

MASTER MECHANIC
COLUMBIA COUNTY, WI

DEPARTMENT: Highway & Transportation

I. Position Summary.

This is a skilled position in the County's Highway and Transportation Department, under the general supervision of the Highway & Transportation Commissioner and under the direct supervision of the Fleet Superintendent and/or Shop Foreman. The employee in this position repairs and maintains diesel and gas-driven, internal-combustion engines, construction equipment, and hydraulic systems.

1. Equipment Master Mechanic

- a. Provides mechanical services to the fleet and facilities,
- b. Works on all varieties of Department equipment (trucks, tractors, vehicles, loaders, etc),
- c. Works on all varieties of Small Tools (pumps, saws, compressors, etc),
- d. Works on all varieties and aspects of Department facilities (sheds, buildings, grounds, HVAC, lighting, electrical, plumbing, etc).

2. Ferry Mechanic

Employee in this position repairs and maintains the Merrimac Ferry including; diesel, electrical, hydraulic, mechanical systems and ancillary facilities. Colsac III is a 15 vehicle, cable drive, 100 ft, 53 ton net, 153 ton gross car ferry, operating on the Wisconsin River between Columbia (Okee) and Sauk (Merrimac) counties. Boat operates seasonally (dependent on river ice conditions) 24 hours per day, 7 days per week. Off season work includes ferry maintenance as well as winter highway maintenance operations.

- a. Marine experience preferred.
- b. Provides mechanical services to the Merrimac Ferry located near Okee in the Town of West Point,
- c. General marine environment,
- d. Able to provide mechanical service level work for the operation of the ferry and all of its components including; but not limited to, hydraulics, mechanical, diesel, electrical, and control systems,
- e. Tools provided by Columbia County and the State of Wisconsin,
- f. Able to work outdoors in a harsh marine and weather environments including all four (4) seasons of Wisconsin.
- g. Diagnoses malfunctions, disassembles and assembles engines, hydraulic systems, cooling systems, mechanical operations, electrical and generating equipment, devices, and parts, and examines parts for defects and/or excessive wear (cables, gears, shives, pulleys, bearings, valves, filters, etc).
- h. Reconditions and replaces parts, such as, but not limited to, pistons, rams, bearings, gears, valves, bushings, pumps, instruments, gages, filters, pulleys, shives, gears, engines, etc.
- i. Wiring and troubleshooting of electrical systems, working with 6 and 12 volt DC as well as 110 and 220 volt AC including frequency drive motors.
- j. Dealing with hydraulic sensors and switches.
- k. Cable, shive, pulley inspections; estimating and predicting wear and fatigue.
- l. General marine maintenance of lifeboat.
- m. Checking, monitoring, adjusting, testing hydraulic flows and pressures.
- n. Oil changes and routine service work.
- o. Tracking, documenting, logging, and monitoring wear and maintenance of the facility.
- p. Assist shop during off-season.

3. Metals Shop

Familiar with welding and fabrication; including MIG, TIG, stick welding, operation of a cutting torch, operation of a plasma cutter, and operation of machine shop equipment. Alternative to certain ASE requirement suitability to Metals Shop position(s), attain following:

- a. Become a Certified Welder, meeting the requirements for the American Welding Society and retain with re-testing at least 1 every 4 years, or
- b. Pass County administered welding skills proficiency test using MIG, TIG, and stick welding in a variety of types and positions: angle, vertical, horizontal, flat, inside corner, exterior corner, etc., with testing at least every 4 years.
- c. Knowledge and capable to perform advanced and extensive welding and metals fabrication,
- d. Knowledge of trailer systems (brakes, suspension wiring, etc.),
- e. Experience or training in working with tools and equipment of the metals shop filed; include but not limited to:
 - i. Lathe,
 - ii. Drill,
 - iii. Grinder,
 - iv. Cut-off saw,
 - v. Torches.
- f. Capable to provide all tools as required by the Fleet Manager or Highway Commissioner,
- g. Willing and able to assist other Mechanics

II. General Requirements.

Typical tasks will include; but are not necessarily limited to, the following;

