and tennis goods, gymnasium and playground equipment, basketballs, fishing gear, decoys, roller skates and ice skates, body-protection equipment, and bowling balls. Occupations concerned with fabricating and repairing athletic and sports apparel are included in Division 78. Occupations concerned with fabricating and repairing small arms are included in Group 736, and occupations concerned with fabricating ammunition are included in Group 737.

732.130-010 SUPERVISOR (toy-sport equip.)

Supervises and coordinates activities of workers engaged in fabricating, assembling, or repairing sporting goods, such as athletic balls, billiard tables, bowling balls, bows and arrows, golf clubs, and under-water equipment: Directs workers in operation of machines and assembly techniques. Tours work area to ascertain progress of scheduled work and observes workers to verify conformity with prescribed work procedures, safety regulations, productivity, and standards of work quality. Occasionally examines assembled products to determine if products meet company specifications. Reports defective machinery and equipment to designated personnel to obtain repairs required. May assemble items to aid in meeting production schedule or determine cause of production delays. Performs other duties described under SUPERVISOR (any industry) Master Title. May be designated according to activity supervised as Assembly Supervisor (toy-sport equip.); Fabrication Supervisor (toy-sport equip.); Repair Supervisor (toy-sport equip.).

GOE: 06.02.01 STRENGTH: L GED: R4 M3 L3 SVP: 6 DLU: 78

732.281-010 CUSTOM SKI MAKER (toy-sport equip.)

Fabricates customized skis, using knowledge of materials and techniques of production: Examines designs and confers with engineering personnel to determine production specifications. Computes deviations from standard specifications required to produce customized skis. Collects parts required and fabricates cams and core form needed to make skis, using planing machine. Turns knobs to adjust temperature of mold press to specified setting. Positions parts, such as heel pad, toe-edge, and shims in female die of mold. Wraps fiberglass around polyurethane foam core, pours epoxy resin over core, and positions core in female die of heated mold press for shaping. Removes ski from die, scrapes edge with putty knife to remove resin flash, and mounts ski in rack to stabilize camber and torsion. Visually inspects finish applied to skis by other production workers to ensure compliance with specifications. Verifies configuration of skis in repose and under stress, using micrometer, rulers, and weight-distribution measurement graph. Records information on materials used and techniques applied to fabricate skis.

GOE: 05.10.01 STRENGTH: L GED: R4 M4 L4 SVP: 7 DLU: 77

732.364-014 SKI-BINDING FITTER-AND-REPAIRER (toy-sport equip.)

Fits and attaches bindings to skis, according to customer needs and ski and boot specifications, and repairs ski bindings and skis, using power tools and handtools: Records customer statistics, such as height, weight, skiing experience, and skiing habits to maintain reference file. Reviews customer data and ski manufacturer specifications to determine method of locating and attaching binding to skis. Measures length of ski-running surface with ruler to locate center of skis. Places skis in clamps, positions drilling-jig on skis, and drills holes, using electric hand drill and utilizing knowledge of composition of skis. Screws bindings to skis, using screwdriver, and secures boots in bindings to ensure required flexibility. Replaces defective bindings, cements separated layers of laminated skis, using epoxy resin and clamps, and sharpens ski edges, using file, to repair skis. Occasionally sells skis when sales staff are busy.

GOE: 06.02.24 STRENGTH: L GED: R4 M3 L3 SVP: 5 DLU: 86

732.381-010 BOW MAKER, CUSTOM (toy-sport equip.)

Selects, laminates, shapes, and finishes woods, plastics, and metals to make archery bows: Selects materials from stock according to customer's specifications, and preshapes parts, using handtools and power tools. Applies specified adhesives between parts. Assembles parts and places assembled bows in glue press to cure. Heats bows in steam box until pliable and clamps bows on form to shape curves and recurves. Trims and smooths bows, using handtools and sandpaper. Stains, paints, and varnishes bows according to specifications. May apply decals to bows. May rework or repair damaged bow and be designated Bow Repairer, Custom (toy-sport equip.). May make arrows, using die cutter to cut feathers used on arrows.

GOE: 01.06.02 STRENGTH: L GED: R4 M2 L2 SVP: 7 DLU: 77

732.381-014 BOWLING-BALL GRADER AND MARKER (toy-sport equip.) alternate titles: grade and center marker

Lays out axis through light and heavy centers of bowling balls and gauges and grades balls according to size, color, and quality: Floats bowling ball in mercury pool and locates and marks center of light side, using plumb bob and grease pencil. Places ball in jig and locates center of heavy side, using center gauge. Examines ball for defects and color quality, measures size with ring gauge, and marks data to be engraved under trademark, using grease pencil. Places rejected balls aside for reworking.

GOE: 06.01.05 STRENGTH: L GED: R3 M2 L2 SVP: 6 DLU: 77

732.381-018 GOLF-CLUB HEAD FORMER (toy-sport equip.) alternate titles: club former

Adjusts loft and lie (angle made by club face to neck) on golf club irons to specified angle, using hammer. Reads work order to determine number and model of club being formed. Reads chart specifying angle of loft and lie for club and measures angles, using bench-size protractor or gauges. Places forging on lead block and hammers neck or head to open or close angles to achieve specified angle dimensions. Inserts shaft and verifies conformance of angles with standards, using gauge.

GOE: 06.02.24 STRENGTH: L GED: R3 M2 L2 SVP: 6 DLU: 77

732.381-022 GOLF-CLUB REPAIRER (toy-sport equip.)

Repairs worn or damaged golf clubs or customized golf clubs according to customer specifications, using handtools: Dismantles golf clubs and replaces worn or damaged parts or parts specified by customer, such as head, shaft, sole plates, and composition inlays in faces of woods, using screws, rivets, epoxies, files, sandpaper, drills, hammers, heating torch, and vise. Wraps shanks of clubs with cord or cements on plastic sleeves to prevent shanks from splitting. Removes old grips. Attaches new grips by applying listing materials to build up handle area and by wrapping leather strip over listing materials, or brushes on adhesive and slips molded rubber grips onto shaft. Reweights clubs by adding or subtracting lead or brass weights to achieve \$T3swing weight\$T1 specified. Sands and files faces of woods or hammers heads of irons to change loft or lie of clubs or to open or close faces of clubs. Stains, shellacs, or oils wooden heads and shafts and polishes steel heads on buffing wheel to finish clubs. Cleans and polishes chrome-plated metal golf club heads, using buffing machine and sand-blasting equipment. May make clubs to customer specifications, using ready-made shafts and club heads and be designated Golf-Club Maker (toy-sport equip.); or according to operation performed as Assembler, Golf-Wood Head

(toy-sport equip.); Golf-Club Finisher (toy-sport equip.).
 GOE: 05.10.01 STRENGTH: M GED: R3 M2 L2 SVP: 6 DLU: 77

732.384-010 ASSEMBLER, BILLIARD-TABLE (toy-sport equip.)

Assembles new billiard or pool tables, performing any combination of following tasks: Cuts, trims, and installs pool table parts, such as cushions, cloth covering, pockets, and tabletops, using cement, tacks, scissors, hammer, and portable bandsaw. Assembles and installs rails and legs, using handtools. Installs specified pool table accessories, such as coin meter assembly and ball return gullies, using handtools and power tools. May assemble billiard sticks and glue tips on ends, using brush and glue. May repair billiard tables, using handtools and power tools and be designated Billiard-Table Repairer (retail trade; toy-sport equip.); or may be designated according to component assembled as Cushion Former (toy-sport equip.); Cushion Installer (toy-sport equip.); Frame Assembler (toy-sport equip.); Leg Assembler (toy-sport equip.); Pocket Assembler (toy-sport equip.); Rail Assembler (toy-sport equip.); Trim Mounter (toy-sport equip.).
 GOE: 05.10.01 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 77

732.384-014 INSPECTOR AND ADJUSTER, GOLF CLUB HEAD (toy-sport equip.) alternate titles: loft and lie inspector and adjuster

Inspects golf club irons to verify conformance with specifications and adjusts angles, using rubber mallet: Measures angle of loft and lie, using gauges. Adjusts neck or head to achieve specified angle dimensions.
 GOE: 06.03.02 STRENGTH: L GED: R3 M3 L3 SVP: 4 DLU: 77

732.487-010 BOWLING-BALL WEIGHER AND PACKER (toy-sport equip.)

Weighs bowling balls, computes weight differential between light and heavy sides, records data on box, and packs balls for sales, storage, or shipment: Places ball (heavy side out) on pan of straight-beam-balance scale and reads and records weight. Reverses position of ball on scale pan, reads and records weight, and computes differential between light and heavy sides. Reweighs ball with heavy side down to ascertain true weight. Records data on packing box, using pen or grease pencil. Packs ball in box and seals box with glue or gummed tape.
 GOE: 06.04.38 STRENGTH: L GED: R2 M2 L1 SVP: 4 DLU: 77

732.567-010 INSPECTOR, GOLF BALL (toy-sport equip.)

Inspects and tests golf ball centers and wound cores for conformance to standards and records results: Squeezes liquid centers through wringer to observe cover leaks. Examines wound cores to see that ball is round and that thread condition meets specifications. Passes ball through go-not-go gauges to verify size. Places wound cores on fixture of compression tester, presses pedal to drop ram, and observes gauges to obtain compression reading. Sorts balls according to compression registered on gauge. Reports compression test results and other quality factors.
 GOE: 06.03.02 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 77

732.584-010 BOWLING-BALL ENGRAVER (toy-sport equip.)

Engraves brand name, serial number, and other identification data on plastic bowling balls, using pantograph-routing machine: Inserts cutting bit in router head and secures bit with wrench. Selects and clamps specified pattern (letters or design) under tracing stylus of pantograph-routing machine. Centers bowling ball in jig and clamps ball into position under router head. Starts machine and lowers tracing stylus to beginning point on pattern. Pulls lever, lowering cutting bit onto surface of bowling ball, and guides tracing stylus over pattern, causing router to cut identification data on ball. Examines ball to detect irregular or incomplete engraving and places defective balls aside for rework.
 GOE: 06.04.24 STRENGTH: L GED: R2 M1 L2 SVP: 3 DLU: 77

732.584-014 FINISHER (toy-sport equip.)

Shapes and smooths archery bows and tennis racket frames to final contours of phototype designs prior to application of finish coating, using scrapers, files, and emery paper: Clamps bow or frame in padded vise and files off excess wood or fiberglass to give finish shape to item. Scrapes flat surfaces to remove file marks. Shapes tip nocks of bows with circular file. Smooths surfaces to final finish, using vibratory sander and emery paper. Marks item with identification for inspector's reference and records number and type of item finished.
 GOE: 06.04.25 STRENGTH: L GED: R2 M1 L2 SVP: 4 DLU: 77

732.587-010 GOLF-BALL TRIMMER (toy-sport equip.)

Shaves \$T3flash\$T1 from molded golf balls, using trimming machine: Positions golf ball in locating cup. Depresses pedal to move golf ball against driver cup. Presses degrooving knife against rotating golf ball to shave flash. Releases pedal to drop golf ball in chute. May remove flash from golf balls, using machine that sands flash from surface of ball. Keeps production records.
 GOE: 06.04.34 STRENGTH: S GED: R2 M1 L1 SVP: 2 DLU: 77

732.587-014 GOLF-CLUB WEIGHER (toy-sport equip.) alternate titles: golf-club matcher

Weighs golf clubs on scale to obtain \$T3swing weight\$T1 for matching irons and sorts clubs according to swing weight: Positions club in holding fixture of scale with grip in holder and head extending over and beyond fulcrum point. Reads pointer on scale indicating swing weight. Wraps heads of weighed clubs in cellophane bag and tapes bag to shaft with colored tape designating swing weight of club. Places weighed and wrapped clubs in tote box with work order.
 GOE: 06.03.02 STRENGTH: L GED: R2 M1 L2 SVP: 2 DLU: 77

732.684-010 ARROWSMITH (toy-sport equip.)

Paints decorations and glues nock, head, and feathers on shaft of archery arrows: Applies glue to ends of arrow and places nock on one end and hunting or target head on other end. Positions arrow in rotating cresting (decorating) machine and paints bands of specified color on rotating arrow shaft, using brush. Clamps arrow into fletching (feathering) jig of rotating fletching table leaving edge of quill exposed. Applies glue to exposed edge and positions edge on arrow shaft. Repeats gluing operation until specified number of feathers are glued to arrow. May mix paints according to color chart. May be designated according to duties performed as Crestler (toy-sport equip.); Fletcher (toy-sport equip.).
 GOE: 06.04.34 STRENGTH: L GED: R2 M2 L2 SVP: 2 DLU: 77

732.684-014 ASSEMBLER (toy-sport equip.)

Assembles water sports equipment, such as diving boards, under-water equipment, and water skis, using handtools and power tools: Positions parts in sequence of assembly following work orders, guides, holes, or edges. Screws precut parts together, using handtools, or glues parts together, using glue and clamps. Reams threads on tanks, using die cutting tool. May bore holes for attachment of accessories, using portable drill. May examine completed items for functioning and conformance to specifications. May be designated according to article assembled as Air-Tank Assembler (toy-sport equip.); Diving-Board Assembler (toy-sport equip.); Water-Ski Assembler (toy-sport equip.).

GOE: 06.04.23 STRENGTH: L GED: R2 M2 L2 SVP: 3 DLU: 77

732.684-018 ASSEMBLER, LIQUID CENTER (toy-sport equip.)

Molds golf ball center covers and encases liquid centers in molded covers: Fills pans with specified amounts of water and chemicals and packs dry ice around pans. Places liquid centers for golf balls in series of pans of chemical solutions to freeze liquid, remove gelatin cover, and clean surface. Centers rubber disks on mold, closes cover, and inserts mold in press. Pulls lever to close press and mold disks into semispheres. Removes mold, places semispheres in upper and lower cavities of molding press, places frozen centers on semispheres, and pulls lever to close mold. Opens mold after prescribed time and removes centers encased in rubber. Pulls \$T3flash\$T1 from around centers and places them in dry ice preparatory to vulcanizing.

GOE: 06.04.32 STRENGTH: M GED: R2 M1 L1 SVP: 2 DLU: 77

732.684-022 ASSEMBLER, PING-PONG TABLE (toy-sport equip.)

Assembles parts, such as table-top sections, trim, hinges, and legs, to produce ping-pong tables: Positions table-top sections in jig and applies glue along table edge, using glue and brush. Places wooden trim strips over glue and attaches strips to table edge, using staple gun or power screwdriver. Fastens parts, such as hinges, legs, leg braces, and locks, using power screwdriver.

GOE: 06.04.22 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

732.684-026 BALL ASSEMBLER (toy-sport equip.)

