

Automatic Equipment Mechanic

Nothing in this job description restricts management's right to assign or reassign duties and responsibilities to this job at any time.

DUTIES Serves as full performance (journey) level Automatic Equipment Mechanic at Washington Dulles International Airport (IAD). Inspects, maintains, troubleshoots, and repairs various kinds of automatic doors and gates (electronically controlled; electrically, pneumatically, and hydraulically operated); overhead doors; high speed horizontal vehicle doors; Mobile Lounge or Planemate access Duncan doors; potable water cabinets; hydraulic ramps and lifts; baggage conveyors; transit treads; overhead doors and related controls; etc. Works on related electrical control systems up to 480 volts. Performs related functions.

Performs daily, quarterly, and annual inspections and preventive maintenance on automatic pedestrian doors and vehicle security gates according to manufacturers' specifications and checklists. For automatic doors, walks through to evaluate the proper operation (clearance, speed, dead spots) and makes necessary repairs or adjustments as required. Checks operation of hydraulic lifts and ramps; checks motors (amps, volts, and bearings); checks motor drive coupling; and checks solenoids and transformers.

In conducting periodic preventive maintenance on conveyor systems, checks/corrects alignment and tension of belts, checks lubricant in gear box, evaluates tension on chains and the need for roller repairs/replacements, inspects for indications of worn bushings or bearings, checks and replaces photocells, checks and aligns control switches, and checks and programs various programmable sensors. May dismantle baggage carousel to remove links for repair. Overhauls gear reducer on baggage conveyor and patches conveyor belts using belt-lacing machine.

Uses schematics, when available or appropriate, to troubleshoot problems, giving priority to door/gate/conveyor problems involving security, safety, and/or inconvenience to the airlines or traveling public. Investigates/diagnoses problems that may be caused by such factors as faulty relays and circuitry shorts in control panels or malfunctioning sensors (detectors), gear reducers (transmissions), electric motors, hydraulic accumulators, drive mechanisms, etc. May use computer or computerized diagnostic tool in investigation. Makes repairs such as replacing shafts, bearings, seals, sprockets, chains, gears, bushings, and valves.

Replaces damaged door panels, door tracks, cable drums, rewinds coil springs, etc., when repairing overhead doors. Replaces lift cables, damaged rollers, and tracks on Duncan doors. Repairs drive mechanism, straightens frames, and adjusts limit switches and brake controls on vehicle security gates and replaces gates when necessary.

Applies the theories, principles, requirements, and standards of the trade and uses the full range of tools of the trade, including specialized tools and software, to adjust equipment/systems and diagnose problems such as tachometer; megger test and measurement equipment; electric spring winder; electric drills, presses and grinders; welding and soldering equipment; belt lacer; torque wrench; multi-meter, amp meter, volt meter, and line tracer; pressure gage; micrometers and

calipers; diode testers and other specialized tools. May use computerized diagnostic tools to perform diagnosis.

Maintains supplies, such as commonly used motors, parts, etc., that are required for on-going work and possible emergencies; informs supervisor when additional items are needed.

Uses a computer, office suite software (such as MS Office), specialized software [such as the Computerized Maintenance Management System (CMMS) and supply and procurement modules of Oracle used by the Airports Authority], and radio and telecommunication devices, to plan, schedule, communicate, research part information, keep up with technology, obtain/close out work orders, etc. Maintains a log of trouble calls.

May be assigned to provide orientation to new employees and contractors in the technical operating aspects of automatic equipment maintenance and repair techniques. May be assigned to assist with electrical projects.

Communicates and interacts effectively with internal and external business contacts, including but not limited to other members of the unit/team, other Airports Authority employees, vendors/suppliers/service contractors/tenants, airport users, and the general public.

Drives a pick-up truck to various work sites, landside and airside, to perform assigned functions.

*Performs other duties as assigned. *

Critical features of this job are described under the headings below. They may be subject to change through reasonable accommodation or otherwise.

MINIMUM QUALIFICATIONS (MQs)

To be rated qualified for this job, an applicant must meet both of the MQs listed below at the time of vacancy announcement closure.