1. The maintenance and repair of trucks and equipment utilized by the Department.
2. Assisting in the overall operation of the shop, cleaning of equipment and work areas.
3. Mentoring other service mechanics and highway operations employees in the proper and professional care of vehicles, facilities, and equipment.
4. Must supply own full set of comprehensive tools;
 - Tools must be present on-site;
 - Be of a quality and quantity deemed acceptable by the Fleet Manager;
 - Be stored in a professional, durable, lockable tool chest or set of drawers, not easily relocated or removed from the premises;
 - Contain all standard tools considered usual and customary for a diesel mechanic trade (up to and including ½" drive);
 - Be responsible for the maintenance and care of all personal tools.
5. Capable of working with minimum supervision once the on-the-job orientation is completed.
6. Able to successfully complete, retain, and utilize when needed County provided Confined Space Entry certification; some areas of the ferry are considered "confined space" in accordance with OSHA guidelines,
7. Ability and willingness to understand and effectively carry out verbal and written assignments.
8. Willingness to develop and maintain effective working relationships.
9. Valid Class A Wisconsin's Commercial Driver's (CDL) license with endorsements of H & N to be obtained within 6 months of hire; then, retain for duration of employment.

III. Essential Duties and Responsibilities.

Typical tasks will include, but are not necessarily limited to, the following:

1. Conduct Fed annual inspections when directed and monitor all equipment worked on for compliance with North American Standard out-of-service criteria; documenting items of concern to Supervisor and Fleet Manager.
2. Repair and maintain diesel/gasoline, internal-combustion engines and construction machinery; using hand tools, precision measuring instruments and machine tools.
3. Diagnose malfunctions, dis-assemble and assemble engine, cooling, exhaust, hydraulic systems and examine parts for defect and/or excessive wear.
4. Recondition and replace parts, such as, but not limited to; pistons, bearings, gears, valves and bushings, hydraulic pumps, instruments.
5. Brake, suspension, and under carriage repairs on trucks and equipment
6. Transmission repairs on standard and automatic
7. Repairs and/or replaces chassis components.
8. Routine service work; oil changes, fluids, filters, when necessary.
9. Wiring and troubleshooting of electronic systems.
10. Work on snowplows, snowplow pumps, mounting and removal of plows, electrical and hydraulic systems.
11. May be requested to work and provide services on all roads/sites when vehicles break down on the road.
12. May be required to work nights, weekends, holidays during emergency situations or conditions.
13. Position requires availability on nights, holidays, and weekends during snow or other emergencies.
14. Willing to complete other duties as assigned.

IV. Materials and Equipment Used

Motorized Vehicles/Equipment	Tractors	Trucks
Power Tools and Equipment	Hand Tools	Mowers
Paints/Stains	Disinfectants	Cleaning Solutions/Solvents
Sanitation Products		

V. Knowledge, Skills, Licensure and Experience Required.

1. Meet the requirements for Columbia County Mechanic level job description as it applies to area of specialty (equipment, metals, or ferry).
2. Education requirements
 - High School diploma or its equivalent, and
 - Associate Degree from an accredited vocational or technical school for truck, construction, or industrial diesel mechanics and a minimum of two (2) years experience in truck/equipment service or repairs, or
 - Vocational diploma from an accredited vocational or technical school in auto mechanics or related field and a minimum of five (5) years experience in repairs, or
 - Such practical training and experience comparable to a minimum of ten (10) years of current mechanical work experience in a daily routine manner, for equipment, O.E.M., construction company, etc., with daily repairing/rebuilding duties being, but not limited to, hydraulics, transmissions, differentials, power dividers, gas and diesel engines, brakes, suspensions, chassis, as well as wiring for trucks and equipment, or
 - Valid Automotive Service Excellence certification in auto mechanics with five (5) years of automotive maintenance experience,
3. Certification Requirements – Automotive Service Excellence (ASE) or equivalent.
 - a. County acknowledges that multiple certification entities exist for mechanical fields. County will accept alternative certifications subject to the discretion of the Highway Commissioner.
 - b. Employees hired initially with Automotive, Light Truck, or Transit Bus certifications shall convert the certification level to Medium Heavy Truck at the expiration of their existing certification period.