Assembles balls from rubber, rubber impregnated fabrics, and leather, on wax-ball lasts (forms), using handtools: Places wax-ball last in holding fixture and brushes on cement. Presses and smooths rubber impregnated fabric panels on last in specified pattern to cover ball last, leaving space for door opening flap for wax removal. Repeats operation, cementing on specified number of plies to form basketball carcass. Inserts bladder into carcass through door opening and inflates to specified pressure. Aligns flaps of door to matching edges of carcass, brushes on cement, and presses flaps down to close door. Brushes cement on molded carcass or receives cemented carcass. Inspects wet adhesive for dried lumps and missed spaces. Aligns precut leather or rubber panels between raised ribs of molded carcass. Presses and smooths panels onto carcass to complete assembly of basketball. Cuts off air valve nipple flush with ball, using scissors or knife. Paints stripes along false seams, using brush and ink. Waxes balls, using paste wax and damp cloth. Buffs ball surface, using power buffer. Affixes decals to balls and labels balls, using stencil and spray gun. May fabricate and repair rubber or plastic ball bladders. May repair returned, worn, or damaged basketballs by putting in new carcasses or repanning old carcasses. May specialize in one phase of assembly and be designated Carcass Assembler (toy-sport equip.); Door Closer (toy-sport equip.); Leather Coverer (toy-sport equip.); or according to type of ball as Basketball Assembler (toy-sport equip.); Soccer Ball Assembler (toy-sport equip.); Volleyball Assembler (toy-sport equip.).

GOE: 06.04.23 STRENGTH: L GED: R2 M2 L2 SVP: 3 DLU: 77

732.684-030 BASEBALL INSPECTOR AND REPAIRER (toy-sport equip.)

Inspects and grades baseballs or softballs and repairs defects, using handtools: Examines ball for defects, such as crooked, uneven or raised stitches, lumps, and irregular shapes. Straightens crooked stitches by pulling or prying them into place with awl. Places balls with raised stitches into bench press and clamps top of press to flatten stitches. Pushes curved awl through seams to press and smooth lumps under cover of ball. Weighs softballs on scale. Grades baseballs according to model and quality, and grades softballs according to model, quality, and weight. Rejects nonrepairable and misshaped balls.

GOE: 06.03.02 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 77

732.684-034 BASEBALL SEWER, HAND (toy-sport equip.) alternate titles: hand stitcher

Sews leather covers on baseballs and softballs: Places glue-dipped ball in buck frame and stretches both leather covers over ball. Pulls perforated edges of covers together with pliers and tacks covers into place with brads or staples. Sews covers onto ball with harness needle, using waxed linen thread.

GOE: 06.04.27 STRENGTH: L GED: R2 M1 L1 SVP: 3 DLU: 77

732.684-038 BOW MAKER, PRODUCTION (toy-sport equip.)

Fabricates and shapes laminated archery bows: Selects dies according to type bow to be produced and bolts dies to bow press. Applies epoxy resin to precut wood and fiberglass parts for laminating. Aligns parts, following reference marks, and clamps parts to press. Cures bows for specified time to form contour of bow, using bow press. Cuts string nocks in bow tips and bevels bow edge, using abrasive wheels and sanders. Shapes and finishes contour of bow, using belt sanders. Examines bow for twist and adjusts string position to compensate for deficiencies noted. Buffs bow to smooth finish, using power buffer. Measures force required to pull bow string to full draw, using scale and pulley device, to determine if bow meets specifications. May apply decorative or identifying decal to bow. May varnish and stain bow to protect surface. May assemble crossbows and be designated Crossbow Maker (toy-sport equip.). May repair defects in bows damaged in production or returned to factory for repair.

GOE: 06.02.32 STRENGTH: L GED: R3 M3 L2 SVP: 5 DLU: 78

732.684-042 BOW-STRING MAKER (toy-sport equip.)

Makes strings for archery bows: Loops string around posts of jig and ties ends together, waxing ends by hand. Holds end of string and spins hand-winding jig to form loops on both ends. Attaches string to post and winds strands to complete bow string. Winds extra wrapping around string to give protection at point where notch of arrow fits onto string. May wind string, using automatic bow-string making device.

GOE: 06.04.34 STRENGTH: L GED: R2 M1 L1 SVP: 3 DLU: 77

732.684-046 CELLULOID TRIMMER (toy-sport equip.)

Attaches celluloid band to golf club shaft to anchor ends of leather grip: Bevels grip with knife to taper it to shaft. Slides celluloid band onto tapered part of grip and shrinks celluloid to size, using electric heating jig. Applies cement to tapered grip and cements band in place over end of grip. Sands celluloid band, trims it to length with knife, and cleans grip with cleaning fluid.

GOE: 06.04.34 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

732.684-050 FEATHER STITCHER (toy-sport equip.) alternate titles: stitcher, hand

Sews feathers of shuttlecocks together by hand: Places shuttlecock in holding device and sews several rows of stitching in feathers above base of shuttlecock, using curved needle. May be designated according to row of stitching worked on as Bottom Stitcher (toy-sport equip.); Middle Stitcher (toy-sport equip.); Top Stitcher (toy-sport equip.).

GOE: 06.04.34 STRENGTH: L GED: R2 M1 L1 SVP: 3 DLU: 77

732.684-054 FISH-STRINGER ASSEMBLER (toy-sport equip.)

Joins parts, such as chain, catches, and swivel, to assemble fish stringer: Positions and holds stringer chain against premeasured marks on worktable to measure chain. Opens link and separates measured length of chain from stock length, using prying device. Positions swivel over end of link, and presses ends of link together to close link and secure swivel to chain, using bending device. Attaches stringer catches to chain, using clip snaps or pliers. Places completed stringer in box, and seals box, using gummed tape.

GOE: 06.04.23 STRENGTH: L GED: R2 M2 L1 SVP: 2 DLU: 77

732.684-058 FISHING-LURE ASSEMBLER (toy-sport equip.)

Cuts out fishing lure parts from metal strips, and assembles lures, using machines and handtools: Secures specified dies in machine, using wrench. Threads roll of blank metal through machine. Depresses pedal to start machine and cut out parts, such as bodies, spinners, or spoons, from metal strip. Coats surface of lures, such as plugs or popping bugs with paint, using spray gun. Bore holes in cutout parts, using drill press or hand drill. Joins lures and attachments, such as hooks, skirts, or swivel according to model or work ticket specifications, using cement, pliers, or screwdriver.

GOE: 06.02.24 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 77

732.684-062 FISHING-REEL ASSEMBLER (toy-sport equip.) alternate titles: reel assembler

Assembles fishing reels, performing any combination of following tasks: Positions parts, such as washers, levers, springs, line spool, and retaining rings, in slots, holes, or over pins provided on frame of fishing reel. Inserts drive shaft through line spool and frame bearing. Positions side plate assembly containing gears and crankshaft on frame, aligns screw holes, and screws assembly to frame, using powered screwdriver. Places crank on crankshaft and tightens nut with wrench to fasten crank to shaft. Screws parts, such as control knobs and case covers, to frame. Tests and adjusts reel for unrestricted, positive movement of parts by performing such tasks as rotating reel crank, pulling fishline off spool, and turning adjustment screws or knobs located on reel. May disassemble reel, realign parts, and remove burrs to rework defective reels, using handtools. May operate arbor and kick presses to perform such tasks as forcing bushings into reel frames, riveting parts to subassemblies, and pressing or staking gears on shafts.

GOE: 06.04.23 STRENGTH: S GED: R2 M1 L1 SVP: 2 DLU: 77

732.684-066 FISHING-ROD ASSEMBLER (toy-sport equip.) alternate titles: fishing-rod trimmer

Assembles fishing rods from rod blanks, line guides, ferrules, handles, and reel seats: Heats rod cement over alcohol lamp and drip-melts it into ferrules, rod tip, and reel seat and handle socket. Presses ferrules, rod tip, and other parts onto rod blank while cement is hot and fluid. Aligns and spaces line guides on rod, and secures, using rod-winding-thread. Winds additional bands of rod-winding-thread at ends of rod tip and ferrules to strengthen and decorate rod. May apply varnish, lacquer, or shellac to rod and windings. May repair rods and replace tips, line guides, ferrules, and windings. May assemble kits of fishing rod parts.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L2 SVP: 2 DLU: 77

732.684-070 FISHING-ROD MARKER (toy-sport equip.)

Marks layout on fishing rods, according to specified marking pattern, to indicate where guides are to be attached or decorative striping or winding applied: Reads work order to ascertain specified pattern board and fastens pattern board to workbench. Lays rod against pattern and marks layout on rod corresponding to markings on pattern. May suspend rods on two parallel bars, allowing rods to roll to their natural center of gravity, and mark this position to indicate area for attachment of side guides.

GOE: 06.02.31 STRENGTH: L GED: R2 M1 L2 SVP: 3 DLU: 77

732.684-074 FLY TIER (toy-sport equip.) alternate titles: artificial-fly tier; bait tier; fly winder

Makes artificial fish flies and lures, using feathers, fur, thread, and fishhooks, according to prototype design: Clamps fishhook in vise and wraps thread around shank or hook. Pulls feathers or fur of specified color or type from quill or pelt, positions on hook, and wraps in place with thread. Repeats operation to simulate wings, legs, and tail of insect. Wraps thread or colored wire around shank of hook in continuous spirals to form body of insect. Ties and cuts off thread. May brush dope on windings to waterproof and hold them in place.

GOE: 06.04.23 STRENGTH: S GED: R2 M1 L2 SVP: 4 DLU: 77

732.684-078 GOLF-CLUB ASSEMBLER (toy-sport equip.)

Assembles golf clubs, using one of following methods: (1) Verifies wood golf club parts against job order specifications. Cuts shaft of club to specified length, using bench mounted circular abrasive saw. Slides trim ring over tip of shaft to embellish shaft-head joint. Squeezes glue into hole of golf club head neck and inserts club shaft into hole. Positions club assembly in holding fixture of drill press and drills hole through neck of wood head and shaft with drill. Inserts steel pin into hole to strengthen connection of head to shaft. Removes club from holding fixture and stacks aside for further processing. (2) Reads job order to determine specifications, such as shaft-head alignment and swingweight of iron golf clubs. Slides ferrule (plastic collar) over tip of club shaft to embellish shaft-head joint. Inserts club shaft into socket in head of club. Positions club assembly on swingweight scale and reads scale to determine swingweight of club. Removes club head from shaft and pours lead powder into socket of club head to adjust swingweight to specification. Squeezes glue onto tip of club shaft, inserts shaft into iron club head, and aligns shaft with head in specified manner. Stacks club aside for further processing.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 3 DLU: 77

732.684-082 GRIP WRAPPER (toy-sport equip.) alternate titles: gripper

Wraps leather strips around or slips rubber tubes on articles, such as golf clubs, tennis rackets, and archery bows to form grips or handles, using one of following methods: (1) Positions workpiece in machine that rotates article. Brushes or smears adhesive on area to be wrapped. Staples, tacks, or otherwise fastens end of leather strip to starting position of grip. Starts machine and feeds leather strip onto rotating workpiece to wrap handle area, taking care to align edges of strip against one another without overlap or open spaces. Trims excess leather at end of grip with knife and fastens with tape or sleeve. (2) Places workpiece in vise. Wraps two-way tape around area to be gripped. Aligns and slides rubber tube onto workpiece to fully cover grip area. May wind nylon cord around neck of wood golf club head, using turning machine, and be designated Wood-Club-Neck Whipper (toy-sport equip.).

GOE: 06.04.27 STRENGTH: L GED: R2 M1 L1 SVP: 3 DLU: 77

732.684-086 GUIDE WINDER (toy-sport equip.)

Attaches line guides or applies decorative trim to fishing rods according to oral or written specifications: Obtains specified thread and guides and feeds thread through dispenser or places spool on thread holder. Clamps rod in holding fixture or rotating device. Depresses pedal to rotate rod or to rotate thread dispenser around rod, or turns rod manually. Winds thread around rod in continuous wraps for specified distance, controlling wrap spacing by moving rod or thread as each wrap is completed. Positions guide on rod, holds or tapes leg to secure guide, and continues wrapping until guide leg is wound to rod as specified. Trims loose ends with razor or knife. May apply cement to hold loose ends.

GOE: 06.04.34 STRENGTH: S GED: R2 M2 L2 SVP: 3 DLU: 77

732.684-090 PELOTA MAKER (toy-sport equip.)

Sews together layers of cotton, rubber, and goat skin to make pelotas (ball used in jai alai) of specified size and weight. Removes scratched or damaged layers and sews on new ones.

GOE: 06.04.34 STRENGTH: L GED: R2 M1 L1 SVP: 4 DLU: 77

732.684-094 RACKET STRINGER (toy-sport equip.)

Strings tennis and badminton rackets with synthetic fiber or animal gut strings: Clamps racket in stand and threads warp (main strings) through holes in bow. Clamps ends of strings in jaws of tensioner arms, depresses pedal to tighten strings to prescribed tension, and locks strings in place by wedgingawl in hole with string until next set of holes are strung, or string is tied. Threads weave (cross strings) through holes in bow, weaves them through main strings, applies tension, and secures them similarly to main strings. May wrap bow at intervals with bands of colored thread to strengthen and decorate it. May varnish wooden parts of racket. May replace leather or plastic grips on racket handle.

GOE: 06.02.32 STRENGTH: L GED: R3 M2 L2 SVP: 5 DLU: 77

732.684-098 ROLLER-SKATE ASSEMBLER (toy-sport equip.)

Assembles parts of roller skates: Fits rubber cushions into brackets, and rivets brackets to frame, using air rivet gun. Inserts axle through hole in frame, and mounts wheels on axle. Places nut and washer on threaded end of axle, and tightens nut, with wrench. Rivets leather strap to frame, using air rivet gun. May insert ball bearings into retaining cups of wheels.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

732.684-102 ROLLER-SKATE REPAIRER (any industry)

Repairs roller skates by disassembling skates, and cleaning and replacing bearings, wheels, and other worn parts, using handtools and power tools. May repair attached shoes and leather straps.

GOE: 05.12.15 STRENGTH: L GED: R2 M2 L1 SVP: 4 DLU: 77

732.684-106 SHAPER, BASEBALL GLOVE (toy-sport equip.) alternate titles: steamer and shaper

Forms pocket, opens fingers, and smooths seams to shape baseball gloves, using heated forms, mallets, and hammers: Pulls glove over heated hand-shaped form to open and stretch finger linings. Pounds fingers and palm of glove with rubber mallet and ball-shaped hammer to smooth seams and bulges, and form glove pocket. Removes glove from form, inserts hand into glove, and strikes glove pocket with fist while examining glove visually and tactually to ensure comfortable fit.

GOE: 06.04.27 STRENGTH: M GED: R2 M1 L1 SVP: 2 DLU: 77

732.684-110 SKI BASE TRIMMER (toy-sport equip.)

Joins polyethylene-plastic base-strips and steel edges to fabricate ski base-layer, using handtools and work aids: Selects specified base-strips and steel edges for joining. Tapes logo (manufacturer's symbol) in position on toe area of base-strip and inserts strip into roller that presses logo into position on base-strip. Applies adhesive onto steel edge and base-strip, using glue bottle and adhesive dispenser. Positions steel edge in jig and inserts base strip into steel edge. Trims base-strip to conform to bend of steel edge and cuts strip to conform to heel-plate of steel edge, using hand plane, knife, and template. Inserts heel-patch between base-strip and heel-plate, and presses assembly into specified position to fabricate base-layer, using special handtool designed to apply rubbing pressure on plastic strip. Examines assembly to determine if assembly falls within specified fabrication tolerances and discards base-layers failing to meet tolerances. Carries accepted base-layers to designated press molds for further processing.

