



## HELICOPTER MECHANIC SENIOR HELICOPTER MECHANIC

AGENCY/DEPARTMENT:  
Police/ Air Support

Approved By HR Director: *Linola Matthews*  
Date Approved: 5-19-06  
Date of Last Revision:

Reports to: Police Sergeant  
Supervises: N/A

**JOB SUMMARY:** Under general supervision, performs inspection, maintenance and repair of the City's police helicopter fleet and related equipment; maintains related inspection and service records; and performs other related work as necessary.

**DISTINGUISHING CHARACTERISTICS:** The Senior Helicopter Mechanic is a Federal Aviation Administration (FAA) Inspections certified class responsible for performance of complex diagnosis and overhaul work on the City's helicopter fleet. It is also responsible for oversight of the day-to-day helicopter maintenance and repair operations, including providing training and lead direction to the Helicopter Mechanic class. In contrast, the Helicopter Mechanic performs journey-level maintenance and repair work.

### EXAMPLES OF ESSENTIAL FUNCTIONS:

1. Disassembles, repairs, and replaces airframe components, engines, motors, transmissions, rotor assemblies and gear boxes, control assemblies and cable and other equipment systems, components and accessories.
2. Pulls and inspects motor shafts, checks and balances weight of rotors, replaces filters, and performs related maintenance and repair.
3. Inspects and changes main rotor transmission and tail rotor assembly.
4. Inspects drive trains and replaces bearings and other components and performs related repairs.
5. Sets up and operates vibration analyzer, bar field tester, and other electrical and electronic and electronic testing equipment to evaluate rotor and engine performance, generators and charging system, and other components.
6. Identifies potential damage, wear or safety hazards; determines type and extent of necessary repairs and makes corrections or arranges major repairs.
7. Installs, adjusts and maintains directional lights and ensures proper operation of infrared and color camera equipment, and related equipment.
8. Utilizes welder to perform minor body repairs and to fabricate and attach special equipment; applies anti-corrosion treatments.
9. Performs preventive maintenance and routine aircraft service work.
10. Rides with pilots to observe and record findings of test flights.
11. Make daily, periodic and other inspections in accordance with manufacturer, City, and FAA standards and regulations.
12. Maintains inspection records, repair records, and flight log.
13. Completes FAA certification paperwork of all maintenance performed.
14. Orders engine and mechanical parts.
15. Maintain parts inventory.
16. Observes safety rules and regulations.

### **SENIOR HELICOPTER MECHANIC**

#### **IN ADDITION TO THE ABOVE, FUNCTIONS MAY ALSO INCLUDE:**

17. Oversees the helicopter fleet maintenance and repair operations.
18. Trains, directs, coordinates, and inspects the work performed by other mechanics.
19. Forecasts and schedules helicopter maintenance, including component replacement.
20. Completes FAA certification documentation of performed maintenance; certifies the return to service inspections in accordance with FAA regulations.
21. Performs dynamic component and engine overhauls on City helicopters; analyzes need for major engine overhauls and arranges repairs with vendors.
22. Researches helicopter and video equipment specifications and estimates other costs and usage.
23. Maintains technical library of helicopter requirements and regulations.
24. Communicates with helicopter manufacturers relating to continual upgrade of aircraft for safety standards.
25. Prepares annual budget requirements; operates within budget constraints.

<b>QUALIFICATION GUIDELINES:</b>
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### **HELICOPTER MECHANIC**

**EDUCATION:** High School diploma or recognized equivalent.

**EXPERIENCE:** One year of diagnosis, repair and maintenance experience involving helicopter equipment, including electrical, mechanical, and electronic components.

#### **KNOWLEDGE OF:**

- Operating principles of turbo engines and mechanical, electrical and electronic systems.
- State and federal safety specifications and inspections requirements.
- Proper use of tools and equipment in work areas.
- Preventive maintenance procedures and repair and overhaul practices.
- Methods, tools, materials, equipment and procedures used in the diagnosis, overhaul, repair and adjustment of helicopter components and operating systems.
- Basic welding techniques.
- Record keeping procedures.

#### **ABILITY TO:**

- Safety operate work-related equipment and tools including vibration analyzer, bar field tester, shear, bender, welding equipment, and other hand and power tools and measuring devices.
- Inspect, maintain, repair and overhaul helicopter equipment.
- Forecast parts usage costs.
- Coordinate major repairs with vendors.
- Accurately diagnose the nature, extent and causes of equipment problems.
- Read and interpret specifications and determine effective troubleshooting, repair and maintenance procedures.
- Research equipment and parts specifications and necessary modifications.
- Complete inspection and service records and flight logs.
- Understand and follow oral or written instructions and safety rules and procedures.
- Interact and communicate effectively both orally and in writing.
- Establish, maintain, and foster positive, harmonious and effective working relationships.

#### **LICENSES:**

- Valid Class C CA driver license.
- Acceptable driving record at time of appointment and throughout employment.

**CERTIFICATION:**

- Valid Mechanic's license with airframe and powerplant rating issued by the Federal Aviation Administration.

**SPECIAL REQUIREMENTS:**

- May be required to return to work during non-business hours to perform emergency maintenance or repair.
- Ability to move equipment weighing up to 50 pounds.

**DESIRABLE:**

- Experience in maintaining rotorcraft turbine powered helicopters, MD 500, and Eurocopter helicopters.
- FAA Inspections Authorization Certificate

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**SENIOR HELICOPTER MECHANIC**

**EDUCATION/EXPERIENCE:** Completion of American Eurocopter Technician Course and Turbomeca maintenance course and five years experience working with MD 500 series helicopters, semi-rigid rotor systems, fully articulated rotor systems, and gas turbine engines.

**IN ADDITION TO THE REQUIREMENTS OF THE HELICOPTER MECHANIC, THE SENIOR HELICOPTER MECHANIC REQUIRES**

**KNOWLEDGE OF:**

- Principles of supervision and training.
- FAA requirements pertaining to helicopter maintenance and safety; methods, principles, techniques, tools, materials, publications and equipment used in the inspection, repair, and diagnosis of helicopters.

**ABILITY TO:**

- Schedule, supervise, and participate in the routine and emergency maintenance and repair of helicopter engines, systems and related equipment.
- Supervise, train, and participate in the evaluation of mechanics.
- Handle multiple priorities, organize workloads, and meet strict deadlines.
- Accurately diagnose the nature and causes of equipment problems and determine effective troubleshooting, repair and maintenance procedures.
- Read, interpret, and apply technical information and procedures in specification manuals, regulations, and related documents.

**CERTIFICATION:** FAA Inspections Authorization Certificate

**DESIRABLE:**

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**FLSA Exemption Status:** Non-Exempt

**Employee Unit:** # 6, Miscellaneous Services

**DOT Program Participant:** Yes

**Job Family:**

**Class Progression:**        Helicopter Mechanic  
                                     Senior Helicopter Mechanic