1. A high school diploma or a Certificate of General Educational Development (GED), or an equivalent combination of education, experience, and training.
2. Four years of progressively responsible experience (post high school) in the maintenance and repair of automatic equipment, which includes one year specializing in installation, test, diagnosis, maintenance, and repair of a range of automatic equipment, such as, but not limited to, automatic doors and gates; high speed horizontal vehicle doors; potable water cabinets; hydraulic ramps and lifts; baggage conveyors; transit treads; overhead doors and related controls. This includes knowledge of the theories, principles, requirements, and standards of the trade. (A Journey License as an Electrician is evidence of four years of progressively responsible electrical trade experience, but is not, by itself, evidence of the one year of experience specializing in test, diagnosis, maintenance, and repair of a range of automated equipment and systems, as specified.)

PREFERRED QUALIFICATIONS

The qualifications listed below (if any) are preferred and may be considered in the selection process, but they are not required to be rated qualified for this job.

1. Journey License (or higher) as Electrician or certification, license, or training certificate related to electrical or automatic equipment.
2. Experience working safely in a skilled trade requiring prolonged concentration and attention to detail on a busy airfield or in an equivalent work environment, such as, amid maritime or motor freight cargo loading/unloading, or other types of near-constant movements/operations that require continuous situational awareness and alertness to continually changing circumstances and events.

KNOWLEDGE, SKILLS, ABILITIES AND OTHER FACTORS (KSAOs)

The following KSAOs are required for successful performance of this job and are a basis for rating and ranking applicants who are found to meet the MQs. *Local, Federal, airport industry, or Airports Authority specific bodies of knowledge listed below may be acquired on the job, typically; ability to rapidly acquire them is required at the time of vacancy announcement closure.*

1. Full performance (journey) level knowledge of, and skill in, automatic equipment installation, testing, adjustment, maintenance, troubleshooting, and repair/replacement. This includes but is not limited to:

Knowledge of the electronic, electric, hydraulic, and pneumatic mechanisms related to automatic doors and conveyor systems and the theory of their operation to maintain, troubleshoot, and repair them, e.g., to adjust for proper operation, rebuild, modify, and repair control circuitry.

Knowledge of the mechanical functions of various equipment such as conveyors, draw bridges, security gates, and overhead doors to maintain, troubleshoot, and repair them, e.g., to correct alignment and tension of belts; evaluate tension on chains and the need for roller repairs/replacements; inspect for indications of worn bushings or bearings; replace photocells; align control switches; and program various programmable sensors.

Skill in locating source(s) of problems, disassembling equipment, and repairing/replacing parts (bearings, drive chains, rollers, sprockets, shafts, belts, gears, etc.).

Knowledge of electronic control systems to troubleshoot, repair, or install various types of control systems, which include AC, DC, programmable, and detection.

Ability to rapidly acquire technical knowledge of new equipment and systems as they come on line and off warranty.

2. Skill in using tools, technical manuals, schematics, materials, and other equipment and guides in journey level automatic equipment work. Examples include:
 - Skill in using hand and power tools such as micrometers, amp meters, meggers, volt meters, belt-lacing machine, drill motors, pressure gauges, grinders, torque wrenches, acetylene torch, and arc welding equipment to complete repairs such as patching conveyor belts, replacing door panels, checking hydraulic oil pressure, and rewiring solenoids.

 - Skill in reading and interpreting manufacturer's manuals, specifications, blueprints, technical manuals, and schematics, e.g., to troubleshoot circuitry, relays, timers, and shut-offs in control panels, or to determine a manufacturer's specifications for torque and tension required on chains and/or operation logic.
3. Skill in problem solving to select, organize, and logically process relevant information (verbal, numerical, or abstract) to solve a problem. This includes the ability to recognize subtle aspects of problems, identify relevant information, and make balanced recommendations and decisions. Example includes diagnosing problems so as to correct them.
4. Skill in using a computer, modern office suite software (such as MS Office), specialized software (such as the CMMS and supply and procurement modules of Oracle used by the Airports Authority), and radio and telecommunication devices, to plan, schedule, communicate using MS Outlook for interdepartmental communication, word process (light word processing only), and perform research (Internet use, as in searching for parts and performance information and keeping up with technology), etc.
5. Skill in reading comprehension to understand written information (including instructions, descriptions, and ideas) and in written communication to express such information in writing so that others will understand. Examples include reading technical-operational materials (such as technical manuals, maintenance schedules, and work orders) and administrative-programmatic materials (such as Airports Authority supply procedures), and writing briefly about similar types of matters, such as closing out work orders.
6. Skill in oral communication to understand verbal information (including instructions, descriptions, and ideas) and to express such information verbally so that others will understand. Examples include exchanging routine and non-routine operational and procedural information with co-workers, contractors, and customers.
7. Interpersonal skills to interact with contacts in a businesslike, customer service-oriented manner.
8. Ability to work safely and knowledge of the safety rules and procedures needed to do so.