GOE: 06.04.34 STRENGTH: M GED: R2 M1 L1 SVP: 2 DLU: 77

732.684-114 SKI MOLDER (toy-sport equip.)

Fabricates sock (inner-construction, ski-component) and aligns sock with other ski parts in die press that molds components into partially fabricated ski: Places fiberglass lay-up (mat of specified size) on worktable, pours epoxy resin over lay-up, and spreads resin with paddle to facilitate saturation. Positions ski core on lay-up, places foot-pad on top of core, and pours resin over core and foot-pad. Folds lay-up around core and foot-pad to form sock, cuts sock to contour of ski toe (front) with scissors and template, and aligns sock assembly in specified manner within mold press. Places ski base layer in press with sock assembly in specified alignment and activates press to shape and mold layers.

GOE: 06.02.32 STRENGTH: L GED: R3 M1 L2 SVP: 3 DLU: 77

732.684-118 SKI REPAIRER, PRODUCTION (toy-sport equip.)

Repairs defects in skis damaged in production or defective in material, using handtools and power tools: Examines designated defects and markings on ski to determine type repair required. Selects specified fiberglass mat patch and positions patch over defect. Pours epoxy resin on patch to cause patch to adhere to ski. Places patched area into heated mold press to shape and dry patch. Removes ski from mold press and trims patched area with knife. Drills holes and trims damaged area to provide access to defect for skis having defects in plastic base layer, using portable drill and knife. Aligns polyethylene-plastic sliver with defect in base layer and rubs soldering iron over sliver to melt plastic into defect. Smooths repaired ski to remove excess patching, using belt sander. May repair and refinish user-damaged skis in ski manufacturer's service shop.

GOE: 06.02.24 STRENGTH: L GED: R2 M1 L1 SVP: 5 DLU: 77

732.684-122 SPORTS-EQUIPMENT REPAIRER (any industry)

Repairs and replaces sporting and athletic equipment, such as fishing tackle, tennis rackets, or archery equipment: Restrings tennis rackets with animal gut or synthetic string. Replaces defective parts of fishing tackle, such as reels and rods. Replaces metal points on arrow shafts. Refinishes surfaces of sporting and athletic equipment with lacquer or paint. May carve wooden parts for sporting and athletic equipment, using handtools and powered woodworking tools. May make new gun stocks and pistol grips. May reglue and rewind bamboo sections of fly rods. May rewind shafts of bows and arrows. May be designated according to type of sporting or athletic equipment repaired as Archery-Equipment Repairer (any industry); Fishing-Tackle Repairer (any industry); Football-Pad Repairer (any industry); Tennis-Racket Repairer (any industry).

GOE: 05.10.04 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

732.684-126 SURFBOARD MAKER (toy-sport equip.)

Shapes and finishes planks of plastic foam, reinforced with wood, to form surfboards, using hand plane, electric hand plane, and electric sander: Verifies shape and dimensions with fiberboard template. Coats with resin and covers with fiberglass. Applies coat of resin and finishes with sandpaper and polishing compounds to achieve desired luster. May attach skeg to rear of board, using fiberglass to obtain required conformity. May repair damaged surfboards by inserting polyurethane foam in damaged area and laminating over the repaired area with fiberglass.

GOE: 06.04.24 STRENGTH: M GED: R2 M2 L2 SVP: 3 DLU: 77

732.684-130 INSPECTOR (toy-sport equip.) alternate titles: process inspector

Examines finished items, such as golf clubs, golf balls, bowling balls, baseball gloves, baseballs, skis, bows, fishing rods, or lures, for conformance of assembly, surface, finish, markings, weight, or structural formation to specified standards: Visually and tactually examines workpiece for plating or coating defects or mars, scratches, pits, or tears in surface. Inspects markings for location, readability, and form. Inspects product for completeness and accuracy of assembly, warp, and holes, and makes repairs, using handtools, filler, and wax. Inspects overall product to determine if structural formation meets specifications. Marks defects and routes workpiece to station for repair, salvage, or scrap. Prepares report or otherwise keeps record of defects. May confer with workers regarding quality of work. May weigh product, such as bowling balls, to determine conformity to weight specifications. May package product.

GOE: 06.03.01 STRENGTH: L GED: R3 M2 L3 SVP: 3 DLU: 78

732.685-010 BASE-FILLER OPERATOR (toy-sport equip.)

Tends machine that stuffs baseball base covers with materials to form baseball bases: Dumps filler material in machine hopper or positions material between jaws of machine. Positions cover to receive filler and activates machine to force material into cover. Removes stuffed base from machine and examines base to ensure base meets company specifications. May operate sewing machine to close open end of base.

GOE: 06.04.36 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

732.685-014 FEATHER SAWYER (toy-sport equip.) alternate titles: cutter

Tends machine that cuts and trims feathers for archery arrows: Starts cutting machine. Positions feathers on wheel of machine so that cutting blade cuts through center of quill and trims edges. Sorts and grades feathers. Dumps residue in discard box.

GOE: 06.04.09 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

732.685-018 FIXING-MACHINE OPERATOR (toy-sport equip.) alternate titles: shuttlecock assembler

Tends machine that inserts (presses) feathers in cork bases of badminton shuttlecocks: Positions cork base of shuttlecock in chuck of machine. Places feathers in punching tool of machine. Depresses pedal to press feathers into predrilled holes of cork base. Repeats operation until all holes in cork are filled with feathers. Packs assembled shuttlecocks in cardboard tubes.

GOE: 06.04.20 STRENGTH: M GED: R2 M1 L1 SVP: 3 DLU: 77

732.685-022 GUIDE-BASE WINDER, MACHINE (toy-sport equip.) alternate titles: guide winder

Tends bench machine that winds thread around specified areas of fishing rod blanks to form base for line guides: Clamps rod end in chuck and adjusts rod supporting fixtures by loosening setscrews and moving fixtures until rod is level. Feeds thread through payout device and needle eye. Turns setscrew to adjust tension on payout device to specified pressure. Slides payout devices along track until needles are adjacent to markings on rod, indicating where base winds start, and tightens setscrew. Pulls length of thread through needle and clamps or tapes end to rod. Depresses lever causing rod to rotate and payout devices to traverse along track as thread is wound around rod. Stops machine and cuts thread as each area is wound to specified length. Cements thread end to rod. Inspects rods to verify that they are wound to specification. Adjusts setup of machine to correct faulty winding.

GOE: 06.04.09 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

732.685-026 MACHINE SNELLER (toy-sport equip.)

Tends machine that attaches snells (leaders) to fishhooks: Threads snell from spool through guides to machine chuck. Starts machine and inserts hook between chuck jaws. Depresses pedal to actuate chuck that spins and wraps snell around hook shank, and cuts snell to predetermined length. Removes snelled hook from machine, threads snell through eye of hook, and ties overhand loop knot in end to facilitate attaching to fishing line. May attach snelled hooks to display cards. May tie second hook above first to make special baiting hookup.

GOE: 06.04.34 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

732.685-030 SINKER WINDER (toy-sport equip.)

Tends machine that automatically twists sinker pin and clinches pin to lead slug to fabricate sinkers for fish lines: Places lead slug and sinker pin in position on machine and inserts sinker pin into predrilled hole in lead slug to form assembly unit. Presses switch to engage winding element of machine and start die rotating. Places assembly unit with pin shank down into machine die that automatically twists and clinches assembly to produce sinkers for fish lines.

GOE: 06.04.20 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

732.685-034 STUFFING-MACHINE OPERATOR (toy-sport equip.)

Tends machine that injects stuffing into protective athletic equipment, such as baseball chest protectors, catcher's mask linings, and boxing gloves: Pushes length of workpiece over pipe of stuffing machine. Depresses pedal to start machine that forces stuffing material into workpiece. Pulls workpiece off pipe as article is stuffed. Fills hopper of stuffing machine when empty.

GOE: 06.04.05 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

732.685-038 TRIMMING-MACHINE OPERATOR (toy-sport equip.) alternate titles: trimmer, machine

Tends machine that trims ragged leather edges from shuttlecock bases: Positions base in trimming machine. Depresses pedal to actuate cutting tool that trims and smooths edge of leather-covered cork base.

GOE: 06.04.05 STRENGTH: L GED: R1 M1 L1 SVP: 2 DLU: 77

732.686-010 HAY SORTER (toy-sport equip.)

Removes foreign matter from hay, packs it in trough, and pushes it toward machine that bundles and ties it into disk form for use as archery target. Removes target from machine.

GOE: 06.04.34 STRENGTH: M GED: R1 M1 L1 SVP: 1 DLU: 77

732.687-010 ADHESIVE PRIMER (toy-sport equip.)

Applies adhesive to edge strips of partially fabricated ski to prepare ski for attachment of top layer, using roller and adhesive: Examines ski for defects, such as holes and bumps. Rubs bumps with abrasive cloth to smooth surface. Marks holes on skis with chalk and stacks marked skis aside for rework. Applies adhesive to edge strips, using roller and places skis in wheeled rack for movement to next processing station.

GOE: 06.04.33 STRENGTH: M GED: R1 M1 L1 SVP: 2 DLU: 77

732.687-014 ASSEMBLER, FISHING FLOATS (toy-sport equip.)

Assembles and packs transparent plastic-bubble fishing floats by inserting filling tube through end holes of molded float halves and snapping halves together. Places assembled units into plastic bags and closes bags, using stapler.

GOE: 06.04.23 STRENGTH: L GED: R1 M1 L1 SVP: 2 DLU: 77

732.687-018 BASE FILLER (toy-sport equip.)

Stuffs canvas bags with excelsior or felt pads to form baseball base: Turns bag to place sewn edges inside and smooth seams outside. Stuffs bags with excelsior or felt pads by hand. Places bag on pressing machine and pulls lever to lower head that compresses stuffing to prescribed thickness. Inserts anchor straps through loops sewn on bag. May fill football dummies, medicine balls, and punching bags with materials, such as cotton, felt, cattle hair, and rubberized hair. May mold and assemble plastic base covers, using plastic, mold, and curing oven. May assemble and seal vinyl covered bases, using electric sealing iron.

GOE: 06.04.23 STRENGTH: L GED: R1 M1 L1 SVP: 1 DLU: 77

732.687-022 CASTING-PLUG ASSEMBLER (toy-sport equip.)

Attaches gang hooks to wooden casting plugs used for fishing, using screwdriver: Inserts screw through eye of gang hook and into previously drilled hole in body of plug. Tightens screw with screwdriver.

GOE: 06.04.23 STRENGTH: L GED: R1 M1 L1 SVP: 2 DLU: 77

732.687-026 GOLF-CLUB WEIGHTER (toy-sport equip.) alternate titles: weighter

Weights wooden golf club heads to achieve specified \$T3swing weight:\$T1 Screws stop on portable drill or inserts drill bit of specified length and width. Clamps club head into vise and drills hole in head. Pours molten lead from ladle into hole or places threaded cylindrical metal weights in drilled hole, and inserts wood screw to hold metal weights. May reweight finished clubs, by adding or subtracting weight as specified.

GOE: 06.04.34 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

732.687-030 LABORER (toy-sport equip.)

Performs any combination of following tasks in manufacture of sports equipment: Glues layers of feathers together and cuts layers to size to form feathered arrowrests for bows. Holds feathers against brushing wheel or hot wire to brush or trim arrow feathers. Rubs and smooths sports equipment to improve appearance or utility, using filler, solvent, wax, or abrasive, and rags. Positions items of sports equipment in racks for painting. Melts lead in pan and pours lead into mold to form such items as fish baits and lead sinkers. Assembles golf ball covers and cores preparatory to molding. Cuts golf club shaft to specified length, using power saw. Cleans material, work aids, and equipment to expedite fabrication of sports equipment, using solvent, rags, and handtools. Cuts, trims, and glues parts into specified position on sports equipment, using glue, knife, and scissors. Transports and positions material at molds, machines, or worktables, using cart. Dips item of sports equipment or rubs glue or starch on item to facilitate further processing. Sprays sand with air hose onto diving boards to provide safety tread. May examine molded items, such as clay

trapshooting targets, for chips and cracks and discard defective targets.
GOE: 06.04.34 STRENGTH: M GED: R1 M1 L1 SVP: 2 DLU: 77

732.687-034 LACER (toy-sport equip.) alternate titles: hand lacer

Laces footballs, punching bags, or baseball gloves and mitts, using lacing needle and awl: Pushes end of fabric, plastic, or leather lace through eyelets of article with awl or lacing needle. Pulls lace through eyelet. Repeats operation and ties and cuts lace after article is laced as specified.
GOE: 06.04.34 STRENGTH: L GED: R2 M1 L1 SVP: 3 DLU: 77

732.687-038 LEADER TIER (toy-sport equip.) alternate titles: leader assembler

Fabricates fishing leaders from cable wire and synthetic fiber line: Attaches snaps, swivels, and other accessories to precut lengths of plastic- or nylon-coated cable wire, and secures ends of cable with plastic or nylon sleeves and adhesives. Forms loop in ends of precut lengths of stainless steel wire and wraps ends back around wire to secure them. Ties loop knots in centers and ends of precut lengths of line to facilitate attachment of weights or hooks. May coil completed leaders and attach them to display cards or insert them in plastic envelopes. May test tensile strength of leader material, using tensiometer. May attach precut length of line to fishhook in manner to facilitate attachment to line or lure and be designated Sneller, Hand (toy-sport equip.).
GOE: 06.04.34 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

732.687-042 LINING INSERTER (toy-sport equip.) alternate titles: baseball-glove stuffer; inserter; lining stuffer

Inserts padded leather lining into baseball gloves: Places lining on form and pulls glove over lining. Pushes thumb lining into glove, using bench post.
GOE: 06.04.23 STRENGTH: M GED: R2 M1 L1 SVP: 2 DLU: 77

732.687-046 MOLD CLEANER (toy-sport equip.)

