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- other potentially troublesome areas.
- Confer with customers to obtain descriptions of vehicle problems, and to discuss work to be performed and future repair requirements.
- Perform routine and scheduled maintenance services such as oil changes, lubrications, and tune-ups.
- Repair and service air conditioning, heating, engine-cooling, and electrical systems.
- Test and adjust repaired systems to meet manufacturers' performance specifications.
- Review work orders and discuss work with supervisors.
- Tear down, repair, and rebuild faulty assemblies such as power systems, steering systems, and linkages.
- Plan work procedures, using charts, technical manuals, and experience.
- Repair or replace parts such as pistons, rods, gears, valves, and bearings.
- Disassemble units and inspect parts for wear, using micrometers, calipers, and gauges.
- Install and repair accessories such as radios, heaters, mirrors, and windshield wipers.
- Maintain cleanliness of work area.
- Repair or replace shock absorbers.
- Replace and adjust headlights.
- Overhaul or replace carburetors, blowers, generators, distributors, starters, and pumps.
- Repair radiator leaks.
  
- Design and build custom Gates and staircases.
- Operate safety equipment and use safe work habits.
- Weld components in flat, vertical, or overhead positions.
- Ignite torches or start power supplies and strike arcs by touching electrodes to metals being welded, completing electrical circuits.
- Clamp, hold, tack-weld, heat-bend, grind or bolt component parts to obtain required configurations and positions for welding.
- Detect faulty operation of equipment or defective materials and notify supervisors.
- Operate manual or semi-automatic welding equipment to fuse metal segments, using processes such as gas tungsten arc, gas metal arc, flux-cored arc, shielded metal arc.
- Monitor the fitting, burning, and welding processes to avoid overheating of parts or warping, shrinking, distortion, or expansion of material.
- Examine workpieces for defects and measure workpieces with straightedges or

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templates to ensure conformance with specifications.

Recognize, set up, and operate hand and power tools common to the welding trade, such as shielded metal arc and gas metal arc welding equipment.

Lay out, position, align, and secure parts and assemblies prior to assembly, using straightedges, combination squares, calipers, and rulers.

Chip or grind off excess weld, slag, or spatter, using hand scrapers or power chippers, portable grinders, or arc-cutting equipment.

Analyze engineering drawings, blueprints, specifications, sketches, work orders, and material safety data sheets to plan layout, assembly, and welding operations.

Weld separately or in combination, using aluminum, stainless steel, cast iron, and other alloys.

Determine required equipment and welding methods, applying knowledge of metallurgy, geometry, and welding techniques.

Select and install torches, torch tips, filler rods, and flux, according to welding chart specifications or types and thicknesses of metals.

Repair products by dismantling, straightening, reshaping, and reassembling parts, using cutting torches, straightening presses, and hand tools.

Estimate materials needed for production and manufacturing and maintain required stocks of materials.

Operate metal shaping, straightening, and bending machines, such as brakes and shears.

Operate brazing and soldering equipment.

Operate safety equipment and use safe work habits.

Calculate dimensions and tolerances using knowledge of mathematics and instruments such as micrometers and vernier calipers.

Align and secure holding fixtures, cutting tools, attachments, accessories, or materials onto machines.

Select the appropriate tools, machines, and materials to be used in preparation of machinery work.

Machine parts to specifications, using machine tools, such as lathes, milling machines, shapers, or grinders.

Maintain industrial machines, applying knowledge of mechanics, shop mathematics, metal properties, layout, and machining procedures.

Observe and listen to operating machines or equipment to diagnose machine malfunctions and to determine need for adjustments or repairs.

Check work pieces to ensure that they are properly lubricated or cooled.

Lay out, measure, and mark metal stock to display placement of cuts.

Study sample parts, blueprints, drawings, and engineering information to determine methods and sequences of operations needed to fabricate products, and determine product dimensions and tolerances.

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- Design fixtures, tooling, or experimental parts to meet special engineering needs.
- Evaluate experimental procedures, and recommend changes or modifications for improved efficiency and adaptability to setup and production.
- Establish work procedures for fabricating new structural products, using a variety of metalworking machines.
- Fit and assemble parts to make or repair machine tools.
- Set up or operate metalworking, brazing, heat-treating, welding, or cutting equipment.
- Dismantle machines or equipment, using hand tools or power tools to examine parts for defects and replace defective parts where needed.
- Advise clients about the materials being used for finished products.
- Dispose of scrap or waste material in accordance with company policies and environmental regulations.

  

- Inspect, measure, or test completed metal workpieces to ensure conformance to specifications, using measuring and testing devices.
- Read blueprints, work orders, or production schedules to determine product or job instructions or specifications.
- Lay out, fit, or connect parts to be bonded, calculating production measurements as necessary.
- Select, position, align, and bolt jigs, holding fixtures, guides, or stops onto machines, using measuring instruments and hand tools.
- Select torch tips, alloys, flux, coil, tubing, or wire, according to metal types or thicknesses, data charts, or records.
- Compute and record settings for new work, applying knowledge of metal properties, principles of welding, and shop mathematics.
- Prepare metal surfaces or workpieces, using hand-operated equipment, such as grinders, cutters, or drills.
- Clean, lubricate, maintain, and adjust equipment to maintain efficient operation, using air hoses, cleaning fluids, and hand tools.
- Set dials and timing controls to regulate electrical current, gas flow pressure, heating or cooling cycles, or shut-off.
- Tend auxiliary equipment used in welding processes.
- Devise or build fixtures or jigs used to hold parts in place during welding, brazing, or soldering.
- Add chemicals or materials to workpieces or machines to facilitate bonding or to cool workpieces.
- Read blueprints, work orders, or production schedules to determine product or job instructions or specifications.

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Lay out, fit, or connect parts to be bonded, calculating production measurements as necessary.

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