- c. Newly hired or transitional employees with alternative source certifications shall maintain those certificates for the duration of employment.
 - d. In event, alternative source certification is no longer available to the employee, the employee shall convert over at recertification period to ASE.
 - e. Attain or Retain Automotive Service Excellence certification (or equivalent) for duration of employment within the area(s) of either; Medium-Heavy Truck (T series), Truck Equipment (E series), or Electronic Diesel Engine Diagnosis (L2) and for a minimum of two (2) of the following sub-certifications:
 - i. Diesel Engine (T2),
 - ii. Drivetrain (T3),
 - iii. Brakes (T4),
 - iv. Suspension & Steering (T5),
 - v. Electrical/Electronic Systems (T6),
 - vi. Heating, Ventilation, and Air Conditioning (HVAC) (T7), or
 - vii. Truck Equipment, Installation, and Repair (E1).
 - f. For Welding and Fabrication certification requirements, reference Position Summary, section (3), Metal Shop.
4. Extensive knowledge in
- a. diesel and gas equipment, internal combustion engines and construction equipment;
 - b. knowledge of engine diagnosing and repairs including maintenance principles;
 - c. repairing, maintaining, overhauling and replacing of parts and equipment;
 - d. repairing heavy equipment operational systems, such as, but not limited to, electrical, mechanic, hydraulics, transmission, differentials, power dividers, brakes, and suspensions;
 - e. wiring schematics for trucks and equipment;
 - f. analyzing engine malfunctions and take appropriate action to resolve;
 - g. diagnostic/repairing hydraulic systems, electrical systems, electronic suspension systems, automatic transmissions, planetary gear systems, torque converters; and/or
 - h. tune up/engine overhaul for gas/diesel engines.
5. Background in snow removal equipment beneficial.

VI. Physical Requirements.

- 1. Frequent lifting and/or carrying objects weighing up to 150 pounds.
- 2. Excessive standing, sitting or walking.
- 3. Frequent bending, twisting, squatting and reaching.
- 4. Frequent exposure to elements such as heat, cold, etc.
- 5. Must be capable of using hands for single grasping, fine manipulating and pushing/pulling.
- 6. Ability to communicate orally in a clear manner.
- 7. Ability to distinguish sounds at various frequencies and volumes.
- 8. Ability to climb roofs, ladders, stairs, etc.
- 9. Ability to work in confined spaces.

VII. County will provide;

- 1. Training.
 - a. County is committed to a safe workplace. A key aspect of that is an expanding knowledge and understanding when it comes to the extensive fleet and facilities that are maintained.
 - b. County invests in employees to keep current with trends and technology in equipment and facility operations and maintenance.
 - c. For certification requirements and as approved by Highway Commissioner and Fleet Manager, County will fund

- i. One-time (per 4 year cycle) training materials and practice test.
 - ii. Cost reimbursement for initial certification exam cost.
 - iii. Allow work time to be utilized for travel to nearest site and time for taking of initial exam(s).
 - iv. Employee that does not pass initial exam(s) will be responsible for subsequent test taking costs.
- 2. Large hand tools (> than 1/2" drive) and specialty tools as determined necessary by the Fleet Manager.
- 3. Replacement for hand tools which have become worn or broken due to proper use, provided;
 - a. Employee provides written inventory of personal tools on premises (at least annually),
 - b. Fleet Manager confirms and agrees with inventory of personal tools,
 - c. Tools being requested for replacement must be presented to Fleet Manager in exchange for the new tool (minor theft or mis-location is not justification for replacement),
 - d. Fleet Manager, Commissioner and Highway Committee will have final decision on replacement of tools,
 - e. County will insure personal tools, to the extent damage was accidental, against fire, theft, or other insurable causes.

VIII. Other Information

This position description has been prepared to assist in defining job responsibilities, physical demands, working conditions and needed skills. It is not intended as a complete list of job duties, responsibilities and/or essential functions. This description is not intended to limit or modify the rights of any supervisor to assign, direct and control the work of employees under supervision. The county retains and reserves any and all right to change, modify, amend, add to or delete from any section of this document as it deems in its judgement to be proper.

Acknowledging receipt; I have read and understand these criteria:

Date: _____