Heats metallic bowling ball mold parts on electric plate and scrapes and buffs ball to remove residue, using scraper and power-driven rotary wire brush. May spray mold components with parting material to prevent corrosion and to prepare them for assembly.
GOE: 06.04.39 STRENGTH: L GED: R1 M1 L1 SVP: 2 DLU: 77

732.687-050 MOLD STRIPPER (toy-sport equip.) alternate titles: breaker

Separates and removes molds from cured plastic bowling balls and grinds off sprues and ridges preparatory to truing and finishing balls: Removes thumbscrews or clamps from molds and pries molds from balls. Screws core support bolts out of balls with wrench. Grinds sprues and seam ridges from balls, using powered grind wheel. May fill core supporting bolt holes with plastic to mark heavy side of ball.
GOE: 06.04.24 STRENGTH: L GED: R1 M1 L1 SVP: 2 DLU: 77

732.687-054 MOLDER, INFLATED BALL (toy-sport equip.) alternate titles: press operator, carcass

Shapes completed footballs, volleyballs, and soccer balls, or vulcanizes plied ball carcasses, such as basketball carcasses, using internal pressure molding presses: Places ball or carcass in bottom half of heated molding press and inserts inflating stem in valve plug of workpiece. Closes and locks mold. Inflates workpiece to specified air pressure, removes inflating stem, and turns dial on timeclock to control heating cycle. Inserts deflating stem through hole in mold and into valve of ball or carcass after specified time and deflates workpiece to regulation playing pressure. Opens press, pulls out stem, and removes ball or carcass. May repair rejected balls for remolding. May mold plastic material to form bladderless inflatable balls, using heated curing ovens and molds.
GOE: 06.04.32 STRENGTH: M GED: R2 M1 L1 SVP: 2 DLU: 77

732.687-058 MOLDER, WAX BALL (toy-sport equip.) alternate titles: press operator, wax ball

Cast wax-ball lasts (forms) used in assembly of basketball carcasses: Places heated half mold on scale of mold and inserts mold into water-cooled centrifuge that rotates mold and solidifies wax into hollow ball. Removes mold after specified time, unscrews top, and pulls out wax ball. Breaks off flash with fingers.
GOE: 06.04.32 STRENGTH: M GED: R2 M1 L1 SVP: 2 DLU: 77

732.687-062 PAINTER AND GRADER, CORK (toy-sport equip.)

Paints tops of leather-covered corks used as base for badminton shuttlecocks, using handbrush. Examines corks and grades them according to quality.
GOE: 06.04.33 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

732.687-066 REVERSER (toy-sport equip.) alternate titles: turner

Reverses partially assembled footballs, volleyballs, soccer balls, punching bags, or ball gloves that are inside-out to bring edges of sewn seams inside and leather or plastic cover outside: Places specified areas of inside-out article on turning post and pulls part of article over post. Repositions article on post and repeats operation until article is completely reversed.
GOE: 06.04.34 STRENGTH: M GED: R2 M1 L1 SVP: 2 DLU: 77

732.687-070 SOFTBALL CORE MOLDER (toy-sport equip.) alternate titles: molder

Forms softball cores, using heated presses: Weighs loose wad of kapok, rags, or paper on scale and stuffs specified amount into heated press. Turns wheel to close press and mold softball core. Removes molded core from press after specified period and wraps with cord to hold core together until wound. May shape and cure vinyl dipped softballs, using rolling machine and heated molding press.
GOE: 06.04.32 STRENGTH: M GED: R2 M1 L1 SVP: 2 DLU: 77

732.687-074 SPIN-TABLE OPERATOR (toy-sport equip.)

Polishes surface of bowling balls, using abrasives and ball-spinning device: Places preground ball in holder of spin table and depresses pedal to spin ball. Presses abrasives against spinning ball to abrade surface. Splashes water on ball to reduce friction. Applies polishing compound to ball with rag. Lifts and turns ball in holder of spin table to effect polishing of surface. Wipes moisture from ball and places it in rack.

GOE: 06.04.24 STRENGTH: M GED: R2 M1 L1 SVP: 3 DLU: 77

732.687-078 TARGET TRIMMER (toy-sport equip.)

Trims excess straw from surface of wrapped and tied archery targets with powered trimmer: Places target on flat surface, lowers powered trimmer into position, and guides it over target to remove loose and excess straw. Turns target over and trims other side. Trims edges with hand shears. Reinforces target center with hemp rope and sews rope handle to target with needle and thread.

GOE: 06.04.34 STRENGTH: M GED: R2 M1 L1 SVP: 2 DLU: 77

732.687-082 WAX-BALL KNOCK-OUT WORKER (toy-sport equip.)

Crushes and removes wax-ball lasts (forms) from basketball carcasses, using club, scraping tool, and airhose: Strikes carcass with bat to break wax ball. Shakes pieces out through opening in carcass. Scrapes wax particles from carcass and removes particles and dust with airhose.

GOE: 06.04.39 STRENGTH: M GED: R1 M1 L1 SVP: 2 DLU: 77

732.687-086 WEIGHER (toy-sport equip.) alternate titles: balancer; weight tester

Weights and adjusts weight of shuttlecocks: Places shuttlecock (purposely made underweight) on balance scale and reads weight on meter. Positions lead disks on center of cork base of shuttlecock with tweezers until specified weight is indicated by meter (weight must be standard to ensure uniform speed of shuttlecock in flight). Presses lead disks into drilled cork with hand punch.

GOE: 06.04.34 STRENGTH: L GED: R2 M2 L1 SVP: 2 DLU: 77

733 OCCUPATIONS IN FABRICATION AND REPAIR OF PENS, PENCILS, AND OFFICE AND ARTISTS' MATERIALS, N.E.C.

This group includes occupations, not elsewhere classified, concerned with fabricating and repairing such products as pen points, mechanical pencils, refill cartridges, and related products and such office and artists' materials as lead pencils, carbon and stencil paper, inked ribbons, airbrushes, palettes, artists' colors and waxes, and rubber and metal hand stamps, dies, and seals.

733.130-010 SUPERVISOR, PLATING AND POINT ASSEMBLY (pen & pencil)

Supervises and coordinates activities of workers engaged in plating and assembling components of ballpoint pens: Reviews production schedule to ascertain number and type of ballpoint pen parts to be plated. Sets up machines and equipment to prepare for plating operations. Performs other duties as described under SUPERVISOR (any industry) Master Title.

GOE: 06.01.01 STRENGTH: L GED: R4 M3 L3 SVP: 7 DLU: 77

733.131-010 SUPERVISOR, RUBBER STAMPS AND DIES (pen & pencil)

Supervises and coordinates activities of workers engaged in fabrication of rubber box die and rubber-faced hand stamps: Interprets customers order and supervises workers engaged in typesetting, heating and pressing plastic used to form matrix, pressing and vulcanizing rubber in matrix to form dies, and trimming and cementing dies for hand stamps to wooden mount. Inspects finished dies for conformity with orders. Adjusts temperature and pressure of vulcanizing press which produces box dies of specified height. May engrave signature in rubber for use as hand stamps [ENGRAVER, RUBBER (pen & pencil)]. Performs other duties as described under SUPERVISOR (any industry) Master Title.

GOE: 06.02.01 STRENGTH: L GED: R4 M4 L3 SVP: 7 DLU: 77

733.137-010 SUPERVISOR, ASSEMBLY (pen & pencil)

Supervises and coordinates activities of workers engaged in assembling and printing information on ballpoint pens, fiber tip pens or mechanical pencil parts. Maintains time and production records. May train new workers. Performs other duties as described under SUPERVISOR (any industry) Master Title.

GOE: 06.02.01 STRENGTH: L GED: R4 M3 L4 SVP: 7 DLU: 77

733.137-014 SUPERVISOR, FINISHING DEPARTMENT (pen & pencil)

Supervises and coordinates activities of workers engaged in tipping, end-trimming, and stamping and packing wooden pencils and assembly of wood-cased ballpoint pens: Notifies setup worker of needed adjustments on tipping, trimming, stamping and packaging machines, according to size, shape and type of pencil to be processed. Inspects samples of processed pencils for defects, such as loose metal tips, broken eraser plugs, and splintered ends. Examines pencils to verify stamped information and type of tip on pencil against production specifications. Examines pen refills to verify conformance to specifications. Requisitions supplies, such as sandpaper, cardboard containers, and stamping foil. May adjust assembly machines, using handtools. May train new workers. Performs other duties as described under SUPERVISOR (any industry) Master Title.

GOE: 06.02.01 STRENGTH: L GED: R4 M3 L3 SVP: 7 DLU: 77

733.137-018 SUPERVISOR, INSPECTION (pen & pencil)

Supervises and coordinates activities of workers engaged in inspecting, packing and shipping of ballpoint pens or mechanical pencils. Performs other duties as described under SUPERVISOR (any industry) Master Title. May supervise workers engaged in inspecting material used in manufacture of pens and pencils.

GOE: 06.02.01 STRENGTH: L GED: R4 M3 L4 SVP: 7 DLU: 77

733.281-010 BALLPOINT PEN CARTRIDGE TESTER (pen & pencil)

Tests ballpoint pen cartridges to determine conformity to company specifications: Selects and weighs cartridges to determine conformance to weight specifications. Inserts cartridges into holding devices on testing machine, starts machine that moves paper, and counts circular marks made by cartridges. Examines defective cartridges under microscope to determine cause of malfunction and photographs ballpoint to obtain visible evidence of malfunction, using camera.
 GOE: 06.03.01 STRENGTH: L GED: R3 M2 L2 SVP: 5 DLU: 77

733.364-010 QUALITY-CONTROL TECHNICIAN, INKED RIBBONS (pen & pencil)

Inspects and tests office machine ribbons to ensure adherence to order specifications and company quality standards, using testing equipment: Inspects production line operations, such as aligning ribbon on spool, joining ribbon ends, placing ribbon in cartridge, and packing ribbon for shipment to ensure quality standards are met. Inserts sample of inked ribbon and paper in typewriter, types several symbols on paper, and places paper on reflectance testing machine to obtain ink impregnation reading. Weighs ribbon sample to verify ink impregnation level, using scale. Tests and measures tensile strength and thickness of ribbon sample, using tension testing machine and measuring instrument. Records test results to maintain inspection log and notifies workers when ribbon fails to meet specifications. Completes final inspection form to release product for shipment.
 GOE: 06.03.02 STRENGTH: L GED: R3 M3 L3 SVP: 5 DLU: 86

733.381-010 ENGRAVER, RUBBER (pen & pencil) alternate titles: engraver, signature

Engraves outline of signature impressed on rubber and cuts away excess rubber: Applies varnish to surface of rubber blank to clean and fill surface. Removes excess varnish with cloth wiper. Presses facsimile of signature onto rubber to transfer signature from paper. Removes paper and coats rubber with powder. Cuts outline of impression in rubber and cuts excess rubber away from impression, using knife and graver. Applies cement to back of stamp and to wood mount and presses stamp on mount manually.
 GOE: 05.10.05 STRENGTH: L GED: R4 M3 L2 SVP: 7 DLU: 77

733.381-014 RUBBER-STAMP MAKER (pen & pencil) alternate titles: stamp maker

Molds stamp dies, assembles parts to fabricate rubber handstamps and composes type: Places type in chase. Proofreads copy or type in chase. Places chase and molding compound in press to form mold for rubber die, positions uncured rubber on top of mold, and places mold and rubber in vulcanizer to form rubber die. Joins parts, such as mounts, dies, and handles, to assemble handstamps [STAMP MOUNTER (pen & pencil)].
 GOE: 06.01.04 STRENGTH: L GED: R4 M3 L3 SVP: 6 DLU: 77

733.384-010 REPAIRER, PENS AND PENCILS (pen & pencil) alternate titles: salvage clerk

Repairs and adjusts defective ballpoint pens and mechanical pencils in pen and pencil manufacturing plant: Examines pens or pencils to determine needed repairs or adjustments, or follows specifications on repair tags. Disassembles pens and pencils, using handtools, such as pliers and screwdrivers. Replaces defective parts, such as ink cartridges and screw mechanisms, and assembles parts of pens or pencils by hand or using machines that press and clinch interlocking parts together.
 GOE: 06.02.32 STRENGTH: L GED: R3 M2 L3 SVP: 3 DLU: 77

733.684-010 PAINT-BRUSH MAKER (fabrication, nec) alternate titles: brush maker

Fills metal ferrules with hog bristle, horsehair, vegetable fiber, or nylon, using either of following methods: (1) Twists material into tuft and dips base of tuft into cement. Ties string around base of tuft, redips tuft in cement, and inserts tuft in hole of brush head. (2) Weighs out specified amount of bristles, using balance scale and inserts base end of bristles into ferrule. Separates bristles with metal blade, and inserts wooden or aluminum plug (wedge) into bristles to press them against sides of ferrule to form brush head. Immerses flag end of brush head in flaxseed gum to hold filling material in brush shape during vulcanizing process. Measures length of bristles, using gauge. May cut bristles to varying lengths to taper tip of brush head, using metal form and scissors. May make wire drawn brushes [BRUSH FILLER, HAND (fabrication, nec) 739.687-046].
 GOE: 06.04.34 STRENGTH: L GED: R2 M2 L2 SVP: 4 DLU: 77

733.684-014 PEN-AND-PENCIL REPAIRER (any industry)

Repairs and replaces parts of fountain pens and mechanical pencils, using electric buffer, handtools, and magnifying lens: Repairs or replaces ink sacs, plungers, barrels, and other parts, using handtools. Places pen points on straightening block and rubs them with mandrel to straighten points. Twists and turns points with pliers under magnifying lens to align points. Washes pens and pencils in cleaning solution. Removes engraving and polishes pens and pencils, using electric buffer. May operate pantograph engraving machine or stamping machine to inscribe names on pens and pencils. May operate bench lathes to cut out parts for pens and pencils. May sell pens and pencils. May requisition replacement parts for pens and pencils.
 GOE: 05.12.15 STRENGTH: L GED: R3 M1 L2 SVP: 4 DLU: 77

733.684-018 STAMP MOUNTER (pen & pencil) alternate titles: rubber-stamp assembler

Joins parts, such as mounts, dies, and handles, to assemble rubber handstamps: Measures and marks wood mount and cuts woodstock for stamp mounts, using circular table saw. Positions and holds wooden mount on table, under bit of boring machine and pulls lever or depresses pedal to lower bit into mount, drilling hole for stamp handle. Hammers stamp handle into hole in mount. Cuts out and trims rubber die (type) from multistamp molded sheet, using scissors. Brushes cement onto back of rubber die and bottom of mount and positions and presses die onto mount. Applies ink to stamp die and stamps die onto paper, forming identification label. Inserts label between plastic facing and top or side of stamp mount.
 GOE: 06.04.34 STRENGTH: L GED: R2 M2 L1 SVP: 2 DLU: 77

733.685-010 ASSEMBLER (pen & pencil)

Tends automatic pen and pencil assembly machines: Aligns workpiece in specified position against fixtures or under ram of machine. Depresses lever or pedal or turns handwheel to activate ram that bends or presses components together. Screws threaded barrels and caps together by hand to form completed pens or pencils. Places clips in holding devices of machine that prints trademark or clips. Inspects finished workpiece with magnifying glass. May be designated according to component assembled as Cartridge Assembler (pen & pencil); Nib Assembler (pen & pencil).
 GOE: 06.04.20 STRENGTH: L GED: R2 M2 L2 SVP: 2 DLU: 77

733.685-014 FILLING-MACHINE OPERATOR (pen & pencil)

Tends machine that pumps ink into tubes (reservoirs) to permeate marking pen fillers or fills ballpoint refills, using any of following methods: (1) Places fillers in tubes and inserts nozzle of filler machine into tube and pushes button to start machine that pumps specified amount of ink into tubes. (2) Inserts cotton filler into cartridge tube by hand. Places tube into holding device of inking machine. Depresses pedal to start filling mechanism. (3) Fills hopper of machine with refill components for ballpoint pen. Starts machine that automatically fills tube with ink, joins ballpoint to inked tube, and crimps tube to seal ink in tube.