RESPONSIBILITY Is responsible, at the full performance (journey) level, for following preventive maintenance guidelines and determining additional procedures and supplies required to maintain safe operation of automatic equipment. This includes working to close tolerances on safety sensors, ensuring the proper alignment and tension on baggage conveyors, and making

airtight joints on valves and cylinders. Independently plans, lays out, and completes regularly recurring work. Typically seeks assistance only on unusual or complex problems. Makes decisions and recommendations within the scope of one's assignments and authority, keeps the supervisor informed and brings matters not covered by established procedures or other guidelines forward for guidance or resolution. The supervisor establishes preventive maintenance schedules. Reports to a Supervisor who assigns work orders based on trouble calls and/or projects. Night and weekend trouble calls usually come to the Automatic Equipment Mechanic working that shift from an Airport Operations Duty Officer via the Airport Work Order System. The Supervisor ensures that accepted trade practices are followed and occasionally may assist or oversee projects, e.g., replacement of large chain on conveyor system requiring the assistance of several employees. Work is reviewed in process, upon completion, and in other ways (such as performance of automatic equipment after repair, nature and number of call-backs, and comments by customers), in terms of quality, quantity, timeliness, customer service, adherence to requirements, and other factors, including attainment of specific objectives and other aspects of the Airports Authority performance management system.

EFFORT Frequently stands while repairing control panels and observing and/or troubleshooting the operation of equipment and travels to a variety of work sites. Works on moving equipment and live circuitry to diagnose and repair problems. Works in scissors lift about 25 feet above the ground in repairing mobile lounge overhead doors. Regularly lifts, carries, or otherwise moves parts weighing up to 80 pounds; occasionally moves heavier weights with the assistance of one or more workers. Installs large door panels or replaces security gates with the assistance of one or more workers. Frequently works on overhead equipment. Frequently bends, stoops, crouches, or otherwise positions self for hard-to-reach or hard-to-see problems, e.g., to observe the inner workings of baggage carousel, or repair conveyor. Distinguishes basic colors of circuits. Responds to warning sounds and abnormal noise emanated from various equipment to diagnose required course of action. Uses computer. Obtains information about the status of equipment/systems from dials and gauges. Reviews, corrects, creates, and updates schematics containing small print. Communicates by two-way radio and telephone. Operates vehicle using judgment in consideration of traffic, weather, and other factors.

WORKING CONDITIONS Regularly works both inside and outside; may work outside in all kinds of weather, including inclement weather (rain, fog, snow, ice, cold and high heat/humidity). Is exposed to dust, dirt, grease, and wet or oily surfaces in work areas. Sometimes works with dirty, greasy parts in confined spaces. Is exposed to high levels of noise from trucks, motors, etc., in the terminal service thoroughway and noise from aircraft on the airfield. Is subject to possible falls from high places, cuts, bruises, injury from high-tension springs and high pressure hoses, and electric shock. Exercises care and uses personal protective equipment and other safety gear, such as gloves, safety shoes, safety glasses, hearing protection, hardhat, welding helmet, welding goggles, and uses other safety devices as required. Is subject to time pressures of restoring operations of equipment or systems essential to airport or airline functions, safety or security.

OTHER SIGNIFICANT JOB ASPECTS This position is required to work various shifts, as needed, based on work load, operational needs, shift coverage, etc. May be required to work night hours or weekends. Is subject to holdover or recall on a 24-hour basis for essential services

and emergencies, such as restoration of automatic equipment systems for which the unit is responsible and snow removal.