GOE: 06.04.36 STRENGTH: M GED: R2 M2 L2 SVP: 2 DLU: 77

733.685-018 GROOVING-MACHINE OPERATOR (pen & pencil) alternate titles: bench-boring-machine operator

Tends machine that cuts internal threads in pen or mechanical pencil barrels: Positions and aligns pen or pencil barrel in holding device of machine. Inserts threading tap into spindle of machine and turns lever to secure tap. Presses switch to start machine. Moves lever or depresses pedal that advances pen or pencil barrel onto rotating tap that cuts internal threads in barrel.

GOE: 06.04.09 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

733.685-022 RIBBON WINDER (pen & pencil) alternate titles: spooler; typewriter-ribbon winder

Tends machine that winds typewriter ribbons onto spools: Sets yardage indicator on machine according to ribbon length specified on work order to control number of revolutions. Places ribbon supply reel on mandrel and draws ribbon around rollers and through ribbon guide to prepare ribbon for winding. Adjusts ribbon guide, according to width of ribbon. Places empty spool on spindle and attaches end of ribbon from supply reel to spool. Turns knob to zero dial of footage counter and depresses pedal to wind ribbon onto spool or turns reel that winds ribbon onto spool. Observes dial of footage counter and stops machine at specified point. Examines ribbon during winding to detect defects in fabric, inking, and winding. Removes completed spool from spindle and attaches hooks or eyelets onto ends of ribbons to facilitate attaching to empty spool on typewriter. Attaches fasteners over end of ribbon to prevent unwinding.

GOE: 06.04.09 STRENGTH: L GED: R2 M2 L2 SVP: 3 DLU: 77

733.685-026 SMOOTHER (pen & pencil) alternate titles: pen-point smoother

Tends machine that smooths rough edges from pen point tips: Places pen points into molds on hinged holding device and closes device to hold pen points stationary during smoothing process. Sprinkles polishing rouge on felt wheel and starts machine. Inserts tongue of holding device into groove on machine bed and moves holding device back and forth in groove as pen point tips work against rotating felt wheel or guides holding device against rotating wheel by hand to smooth surface of pen point tips. Feels tips of pen points with fingers to detect rough areas.

GOE: 06.04.24 STRENGTH: S GED: R2 M1 L1 SVP: 2 DLU: 77

733.685-030 TIP BANDER (pen & pencil) alternate titles: tip-banding-machine operator

Tends machine that applies decorative or identifying band of paint to metal tips of pencils: Dumps tips into machine hopper and pours paint into reservoir of machine. Starts machine that feeds tips against paint roller. Turns valve to regulate stream of air that blows tip from conveyor into tray. Places tray in storage rack.

GOE: 06.04.21 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

733.685-034 TIPPING-MACHINE OPERATOR (pen & pencil) alternate titles: tipper

Tends machine that fastens metal caps and erasers to ends of wooden pencils or rounds pencil ends: Places pencils, ferrules (metal ring or caps), and erasers in separate hoppers and starts machine that installs and fastens ferrule to pencil, inserts eraser in ferrule, and imprints specified data on pencil. Removes tipped pencils from machine and examines pencils for defects, such as broken erasers or loose ferrules. Ties accepted pencils into designated size bundles.

GOE: 06.04.20 STRENGTH: L GED: R2 M2 L2 SVP: 2 DLU: 77

733.687-010 ASSEMBLER, MARKING DEVICES (pen & pencil) alternate titles: marker assembler

Performs any combination of following duties to assemble stencil marking and ink applying devices: Selects parts according to specifications. Aligns parts following guides, such as contours, edges, slots, or fastening devices. Joins parts manually or using handtools, such as wrenches and power screwdrivers, or positions parts on holding device of machine bed under ram, and moves lever to lower ram, joining parts. Performs other tasks, such as cleaning parts, using air gun; fitting ink chambers; and positioning marker in holder of air pressure device that tests marker for leaks in ink valve and chamber. May be designated according to part assembled as Fountain-Brush Assembler (pen & pencil); Fountain-Roller Assembler (pen & pencil); Pen Assembler (pen & pencil).

GOE: 06.04.23 STRENGTH: L GED: R2 M2 L2 SVP: 2 DLU: 77

733.687-014 ASSEMBLER, MECHANICAL PENCILS AND BALLPOINT PENS (pen & pencil) alternate titles: air-hammer operator; bench-assembler operator; small kick-press operator; small press operator; tip tightener

Assembles parts of ballpoint pens and mechanical pencils: Selects pen or pencil parts according to color or work-ticket specifications. Places parts together, guided by edges, holes, and slots, and fastens devices, such as clips or prongs on parts. Joins parts, using any of following methods: (1) Positions parts in holding device under ram of press and depresses pedal that lowers ram, forcing interlocking parts together. (2) Positions parts in holding device of machine that clinches prongs or clips, joining parts. (3) Fits interlocking parts together, or screws threaded parts together by hand. Fills mechanical pencils with specified quantity of lead. May use pneumatic or screw clamps and other work aids that hold parts during assembly. May glue plastic miniature display tops to plunger mechanism on mechanical pencils, using plastic solvent and brush. May assemble parts of desk-pen sets [DESK-PEN-SET ASSEMBLER (pen & pencil) 733.687-034].

GOE: 06.04.23 STRENGTH: L GED: R2 M2 L2 SVP: 2 DLU: 77

733.687-018 BANDER (pen & pencil)

Fastens metal bands onto pen barrels: Slips band into groove on barrel. May insert and squeeze part in hand squeezer or crimping tool to tighten band in place.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

733.687-022 CHALK CUTTER (pen & pencil)

Loads lengths of extruded chalk into die, locks die in place, and runs hand cutter through holes in die to cut chalk to specified lengths. Opens die, places cut chalk in

trays for drying, and disposes of excess chalk.
GOE: 06.04.34 STRENGTH: M GED: R1 M1 L1 SVP: 2 DLU: 77

733.687-026 CLAMPER (pen & pencil) alternate titles: hydraulic-press operator

Clamps stacks of cemented wooden pencil slats to hold them while cement dries: Places clamp between jaws of press and positions cemented slats in clamp. Depresses pedal to close jaws of press and press slats together. Turns bolts to tighten clamp, using wrench. Depresses pedal to open press and places clamped slats on washer conveyor to remove excess cement from slats. May clamp stacks of cemented pencil slats, using hand clamps.
GOE: 06.04.25 STRENGTH: M GED: R1 M1 L1 SVP: 2 DLU: 77

733.687-030 DATER ASSEMBLER (pen & pencil)

Assembles parts of dater or number handstamps performing any combination of following tasks: Selects parts according to specifications. Applies cement and joins ends of rubber letter or number bands. Positions bands around metal bar and fits bar onto end of stamp frame. Positions band and turner wheels and washers inside circular bands and inserts rivet pin through stamp frame and band wheels, securing parts of stamp. Nails wood handle to frame. May use jig to hold and stretch rubberbands while assembling stamp parts. May be designated according to task performed as Cementer (pen & pencil).
GOE: 06.04.23 STRENGTH: L GED: R2 M1 L2 SVP: 2 DLU: 77

733.687-034 DESK-PEN-SET ASSEMBLER (pen & pencil) alternate titles: bench-assembler operator

Joins parts, such as swivel, penholder, and base to assemble desk-pen sets. Selects parts, according to work ticket specifications. Screws threaded parts together, using portable power screwdriver, or positions parts on bed and under ram of machine and presses switch to lower ram, joining interlocking parts. Glues felt onto bottom of base.
GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

733.687-038 DIPPER (pen & pencil)

Immerses bundles of wooden pencil slats into vat to coat them with wax solution. Loads slats in cage of hoist and pulls handle to lower cage into solution. Raises cage, removes slats, and stacks them on handtruck. May apply paint to coat or decorate wooden pencils by dipping or using screw-type ram dipper.
GOE: 06.04.33 STRENGTH: M GED: R1 M1 L1 SVP: 2 DLU: 77

733.687-042 INSPECTOR (pen & pencil) alternate titles: nib adjuster

Inspects fountain pens for defects: Examines nib under magnifying glass and inserts feeler gauge between fountain pen points to determine whether spacing between points conforms to specifications. Opens and closes pen points to adjust spacing between points, using handtools. Writes with fountain pen to determine legibility and ease of writing. Places rejected pens aside for rework. Places inspected pens in carton.
GOE: 06.03.02 STRENGTH: L GED: R2 M1 L2 SVP: 3 DLU: 77

733.687-046 INSPECTOR, BALL POINTS (nonfer. metal)

Inspects metal alloy pen ball points for defects: Picks up ball point with tweezer and places it under microscopic lens to examine for holes or other flaws. Measures approximately every 40th point with micrometer to determine if specifications are met and removes rejects. May test ballpoint pens and refills for conformity to specifications, using centrifuge, magnifying glass, and microscope.
GOE: 06.03.02 STRENGTH: L GED: R2 M2 L2 SVP: 3 DLU: 77

733.687-050 INSPECTOR, FINAL ASSEMBLY (pen & pencil)

Inspects ballpoint pens or mechanical pencils for defects, such as scratched or cracked barrels and faulty mechanisms: Compares color, style, and printed information on pen or pencil with written specifications. Depresses plunger of ballpoint pens to test retracting action of cartridge (refill). Discards defective items and returns repairable items for rework. May write with ballpoint pens to test inking mechanism. May remove substandard printing, using rag and solvent.
GOE: 06.03.02 STRENGTH: L GED: R2 M2 L2 SVP: 3 DLU: 77

733.687-054 INSPECTOR, RUBBER-STAMP DIE (pen & pencil)

Examines rubber handstamp dies (type) for defects: Examines stamp dies under magnifying glass for defects in molded rubber, such as loose or incomplete letters or designs. Compares stamp die to customer specifications to verify characters or designs.
GOE: 06.03.02 STRENGTH: L GED: R3 M1 L1 SVP: 4 DLU: 77

733.687-058 NIB INSPECTOR (pen & pencil)

Inspects fountain pen nibs to ensure that smoothness, contour, and dimensions conform to specifications, using magnifying glass and dial and fixed gauges: Examines nibs with magnifying glass and by feeling with fingertips to detect surface defects, such as scratches, pits, and cracks. Verifies dimensions of nibs, using preset measuring instruments, such as dial indicators, calipers, and micrometers. Tags rejected nibs to indicate types of defects.
GOE: 06.03.02 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 77

733.687-062 PENCIL INSPECTOR (pen & pencil) alternate titles: pencil sorter

Examines wooden pencil slats, wood-cased ball point pens, or painted wooden pencils for defects, such as dents, misplaced lead, scratches, or split ends. Trims slivers from around ferrules of wooden pencils, using knife. Sorts and marks defective pencils. May maintain production records.
GOE: 06.03.02 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

733.687-066 STAMP-PAD FINISHER (pen & pencil)

Places inking pads for stenciling rollers or handstamps in metal cases. May apply cement to pad or case to secure parts.
 GOE: 06.04.23 STRENGTH: L GED: R1 M1 L1 SVP: 1 DLU: 77

733.687-070 STAMP-PAD MAKER (pen & pencil)

Fabricates rubber stamp pads: Places precut pieces of muslin, felt, and rubberized backing in sequence in fixture on assembly table. Applies glue to extended edges of muslin and folds edges around backing. Places pad in inking device and pulls lever to lower pad into reservoir which impregnates it with ink under pressure. May place inked pad into metal case and cover case with lid.
 GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

733.687-074 STENCIL INSPECTOR (pen & pencil)

Inspects duplicating stencils for defects prior to mounting on backing sheets: Holds stencil over fluoroscope to determine presence of defects, such as holes, tears, and imperfect surface. Discards defective stencil. Places layer of paper between stencils to protect them. May measure stencil for conformance to size.
 GOE: 06.03.02 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

733.687-078 WASHER (pen & pencil)

Washes excess glue from clamped wooden pencil slats, using water and sponge. Turns valve to start flow of water onto slats and rubs all sides of clamped slats with sponge. Places washed slats in handcart and pushes loaded cart to kiln for further processing.
 GOE: 06.04.39 STRENGTH: H GED: R1 M1 L1 SVP: 1 DLU: 77

734 OCCUPATIONS IN FABRICATION AND REPAIR OF NOTIONS

This group includes occupations concerned with fabricating such items as pins, needles, plumes, brushes, artificial flowers, buttons, and zippers. Includes curling and dyeing feathers. Occupations concerned with fabricating ornamental buttons from precious metals are included in Group 700.

734.131-010 SUPERVISOR II (button & notion)

Supervises and coordinates activities of workers engaged in making plastic artificial articles, such as flowers, foliage, and butterflies: Reads work orders to ascertain articles scheduled, material requirements, and to plan work sequences. Assigns specific duties to workers and gives work direction for performing duties. Inspects articles at various stages of production to ensure conformance with customer and company specifications. Records daily production. Performs other duties as described under SUPERVISOR (any industry) Master Title.
 GOE: 06.04.01 STRENGTH: L GED: R4 M2 L3 SVP: 5 DLU: 77

734.384-010 BUTTON-CUTTING-MACHINE OPERATOR (button & notion) alternate titles: button cutter; shaper

Cuts button blanks from shells: Holds shell against machine fixture by hand or using tongs. Moves lever or depresses pedal to advance tubular saw into shell and cut out button blank. Determines location for cuts according to size, shape, and condition of individual shell in order to obtain maximum number of blanks. Replaces dulled saws, using wrenches. May reset and sharpen saws, using hand files.
 GOE: 06.02.30 STRENGTH: L GED: R2 M1 L1 SVP: 3 DLU: 77

734.481-010 WIRE-FRAME MAKER (button & notion)

Bends wires into frames used for forming plastic flowers, leaves, and butterflies, using jig and soldering iron: Bends wire around jig following specified instructions, using fingers and pick. Cuts wire after frame is formed, using wire cutters. Solders together wires that overlap to strengthen frame, using flux and soldering iron. Builds up button of solder in center of petals when framing flowers. Presses lever that removes frame from jig. Examines frame to ensure shape meets specifications. Cuts excess wire from frame, using wire cutters. Records daily production figures.
 GOE: 06.04.24 STRENGTH: L GED: R2 M2 L2 SVP: 3 DLU: 77

734.584-010 NEEDLE GRINDER (button & notion)

Grinds industrial knitting and sewing needles to sharpen points, using grinding wheels: Activates stone and wire-brush wheels and alternately presses needle against each rotating wheel to sharpen point. Applies emery to wire-brush wheel as needed to facilitate grinding process. Visually and tactually examines needle to ensure conformance to specifications. Records production.
 GOE: 06.04.24 STRENGTH: L GED: R2 M1 L2 SVP: 2 DLU: 77

734.684-010 FEATHER SHAPER (button & notion)

Trims, cuts, bones, straightens, and curls feathers for use in decorations for displays and garments, using handtools, such as knives and scissors: Draws feather between knife and thumb to curl feather or cuts portion from quill, using knife, to make feather soft and wavy or applies steam to make feather smooth and straight. Trims feather to specified shape, using scissors. May wire, glue, paste, or sew feathers to form specified design. May be designated according to work performed as Brancher (button & notion); Curler (button & notion); Cutter (button & notion); Feather Boner (button & notion); Feather Trimmer (button & notion).
 GOE: 06.04.34 STRENGTH: S GED: R2 M1 L2 SVP: 2 DLU: 77

734.684-014 FEATHER-DUSTER WINDER (tex. prod., nec)

Fabricates feather dusters, using scissors, shears, and winding machine: Clamps wooden handle in chuck of winding machine. Pulls wire from reel and attaches wire

to grooved end of handle. Starts machine to rotate handle and inserts quills under wire as it winds around handle. Stops machine and cuts wire, using shears. Tacks paper cuff around wire and wraps end of wire around tack. Trims feathers to specified length, using scissors.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 3 DLU: 77

734.684-018 INSPECTOR-REPAIRER (button & notion)

Examines frames or plastic articles during various stages of manufacture and reworks article to meet specifications: Inspects frames for unsoldered wires and solders contact points, using soldering iron. Examines formed articles for holes in plastic or deformations and brushes liquid epoxy or plastic to repair defect. Inspects decorated articles for missed paint areas or defective decoration and paints areas needing rework, using artist's brush. Discards articles that cannot be reworked. Occasionally bends finished article into specified shape and seals article in plastic bag, using heated iron.

GOE: 06.03.02 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

734.684-022 SLIDE-FASTENER REPAIRER (button & notion) alternate titles: zipper repairer

Repairs and adjusts defective slide fasteners (zipper chains): Examines rejected fasteners for type of defect and extent of repair required. Pries excess or broken scoops (teeth) and damaged slides from chain, using metal pin. Separates prongs of replacement scoops with pin, and secures scoops to tape, using hand pliers. Cuts chain to specified length, using hand cutting tool. Inserts and secures bottom stop to tape ends of chain, using pinchers, to hold tapes together and provide stop for slide. Positions slide on chain and crimps sides of slides over scoops to mesh links and to provide even sliding action, using crimping tool. Tests zipper by drawing slide over scoops.

GOE: 06.04.24 STRENGTH: L GED: R2 M2 L2 SVP: 2 DLU: 77

734.684-026 WIRE-FRAME DIPPER (button & notion)

Immerses preshaped wire frames in liquid plastic to form articles, such as flowers and foliage, prior to decorating, using either of following methods: (1) Slides metal tube over wire stem of frame to prevent coating of stem. Immerses frame in plastic solution, slides tube down to base of petals, and observes frame to ensure that plastic has covered area within frame. Secures stem on holder above container to allow excess plastic to drip into container. Removes article from holder, removes tube, and places article on drying rack. (2) Dips wire frame in plastic solution and removes article after area within frame is filled. Bends holding wire and hangs filled in frame on hook of conveyor to dry. Mixes plastic solutions according to formula. Records daily production.

GOE: 06.04.33 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

734.685-010 STAMPER (button & notion)

Tends handpress that imprints design on wooden buttons: Positions and fastens die in handpress. Places button in holder under die and pulls lever to lower die that imprints design on button.

GOE: 06.04.25 STRENGTH: M GED: R2 M1 L1 SVP: 2 DLU: 77

734.685-014 BUTTON MAKER AND INSTALLER (tex. prod., nec)

Tends button machine that assembles buttons and inserts buttons into pillow and cushion shells prior to stuffing: Positions specified metal button dies in machine, according to work order, and flips switch to activate machine. Turns knob to set counter that tallies number of buttons assembled. Places button covers and metal button parts in specified sequence in dies and depresses pedal to activate automatic assembly cycle of machine. Picks up buttons from machine discharge bin and cuts away excess covering material, using scissors. Inserts one end of button ties into openings on back of buttons, places opposite end of ties into inserting tool, and pushes tool through precut holes in pillow or cushion shells. Removes ties from tool and inserts ties into openings of other buttons on opposite side of shells. Places assembled items in storage area. Periodically cuts additional button covers from specified fabrics, using handpress.

GOE: 06.04.09 STRENGTH: M GED: R2 M1 L1 SVP: 2 DLU: 86

734.687-010 ACETONE-BUTTON PASTER (button & notion)

Brushes or drops acetone cement on backs of buttons to attach metal shanks of buttons and presses shank into softened plastic.

GOE: 06.04.23 STRENGTH: S GED: R1 M1 L1 SVP: 2 DLU: 77

734.687-014 ASSEMBLER (tex. prod., nec) alternate titles: table worker

Assembles fabric badges from such materials as metal bars, ribbon, and metal buttons, using any of following methods: (1) Slides hanger on back of metal bar through hemmed edge of ribbon. (2) Brushes cement onto back of metal or plastic bar and presses edge of ribbon onto bar. (3) Positions ribbon over back of metal button and presses circular wire pin against ribbon and under back edge of button. (4) Brushes cement onto buckram backing of rosette and presses edge of ribbon onto rosette. (5) Pushes pin on back of metal button through center of rosette and bends prongs of pin back to hold rosette in place. May trim and clean fabric badge, using scissors and cleaning cloth. May cement labels onto back of badges, using brush and cement.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

734.687-018 ASSEMBLER (button & notion)

Inserts paper label in back of celluloid or metal advertising buttons and forces shaped stickpin under rim.

GOE: 06.04.23 STRENGTH: S GED: R1 M1 L1 SVP: 2 DLU: 77

734.687-022 BOBBIN DISKER (glass mfg.) alternate titles: disk setter

Inserts specified disk into recess at head of bobbin, using fingers, or positions disk on top of stationary metal rod and slides bobbin over rod and disk to identify type or size of fiberglass yarn to be wound on bobbin.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

734.687-026 BUCKLE INSPECTOR (button & notion)

Examines finished metal buckles and clasps for defects, such as bent or broken parts, dents, scratches, and plating or lacquering imperfections. Sets aside defective buckles for rework. Places protective plastic tip over buckle prong. Wraps specified number of buckles in tissue paper preparatory to packaging. May count and weigh sample lot, using scale, to ascertain weight per gross, in order that items may be packaged by weight rather than by actual count.
GOE: 06.03.02 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

734.687-030 BUCKLE SORTER (button & notion)

Sorts metal buckles and parts according to size and kind, and removes bent or broken ones. Dumps container of buckles on bench and separates them into piles or containers. Removes pieces of tumbling-barrel shot jammed in buckles, using metal pick.
GOE: 06.03.02 STRENGTH: L GED: R2 M1 L2 SVP: 3 DLU: 77

734.687-034 BUCKLE-WIRE INSERTER (button & notion)

Pushes reinforcing wire through tubular material for use in making buckle frames. Cuts off material to match length of reinforcing wire, using scissors.
GOE: 06.04.23 STRENGTH: S GED: R1 M1 L1 SVP: 1 DLU: 77

734.687-038 BUTTON GRADER (button & notion)

Examines completed pearl buttons and sorts them according to grade: Observes buttons on conveyor belt or worktable, and sorts into containers according to shade and purity of color, and degree of iridescence. Discards buttons with defects, such as spots, chips, cracks, or toolmarks. May examine completed plastic buttons for defects.
GOE: 06.03.02 STRENGTH: S GED: R2 M1 L2 SVP: 4 DLU: 77

734.687-042 BUTTON RECLAIMER (knitting)

Examines buttons for defects, such as chips and cracks, and separates defective buttons from acceptable ones.
GOE: 06.03.02 STRENGTH: S GED: R1 M1 L1 SVP: 2 DLU: 77

734.687-046 BUTTON-AND-BUCKLE MAKER (any industry) alternate titles: buckle-and-button maker; covered button maker

Covers buttons and buckles with fabric, leather, or other material, using pedal-operated press: Cuts covering from layers of material, using die-cutting machine. Places button or buckle in press with covering over it. Depresses pedal to lower plunger and clamp covering and metal parts together. Releases pedal and removes covered article.
GOE: 06.04.27 STRENGTH: L GED: R2 M1 L1 SVP: 3 DLU: 80

734.687-050 COVERED-BUCKLE ASSEMBLER (button & notion) alternate titles: buckle assembler; buckle coverer; buckle gluer

Brushes glue over surface of metal buckle frames and presses precut leather or fabric over frame. Trims excess material with shears.
GOE: 06.04.27 STRENGTH: L GED: R1 M1 L1 SVP: 3 DLU: 77

734.687-054 GRINDER, HAND (button & notion)

Inserts button blanks in slot of grinding machine and pulls grinder against button to grind flat surfaces.
GOE: 06.04.34 STRENGTH: L GED: R1 M1 L1 SVP: 2 DLU: 77

734.687-058 HOT-STONE SETTER (button & notion)

Sets rhinestones in plastic buttons by heating rhinestones on hot metal plate and inserting them in indentations in buttons. Presses stones into buttons with tweezers or metal guard fitted over finger.
GOE: 06.04.23 STRENGTH: S GED: R1 M1 L1 SVP: 2 DLU: 77

734.687-062 INSPECTOR, SLIDE FASTENERS (button & notion)

Inspects samples of slide-fastener (zipper) chains and scoops (links) for defects and conformance to chart specifications for height, width, and spacing of scoops, using micrometers: Measures dimensions of chain and spacing of scoops, using micrometers and ruler, and counts number of scoops per length of chain. Examines chain and scoops for such defects as smashed, cracked, burred, or missing scoops, or for uneven spacing, using optical glasses or eye loupe. Opens and closes zipper to determine ease of sliding and smooth action of slider. Tallies defects found according to type, and prepares report. May examine finish of lacquered chains.
GOE: 06.03.02 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

734.687-066 QUILL-BUNCHER-AND-SORTER (tex. prod., nec)

Separates quills into specified groupings, such as skirts (short), wing, pointer, tail, and white quills, preparatory to processing into feather dusters. Bunches specified number of each kind of quill and secures them with clamps. Discards broken quills.
GOE: 06.03.02 STRENGTH: S GED: R2 M1 L2 SVP: 3 DLU: 77

734.687-070 SHELL-GRADER (button & notion) alternate titles: shell sorter

Grades pearl shells used in making pearl buttons: Examines shells and grades them according to size, thickness, curvature, color, and imperfections. Sorts shells into

grading bins. Places graded shells in containers of water to soften them for cutting operations. May transport cases of shells from storage, using handtruck.
 GOE: 06.03.02 STRENGTH: L GED: R3 M1 L2 SVP: 4 DLU: 77

734.687-074 SLIDE-FASTENER-CHAIN ASSEMBLER (button & notion) alternate titles: assembler, slide fastener stringers; puller; zipper joiner

Joins together stringers (sides) of slide fasteners, using slider jig: Aligns links of stringer with links of other stringer and inserts ends of stringers in slider jig. Pulls ends of stringers through jig to interlock links. Examines fastener for defects, such as crooked, broken, flattened, or misaligned links. Cuts out defective section, using scissors, and splices sections, using adhesive tape or hand stapler. May sew sections together to prevent raveling, using serging sewing machine. May tend machine rollers that pull stringers through jig.
 GOE: 06.04.23 STRENGTH: S GED: R2 M1 L1 SVP: 2 DLU: 77

734.687-078 SLIDER ASSEMBLER (button & notion; garment) alternate titles: slider attacher; zipper-slide attacher

Attaches slides onto garment zipper: Clamps slide in holding device on worktable and threads bottom links of zipper chains through slide. Grasps bottom of zipper and pulls chains through slide, meshing links to close zipper. Removes slide from holding device and positions garment on machine bed with zipper bottom against guide. Depresses pedal that lowers machine head to fasten metal clamp or staple around bottom of chains. May depress pedal that closes rollers on chains and pulls them through slide automatically.
 GOE: 06.04.23 STRENGTH: L GED: R2 M1 L2 SVP: 2 DLU: 77

734.687-082 SORTER (button & notion)

Examines pearl or plastic button blanks on moving conveyor and discards those with defects, such as wormholes, loose spots, uneven backs, cracks, or chips. May examine unpolished plastic buttons for tool marks, off-center thread holes, and unfinished shape.
 GOE: 06.03.02 STRENGTH: S GED: R2 M1 L2 SVP: 3 DLU: 77

734.687-086 SPLITTER, HAND (button & notion)

Splits pearl button blanks into two or more blanks, using hand knife and mallet. Holds blank edge-up on bench or block. Positions knife blade along top edge of blank, steadies blade and blank with thumb and fingers of one hand, and taps blade with mallet to split blank.
 GOE: 06.04.34 STRENGTH: S GED: R1 M1 L1 SVP: 2 DLU: 77

734.687-090 STICKER (button & notion) alternate titles: leaf sticker

Glues paper-covered wire to artificial flowers to stiffen and strengthen them. May emboss simulated veins on leaves.
 GOE: 06.04.23 STRENGTH: S GED: R1 M1 L1 SVP: 1 DLU: 77

734.687-094 ZIPPER TRIMMER, HAND (button & notion) alternate titles: zipper measurer

Measures slide fastener chains and cuts excess scoops (links) from chains to shorten chains to specified length: Measures chain against bench mounted ruler to determine number of scoops to remove. Cuts each scoop from tape, using pincers. Rubs scoops against edge of bench to remove them from tape. Cuts tape between chains to form individual zipper, using scissors. Examines zippers for broken or missing scoops and discards defective zippers. May count and record number of zippers produced.
 GOE: 06.04.24 STRENGTH: S GED: R2 M2 L2 SVP: 2 DLU: 77

735 OCCUPATIONS IN FABRICATION AND REPAIR OF JEWELRY, N.E.C.

This group includes occupations, not elsewhere classified, concerned with fabricating and repairing jewelry.

735.381-010 BENCH HAND (jewelry-silver.) alternate titles: bench worker

Cuts out, files, and solders parts for jewelry articles, such as bracelets, brooches, emblems, and rings, performing any combination of following tasks: Cuts out parts, using power saw or handsaw. Shapes, trims, and smooths parts, using files. Joins parts together, using solder and torch. May bend ring settings and brooch clasps, using pliers. May assemble finished parts of jewelry articles.
 GOE: 06.01.04 STRENGTH: L GED: R3 M2 L1 SVP: 6 DLU: 77

735.381-014 PEARL RESTORER (jewelry-silver.) alternate titles: pearl peeler

Peels, shapes, smooths, and polishes genuine pearls to remove surface defects and attain uniform color, using knife, grinding stone, and abrasives: Peels outer layers to remove damaged areas and obtain natural, uniform color, using knife. Selects abrasive and grinding stone to produce smooth finish, utilizing knowledge of natural pearl structure, abrasives, and grinding operations. Shapes, smooths, and polishes pearls, using abrasives and grinding stone. Cleans surface of pearls, applying rag and oil mixtures.
 GOE: 05.05.14 STRENGTH: L GED: R3 M2 L2 SVP: 6 DLU: 77

735.381-018 SAMPLE MAKER II (jewelry-silver.)

Reproduces original designs of jewelry articles in wax, prepares design specifications, and computes production costs: Molds original designs in wax, using modeling tools. Writes design specifications, such as metal content and weight and type of alloy. Computes cost of labor and material to determine production costs of jewelry articles. May form metal samples from wax molds [MODEL MAKER (jewelry-silver.) II].
 GOE: 05.03.02 STRENGTH: S GED: R4 M2 L2 SVP: 6 DLU: 77

735.587-010 COLORING CHECKER (jewelry-silver.)

Records plating instructions for jewelry articles and inspects plated articles for quantity and quality: Receives jewelry articles with order card and transcribes plating instructions onto order sheet. Routes order and plating instructions to STRINGER (jewelry-silver.). Verifies quantity of articles and inspects plated articles for uniformity of surface and unplated areas. May keep records, such as rate cards, pricelists, or daily production reports.

GOE: 06.03.02 STRENGTH: L GED: R3 M1 L1 SVP: 4 DLU: 77

735.681-010 BRACELET AND BROOCH MAKER (jewelry-silver.) alternate titles: brooch-and-bracelet maker

Assembles jewelry parts to form decorative articles, such as bracelets and brooches: Joins parts and attaches decorations, using gas torch, soldering iron, pick, and tweezers. Sets stones and forms settings, using pliers, gas torch, or soldering iron.

GOE: 06.02.23 STRENGTH: L GED: R3 M2 L1 SVP: 7 DLU: 77

735.684-010 BEAD STRINGER (jewelry-silver.)

Strings bead necklaces on wire or thread: Counts number of beads in necklace. Cleans beads in soap and water or other cleaning solution. Sorts beads according to size, color, or original pattern. Guides needle through hole in beads and strings them into necklace of graduated or uniform sized beads. Ties knot in thread or bends wire and attaches fastener. May be designated according to type of beads strung as Pearl Stringer (jewelry-silver.). May restring bead necklaces on wire or thread.

GOE: 06.04.34 STRENGTH: S GED: R2 M1 L2 SVP: 3 DLU: 77

735.684-014 STONER (jewelry-silver.)

Smooths enameled surface of jewelry articles, using abrasive stone: Fastens jewelry article in wooden chuck (jeweler's block). Rubs moist abrasive stone across article to remove excess enamel and produce smooth surface. Brushes or washes article to remove loose particles. May remove excess enamel, using buffing machine.

GOE: 06.04.24 STRENGTH: S GED: R2 M1 L2 SVP: 4 DLU: 77

735.684-018 TROPHY ASSEMBLER (jewelry-silver.)

Assembles trophies to customer's specifications, using drill press and handtools: Selects parts, such as base, tubing, metal plates, figures, and hardware from stock. Drills holes in base or plaque, using electric drill or drill press. Glues felt to bottom of base, or screws in metal feet. Staples or tapes metal plate to base. Bolts parts together, using screwdriver and socket wrench. Touches up scratch marks with scratch remover and polishes assembled trophy. May attach marble or onyx decoration to formed column with adhesive tape. May wrap trophy in tissue paper preparatory to shipping.

GOE: 06.02.24 STRENGTH: L GED: R3 M2 L2 SVP: 5 DLU: 77

735.687-010 DIPPER (jewelry-silver.) alternate titles: etcher, enameling; washer-off

Immerses enameled jewelry, jewelry findings, and other articles in acid and water baths to clean them. Dries cleaned articles by placing them in sieve and exposing them to steam or hot air, placing them in oven, by rolling them in heated sawdust, or by placing them in centrifugal drier.

GOE: 06.04.39 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

735.687-014 LINKER (jewelry-silver.) alternate titles: linker-up; plier worker

Attaches links, trimmings, and findings to bracelets, necklaces, and pendant chains, using pointed pliers: Grips link with pliers, or positions link in slot of linking ring (screwhead soldered on ring). Twists link joint open with pliers. Slides finding, link, or trimming into open link and clinches link joint to close it. May refer to sketch to verify order of assembly. May cut chains or ribbons into specified lengths, using cutter. May attach glass beads to findings by threading end pin (piece of wire with head) through bead and opening in finding, and twisting or looping pin to hold bead in place. May hook metal links together and be designated Link Assembler (jewelry-silver.); or repair broken jewelry chains previously soldered, using handtools and gas torch, and be designated Chain Mender (jewelry-silver.).

GOE: 06.04.23 STRENGTH: S GED: R2 M1 L2 SVP: 3 DLU: 77

735.687-018 PAINTER (jewelry-silver.)

Brushes protective covering onto specified sections of jewelry articles to protect sections during electroplating, sandblasting, and polishing operations: Brushes or dabs lacquer or molten wax onto jewelry to prevent damage to coated areas during electroplating or sandblasting. Brushes shellac on sandblasted areas to protect areas during polishing. May correct plating defects, using paint and brush.

GOE: 06.04.33 STRENGTH: S GED: R2 M1 L2 SVP: 2 DLU: 77

735.687-022 PIN-OR-CLIP FASTENER (jewelry-silver.) alternate titles: finding fastener

Fastens pins and clips to jewelry items, such as brooches and earrings: Positions jewelry item between jaws of machine. Selects pin or clip and fits end of pin or clip into holes of jewelry item. Depresses pedal to close jaws and squeeze joints together. Inspects jewelry for defects and rejects defective pieces. May mount jewelry on cards [CARDER (any industry)].

GOE: 06.04.23 STRENGTH: S GED: R2 M1 L1 SVP: 2 DLU: 77

735.687-026 RACKER (jewelry-silver.)

Arranges pieces of jewelry in rows on wire screens, or fastens pieces to racks with clamps or fabricated hooks, preparatory to plating, degreasing, and enameling. May brush particles of foreign matter from pieces of jewelry preparatory to painting. May place painted jewelry in trays for inspection.

GOE: 06.04.34 STRENGTH: L GED: R1 M1 L1 SVP: 2 DLU: 77

735.687-030 SORTER (jewelry-silver.)

Sorts jewelry articles, such as pins, emblems, rings, and casting patterns for control and inventory purposes: Separates items by type, size, and style. Counts and records total items in each separate grouping. Requests additional articles from production department when such items are needed to complete specified inventory levels. May maintain inprocess record controls of patterns during casting and processing of gold jewelry.

GOE: 06.03.02 STRENGTH: S GED: R2 M2 L2 SVP: 3 DLU: 77

735.687-034 STONE SETTER (jewelry-silver.)

Sets ornamental stones, such as pearls, rhinestones, and colored glass in metal or plastic jewelry articles by one of following methods: (1) Brushes paste or applies cement across settings or depressions in article or deposits glue in settings with pick. Places stone in each setting, using tweezers or other pickup tool. (2) Places stone in setting and presses prongs around stone with handtool. (3) Bores hole in setting, using hand drill. Inserts rivet in hole and hammers rivet ends flat. Positions stone in setting and presses rivet around stone with handtools. May paint decorations on article. May be designated according to method of setting stones as Pronger (jewelry-silver.); Stone Gluer (jewelry-silver.); or according to type of stone set as Pearl Hand (jewelry-silver.); Rhinestone Setter (jewelry-silver.).

GOE: 06.04.30 STRENGTH: S GED: R1 M1 L1 SVP: 2 DLU: 77

735.687-038 SWEDGER (jewelry-silver.)

Assembles costume jewelry, using foot press: Inserts prongs (rivets) of one finding into corresponding holes of another, and shapes findings with pliers to obtain fit. Positions findings under swedging (riveting) tool in press. Depresses pedal or moves lever to lower swedging tool that spreads and flattens prongs to combine findings.

GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

735.687-042 WIRE DRAWER (jewelry-silver.) alternate titles: roller

Forms wire of specified shape and diameter, preparatory to further processing in fabrication of jewelry articles, using either of following methods: (1) Draws bar of metal through successively smaller holes in hardened steel plate. (2) Feeds bar of metal into mill and turns crank to actuate rollers that compress metal in groove to produce round or square wire.

GOE: 06.04.24 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

736 OCCUPATIONS IN FABRICATION AND REPAIR OF ORDNANCE AND ACCESSORIES

This group includes occupations concerned with inspecting, fitting, assembling, and repairing small arms, repeating weapons, and related ordnance.

736.131-010 AUTOMOTIVE-TIRE-TESTING SUPERVISOR (ordnance)

Supervises and coordinates activities of workers engaged in testing durability of standard and bulletproof tires and inner tubes, caterpillar tracks, and bulletproof gas tanks for military vehicles, performing duties as described under SUPERVISOR (any industry) Master Title.

GOE: 06.01.01 STRENGTH: L GED: R4 M3 L3 SVP: 8 DLU: 77

736.131-014 FIREARMS-ASSEMBLY SUPERVISOR (ordnance)

Supervises and coordinates activities of workers engaged in assembling and packing firearms. May set up machines for tool tryout or prototype job to solve setup problem. Performs duties as described under SUPERVISOR (any industry) Master Title.

GOE: 06.04.01 STRENGTH: L GED: R4 M3 L3 SVP: 7 DLU: 77

736.131-018 INSPECTION SUPERVISOR I (ordnance)

Supervises and coordinates activities of workers engaged in inspecting firearms. Trains new workers. Performs duties as described under SUPERVISOR (any industry) Master Title.

GOE: 06.01.01 STRENGTH: L GED: R4 M3 L3 SVP: 7 DLU: 77

736.281-010 GUN EXAMINER (ordnance)

Examines small arms returned by customers for repair to determine causes of malfunctioning: Reads correspondence to ascertain request or complaint. Disassembles gun, using handtools. Examines components, and measures dimensions and clearances, using gauges, to detect malfunction. Test-fires guns to evaluate performance of loading, firing, ejection mechanisms, and accuracy of bore and sights. Prepares list of parts and repair operations required to restore function of weapon. Determines whether customer or company is responsible for malfunction and records information for subsequent billing. May replace worn or broken parts and be designated Gun Examiner And Repairer (ordnance).

GOE: 06.01.05 STRENGTH: M GED: R4 M3 L3 SVP: 6 DLU: 77

736.367-010 AUTOMOTIVE-TIRE TESTER (ordnance)

Tests pneumatic tires and tubes, bulletproof gasoline tanks, caterpillar tracks, and similar equipment to determine that they meet minimum specifications for use on military vehicles: Mounts ordinary pneumatic or bulletproof tires and tubes on tire-testing machines or on appropriate vehicles. Inflates tires to prescribed pressure and manipulates controls to operate machines and simulate driving conditions, or drives vehicles, observing indicators and noting tire conditions. Directs other workers in firing specified number of bullets into tires at specified places and in taking photographs of test results. Fills and weighs bulletproof gasoline tanks and directs other workers in firing bullets through tanks. Weighs pierced tanks to determine extent of gasoline loss. Mounts military tank tracks on special testing machines and manipulates controls to test tracks under induced conditions. Observes results and notes instrument readings. Prepares reports indicating results of wear or bullet holes on material tested. Interprets test results, using charts and tables.

GOE: 06.03.01 STRENGTH: M GED: R4 M3 L4 SVP: 7 DLU: 77

736.381-010 ASSEMBLER I (ordnance) alternate titles: final assembler

Assembles and adjusts small arms parts to specifications and tests moving parts to detect malfunctions: Verifies dimensions of parts, using gauges. Screws, pins, and bolts parts together to assemble weapon, using handtools and power tools. Tests action of weapon to detect malfunctions. Disassembles weapon and files, scrapes, and reams parts to fit, using emery cloth, hand files, reamers, and bench grinder. May test-fire weapon, using dummy ammunition.
 GOE: 06.02.23 STRENGTH: L GED: R3 M3 L2 SVP: 5 DLU: 77

736.381-014 FITTER, VENTILATED RIB (ordnance) alternate titles: rib matcher and fitter

Mounts and aligns ventilated (elevated) ribs to shotgun barrels to facilitate aiming: Selects and positions ribs to dovetailed posts on top of gun barrel. Mounts rib to barrel by dovetailing each rib slot and barrel post along barrel. Locks barrel in vise and measures height of rib at breech end, using pin gauge, to determine amount rear end post must be reduced to lower rib to specified height. Hammers and files post and squeezes rib slot, using handtools and fixtures, to fit rib to post at specified height. Files and fits each rib slot to each post along barrel to align and level rib. Stamps identifying data on rib and barrel, using punches and hammer. Operates bench drill press to drill holes in barrel for retaining pins and sighting beads.
 GOE: 06.02.24 STRENGTH: M GED: R3 M2 L2 SVP: 5 DLU: 77

736.381-018 PROCESS INSPECTOR (ordnance)

Inspects rocket motors, cases, and fuel mixtures for conformance with specifications and verifies standard work procedures and process conditions involved in loading rocket-motor cases with fuel: Weighs and records weights of fuel mixtures and ingredients on inspection reports. Observes fuel mixing, case preparation, and lining activities for conformity to specified procedures and records variations on inspection report. Observes and records weight of lined cases. Examines linings for voids, pockmarks, and other defects. Observes charts, meters, and gauges on casting-control console to verify conformity of process conditions to specifications and records readings. Correlates gauge readings to estimate flow of fuel pumped (cast) into motor case. Observes meters and charts on curing-control panel to verify specified process conditions in curing oven. Examines cured rocket motors for defects, such as voids in propellant, presence of foreign bodies, and paint defects on motor case.
 GOE: 06.01.05 STRENGTH: L GED: R3 M2 L3 SVP: 6 DLU: 77

736.384-010 PROOF INSPECTOR (ordnance) alternate titles: proof tester; shooter

Fires small arms weapons to test loading, firing, and ejection mechanisms: Places gun in fixture of proof-shoot box, and loads it with ammunition. Fires gun specified number of times manually and by remote control to test its shock resistance and function of loading, firing, and extraction mechanisms. Examines gun and spent cartridges for indications of mechanical defects. Measures chamber and bore for conformance to specifications, using gauge. Records firing malfunctioning on tag, and routes gun to repair shop. May keep daily inspection records.
 GOE: 06.03.01 STRENGTH: L GED: R3 M2 L2 SVP: 3 DLU: 77

736.387-010 INSPECTOR, ASSEMBLY (ordnance)

Inspects and tests small arm units during subassembly and assembly stages to ensure that mechanical action, finish, and assembly conform to specifications: Tests firearms for specified cocking and trigger action, using gauges. Examines wood and metal parts of weapons to detect flaws in finish. Pushes gauge through bore of gun to verify straightness of barrel. Measures dimensions and clearances of components to verify conformance with specifications, using gauges. Tests tightness of screws, bolts, and pins, using handtools. Records on tags firearms rejected and reasons. May be designated according to processing stage as Final Inspector (ordnance).
 GOE: 06.03.01 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

736.387-014 PROOF-TECHNICIAN HELPER (ordnance) alternate titles: laboratory-mechanic helper

Tests and inspects small arms, artillery weapons, ammunition, and bombs for safety and quality control: Obtains sample ammunition from production lot for ballistic testing. Sets up targets on ranges. Fires weapons to determine mechanical function, accuracy, and velocity under variable conditions. Records number of defective pieces and sends them to laboratory for analysis. Cleans and maintains weapons used in testing.
 GOE: 06.03.01 STRENGTH: H GED: R3 M2 L3 SVP: 4 DLU: 77

736.481-010 SIGHT MOUNTER (ordnance)

Attaches and adjusts telescopic and other special sights to shotguns and rifles: Locates and marks position for mounting holes, using scales and dividers. Operates drill press to drill and tap mounting holes and screws sights on barrel. Positions gun in holding fixture. Sights through bore and moves fixture to align gun with target. Turns setscrews on sight mount to align telescopic sight with fixed target. Routes gun for test firing.
 GOE: 06.02.24 STRENGTH: L GED: R3 M3 L2 SVP: 5 DLU: 77

736.587-010 BARREL LOADER AND CLEANER (ordnance)

Loads automatic pistols and revolvers with cartridges for test firing and cleans and oils tested guns: Fills magazine or cylinder of weapon with specified type of ammunition. Unscrews retaining pin to remove cylinder or pulls magazine from test-fired guns and removes empty shells and live ammunition. Cleans cylinders and barrel with wire brush and swabs gun with oil. Stamps test mark on frame, using hammer and punch. Records number of firearms tested.
 GOE: 06.04.34 STRENGTH: M GED: R2 M1 L1 SVP: 2 DLU: 77

736.684-010 ALIGNER, BARREL AND RECEIVER (ordnance)

Assembles and aligns rifle barrels and receivers, using handtools and power tools, using either of following methods: Mounts barrel in vise and screws receiver onto barrel, using wrench. (1) Positions assembled barrel and receiver in concentricity gauge and marks areas on barrel where metal must be removed or raised to bring barrel and receiver into alignment. Remounts barrel in vise, removes receiver, and scrapes metal from barrel shoulder, or peens receiver chamber, using hammer and peening tool to raise metal to form shim. Mounts sighting bars at each end of barrel, sights between bars, and twists receiver to align bars. (2) Positions assembled barrel and receiver in alignment gauge. Tightens receiver and barrel to adjust alignment according to dial gauge reading, using pneumatic gauge. May screw barrel into receiver to specified pressure, using torque wrench.
 GOE: 06.02.23 STRENGTH: M GED: R3 M2 L1 SVP: 3 DLU: 77

736.684-014 ASSEMBLER II (ordnance) alternate titles: subassembler

Assembles small arms subassemblies, such as cartridge clips, triggers, ejectors, and bolts, using handtools and power tools: Drills, reams, countersinks, and polishes

parts, using power tools. Screws, pins, bolts, and rivets parts to form subassembly. Straightens warped parts, using bench and handtools. Examines subassemblies for nicks, burrs, and machine marks, and verifies accuracy of assembly, using gauges. Smooths parts to remove defects and improve fit, using emery cloth and hand file.
GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 3 DLU: 77

736.684-018 BARREL FINISHER (ordnance)

Smooths and polishes outside surfaces of shotgun barrels preparatory to bluing, using files, striker tools, and emery cloth: Positions and secures barrel in vise. Files off excess metal and surface blemishes, such as toolmarks, ripples, pits, and flat spots. Examines and feels surface of barrel to determine smoothness. Rubs barrel to obtain satin finish, using various grades of emery cloth. May secure barrel in filing jig and file with striker tool to taper breech end, using surface as guide. May remove excess solder from joints.
GOE: 06.04.24 STRENGTH: M GED: R2 M1 L2 SVP: 4 DLU: 77

736.684-022 BARREL REPAIRER (ordnance)

Repairs scratched or dented steel shotgun barrels, using handtools: Examines damaged barrel to determine salvageability. Positions and secures barrel in bench vise. Draws (stretches) metal from adjoining barrel surface to fill nicks, dents, and scratches by tapping edges with peening hammers. Smooths repaired area and removes blemishes, using handtools and emery cloth. Removes worn inscriptions, such as serial numbers and trademarks, using peening hammers, files, and scrapers. Replaces inscriptions, using punch dies and mallet [MARKER (ordnance)].
GOE: 05.10.01 STRENGTH: M GED: R2 M1 L1 SVP: 5 DLU: 77

736.684-026 BARREL STRAIGHTENER I (ordnance)

Straightens small arms barrels to remove bends and crooks, using either line or ring method: (1) Positions barrel in straightening press, sighting it toward frosted glass plate across which is drawn black horizontal line. Sights through barrel, noting two line-shadows cast longitudinally along interior by reflected light from frosted glass. Tightens jaws of press to bend barrel at points where shadows are not straight to straighten barrel (line method). (2) Positions barrel on special fixture. Sights through barrel toward light, noting position of three ring-shadows cast inside bore by light passing through ring scribed on smoked glass at far end of barrel (eccentric rings denote bend in barrel). Removes crooked barrel from fixture and strikes it with soft metal mallet against babbitt block to remove bend indicated by position of rings (ring method).
GOE: 06.02.24 STRENGTH: L GED: R3 M1 L2 SVP: 4 DLU: 77

736.684-030 FRONT-SIGHT ATTACHER (ordnance)

Attaches front sights to shotgun and rifle barrels: Secures barrel in vise and screws threaded shank of sight into hole near muzzle. Shears off excess shank extending into bore, using hammer and chisel. Files sheared end of shank with file until edge is smooth with inside of gun barrel. Feels sheared joint and sights through bore or inserts plug gauge into bore to verify smoothness. May drill and tap hole in barrel to accommodate front sight, using drill press and tap.
GOE: 06.04.23 STRENGTH: L GED: R2 M1 L1 SVP: 2 DLU: 77

736.684-034 GAS-CHECK-PAD MAKER (ordnance)

Makes gas-check pads of plastic and wire screening to be used in breechblocks of bag-loading cannons: Mixes specified quantity of ingredients, such as vaseline, powdered asbestos, and graphite in agitator to form puttylike substance. Presses specified amount of mixture between dies in hydrostatic press to form disk. Shapes brass wire screening into similar shape, using snips and soldering iron. Embeds wire in disk, using hydrostatic press. Coats pad with graphite paint and stencils identifying data on pad. Wraps pad in wax paper.
GOE: 06.02.32 STRENGTH: L GED: R3 M2 L2 SVP: 4 DLU: 77

736.684-038 SOLDERER, BARREL RIBS (ordnance)

Mounts and solders ribs to shotgun barrels to form double barrels and for use as aiming sight: Brushes flux onto shotgun barrels to prepare surface for soldering. Files and fits dovetail butts of barrels together and hammers pin through holes in barrels to lock them together. Inserts spacers between barrels and mounts barrels in fixture. Aligns rib between barrels and drives wedges between rib and barrels to secure rib. Heats assembly in gas-fired oven to specified temperature for soldering. Melts and flows solder along adjoining edges of rib and barrels, using gas torch. Positions and secures barrels and sighting ribs in aligning fixture and solders ribs to barrels. Drills vent and bead holes in barrels, using bench drill. Places soldered barrels in wire basket and moves barrels through acid bath tanks and rinse water, using overhead hoist, to remove excess solder and flux.
GOE: 06.04.31 STRENGTH: L GED: R2 M1 L1 SVP: 3 DLU: 77

736.684-042 TARGETEER (ordnance) alternate titles: aligner; sighter

Fires small arms weapons at fixed targets to test accuracy of sights and mechanical functions of weapons: Positions target at specified distance. Mounts weapon on tripod, or mechanical rest. Aims weapon and fires series of shots at target. Examines target to determine shot pattern and accuracy of sight. Adjusts sights to attain specified accuracy, using handtools. Examines indentations on cartridge face to detect defective striking of firing pin. Records firing deficiencies on target or tag, and routes gun to repair shop.
GOE: 06.03.02 STRENGTH: L GED: R3 M1 L1 SVP: 3 DLU: 77

736.687-010 GREASER (ordnance) alternate titles: cleaner-greaser; oiler and packer, gun parts

Greases small arms and artillery pieces to prevent corrosion during shipment or storage: Coats parts with grease, using swabs and brushes, or dips parts into grease pot. May dismantle units, such as breech or firing mechanism to facilitate application of grease.
GOE: 05.12.08 STRENGTH: M GED: R1 M1 L1 SVP: 2 DLU: 77

736.687-014 INSPECTOR, BARREL (ordnance)

Tests shotgun and rifle barrel forging for straightness prior to machining: Places barrel on roller supports of test device. Positions stem of dial indicator against barrel. Rotates barrel and notes deflection of indicator needle. Rejects barrels which deflect needle beyond specified limits.
GOE: 06.03.02 STRENGTH: L GED: R2 M1 L2 SVP: 3 DLU: 77

736.687-018 INSPECTOR, LIVE AMMUNITION (ordnance)

Examines magazines and chambers of guns after final test firing to ensure removal of live ammunition. Records number and disposition of guns passing through department.

GOE: 06.03.02 STRENGTH: L GED: R1 M1 L1 SVP: 2 DLU: 77

737 OCCUPATIONS IN FABRICATION OF AMMUNITION, FIREWORKS, EXPLOSIVES, AND RELATED PRODUCTS

This group includes occupations concerned with assembling, loading, and inspecting small arms and artillery ammunition, bombs, mines, grenades, chemical warfare projectiles, flares, explosive charges, and related products. Occupations concerned with processing explosive chemicals are included in Division 55.

737.131-010 SUPERVISOR, FIREWORKS ASSEMBLY (chemical)

Supervises and coordinates activities of workers engaged in mixing powders and assembling parts to produce fireworks: Ignites fireworks and observes resultant sound and color to verify use of specified proportions and mixtures of powders. Prepares reports and discusses test results with production manager. May train new workers and set up machines and equipment to meet production requirements. Performs other duties as described under SUPERVISOR (any industry) Master Title. May be designated according to type of product manufactured or function supervised as Floatlight-Loading Supervisor (chemical); Incendiaries Supervisor (chemical); Pyrotechnic-Loading Supervisor (chemical).

GOE: 06.02.01 STRENGTH: M GED: R4 M2 L3 SVP: 7 DLU: 77

737.132-010 PRIMER SUPERVISOR (ordnance)

Supervises and coordinates activities of workers engaged in shaping, charging, foiling, and assembly of cartridge primers. Performs other duties as described under SUPERVISOR (any industry) Master Title.

GOE: 06.02.01 STRENGTH: L GED: R4 M2 L3 SVP: 7 DLU: 77

737.134-010 INSPECTION SUPERVISOR II (ordnance)

Supervises and coordinates activities of workers engaged in making final inspections of small-arms ammunition and artillery shells and cases: Determines from blueprints type and size of gauges or inspection instruments to be used. Examines rejected parts to ascertain whether they may be salvaged or scrapped. Consults with various department heads concerning the correction of defects attributed to malfunction of machines and equipment during manufacturing processes. Recommends improvements to companies supplying raw materials when tests indicate that their products have been the cause of defects. May train newly assigned workers. Performs other duties as described under SUPERVISOR (any industry) Master Title.

GOE: 06.01.01 STRENGTH: L GED: R4 M2 L3 SVP: 8 DLU: 77

737.137-010 INSPECTOR, CHIEF (ordnance)

Supervises and coordinates activities of personnel engaged in inspecting ammunition and ammunition components: Keeps records of storage and processing. Assigns subordinates to routine inspection of stores or processes. Studies inspection reports and directs action to remedy unsafe conditions and to dispose of unserviceable materials. Performs other duties as described under SUPERVISOR (any industry) Master Title.

GOE: 06.01.01 STRENGTH: L GED: R4 M3 L3 SVP: 7 DLU: 77

737.137-014 POWDER-AND-PRIMER-CANNING LEADER (ordnance) alternate titles: primer-and-powder-canning leader

Supervises and coordinates activities of workers engaged in drying, canning, and storing cartridge primers and propellant powder for small-arms ammunition. Performs other duties as described under SUPERVISOR (any industry) Master Title.

GOE: 06.01.01 STRENGTH: L GED: R4 M3 L3 SVP: 8 DLU: 77

737.137-018 SUPERVISOR (ordnance)

Supervises and coordinates activities of workers engaged in manufacture, loading, assembly, drying, or storage of ammunition. Performs other duties as described under SUPERVISOR (any industry) Master Title. May inspect material or products to ensure compliance with manufacturing standards. May be designated according to activity supervised as Supervisor, Ammunition-Loading (ordnance); Supervisor, Powder-And-Primer-Canning (ordnance); Supervisor, Propellant-Charge-Loading (ordnance); Supervisor, Pyrotechnic-Loading (ordnance).

GOE: 06.02.01 STRENGTH: L GED: R4 M4 L3 SVP: 8 DLU: 77

737.137-022 SUPERVISOR, BELT-AND-LINK ASSEMBLY (ordnance) alternate titles: belt-and-link-shop supervisor

Supervises and coordinates activities of workers engaged in loading belts, chains, and clips with small-arms ammunition for automatic and semiautomatic weapons. Performs other duties as described under SUPERVISOR (any industry) Master Title.

GOE: 06.02.01 STRENGTH: L GED: R4 M3 L3 SVP: 8 DLU: 77

737.364-010 PROCESS CHECKER (ordnance) alternate titles: inspector, materials and processes

Inspects and tests small arms ammunition to verify conformance with variety of qualitative specifications: Collects quantity of cartridges or shotgun shells as they emerge from loading and assembling machines. Tests crimping of case around bullet, using bench device that registers force required to withdraw bullet from case. Cuts open shotgun shells to verify correct placement of wads, shot, and powder. Weighs powder from several individual shells on balance scale and computes average weight. Weighs shot pellet load from individual shell on shadowgraph scale and counts number of pellets in load, using pellet-counting device, and computes number of pellets per ounce; estimates average pellet size, using graduated device. Reports patterns in ammunition defects that indicate loading or assembly machine malfunctions or maladjustments to machine adjuster or supervisor. Records test results in tabular, graphic, or narrative form for quality control purposes.

GOE: 06.03.01 STRENGTH: L GED: R3 M3 L2 SVP: 3 DLU: 77

737.367-010 INSPECTOR III (ordnance)

Inspects ammunition, ammunition components, loading plants, and magazine areas to detect unsafe or unserviceable items and to enforce safety regulations: Inspects cartridges and other metallic items for corrosion or physical defects. Visually examines explosive components for deterioration, freedom of movement of parts, clearances between parts, and dimensions of specified parts, using measuring devices. Inspects physical condition of plant buildings and magazines for adequate safety equipment. Observes methods of storing and handling ammunition and actions of plant personnel for compliance with safety regulations. Inspects incoming and outgoing shipments for proper loading, bracing, and marking. Prepares reports on findings. May observe loading process for quality of production and observance of safety regulations. May supervise personnel engaged in salvage or destruction of unserviceable ammunition and explosives.

GOE: 06.03.01 STRENGTH: L GED: R4 M3 L3 SVP: 6 DLU: 77

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