

Work Processes Schedule

AIRFRAME MECHANIC

RAPIDS: 1044N

O*NET/SOC: 49-3011.00

REVISION DATE: 12/2014

Use aircraft drawings, blueprint information, graphs and charts and apply information contained in FAA and manufacturer`s aircraft maintenance manuals. Identify and select appropriate non-destructive testing methods. Inspect, identify, remove, and treat aircraft corrosion and perform aircraft cleaning. Select, apply, inspect, test, and repair fabric and fiberglass. Select, install, remove, test and repair sheet metal and non-metallic structures. Weld magnesium and titanium; solder stainless steel; fabricate tubular structures; solder, braze, gas and arc-weld steel, weld aluminum and stainless steel. Perform airframe conformity and airworthiness inspections. Inspect, check, service and repair landing gear systems. Repair hydraulic and pneumatic power system components. Inspect, check, troubleshoot, and service communication and navigation systems. Check and service aircraft fuel systems. Repair and inspect aircraft electrical systems. Inspect, check and service position and warning systems and fire protection systems.

Applicable Ratings/MOS

USMC MOS 6023, 6033, 6062, 6092, 6112, 6113, 6114, 6116, 6122, 6123, 6124, 6132, 6152, 6153, 6154, 6156, 6172, 6173, 6174, 6176, 6212, 6213, 6214, 6216, 6217, 6218, 6222, 6223, 6226, 6227, 6242, 6252, 6253, 6256, 6257, 6258, 6282, 6283, 6286, 6287, 6288

USCG AMT

USN AM, AWF

Related Instruction

Any trade related schools/courses totaling 223 hours

Additional Requirement

AWF Must have completed qualifying AM school

Total Hours: **3100**

Skill	Description	Hours
	<p>GENERAL TASKS</p> <p>Demonstration of knowledge in all areas</p> <p>1. BASIC ELECTRICITY - 100 hrs Calculate and measure capacitance and inductance; calculate and measure electrical power; measure voltage, current, resistance, and continuity; determine the relationship of voltage, current, and resistance in electrical circuits; read and interpret aircraft electrical circuit diagrams, including solid state devices and logic functions; inspect and service batteries.</p> <p>2. AIRCRAFT DRAWINGS - 100 hrs Use aircraft drawings, symbols, and system schematics; draw sketches of repairs and alterations; use blueprint information; use graphs and charts.</p> <p>3. WEIGHT AND BALANCE - 20 hrs Weigh aircraft; perform complete weight-and-balance check and record data.</p> <p>4. FLUID LINES AND FITTINGS - 25 hrs Fabricate and install rigid and flexible fluid lines and fittings.</p> <p>5. MATERIALS AND PROCESSES - 50 hrs Identify and select appropriate non-destructive testing methods; perform dye penetrant, eddy current, ultrasonic, and magnetic particle inspections; perform basic heat-treating processes; identify and select aircraft hardware and materials; inspect and check welds; perform precision measurements.</p> <p>6. GROUND OPERATION AND SERVICING - 150 hrs Start, ground operate, move, service, and secure aircraft and identify typical ground operation hazards;</p>	

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identify and select fuels.

7. CLEANING AND CORROSION CONTROL - 145 hrs
Identify and select cleaning materials, inspect, identify, remove, and treat aircraft corrosion and perform aircraft cleaning.

8. MATHEMATICS - 75 hrs
Extract roots and raise numbers to a given power; determine areas and volumes of various geometrical shapes; solve ratio, proportion, and percentage problems; perform algebraic operations involving addition, subtraction, multiplication, and division of positive and negative numbers.

9. MAINTENANCE FORMS AND RECORDS - 125 hrs
Write descriptions of work performed including aircraft discrepancies and corrective actions using typical aircraft maintenance records; complete required maintenance forms, records, and inspection reports.

10. BASIC PHYSICS - 70 hrs
Use and understand the principles of simple machines; sound, fluid, and heat dynamics; basic aerodynamics; aircraft structures; and theory of flight.

11. MAINTENANCE PUBLICATIONS - 70 hrs
Demonstrate ability to read, comprehend, and apply information contained in FAA and manufacturer's aircraft maintenance specifications, data sheets, manuals, publications, and related Federal Aviation Regulations, Airworthiness Directives, and Advisory materials, read technical data.

12. MECHANIC PRIVILEGES AND LIMITATIONS - 70 hrs
Exercise mechanic privileges within the limitations prescribed by FAR 65.

13. AVIATION SAFETY - 100 hrs
Fuels, lubricants, or hydraulic fluids; flammable cements, rosins, sealants, paints and thinners; fluids under pressure; compressed gasses, including oxygen; batteries; aviation ordnance and pyrotechnics; electrical and electronic circuits; operating radio transmitters and radar systems; hazardous noise sources.

AIRFRAME STRUCTURES

Demonstration of knowledge in all areas

1. AIRCRAFT COVERING - 100 hrs
Select and apply fabric and fiberglass covering materials; inspect, test, and repair fabric and fiberglass.

2. AIRCRAFT FINISHES - 100 hrs
Apply trim letters, and touchup paint; identify and select aircraft finishing materials; apply finishing materials; inspect finishes and identify defects.

3. SHEET METAL AND NON-METALLIC STRUCTURES - 200 hrs
Select, install, and remove special fasteners for metallic, bonded, and composite structures; inspect bonded structures; inspect, test, and repair fiberglass, plastics, honeycomb, composite, and laminated primary and secondary structures; inspect, check, service, and repair windows, doors, and interior furnishings; inspect and repair sheet-metal structures; install conventional rivets, form, lay out, and bend sheet metal.

4. WELDING - 150 hrs
Weld magnesium and titanium; solder stainless steel; fabricate tubular structures; solder, braze, gas and arc-weld steel, weld aluminum and stainless steel.

5. ASSEMBLY AND RIGGING - 150 hrs
Rig rotary-wing aircraft; rig fixed-wing aircraft; check alignment of structures; assemble aircraft components, including flight control surfaces; balance, rig and inspect movable primary and secondary flight control surfaces; jack aircraft.

6. AIRFRAME INSPECTION - 100 hrs
Perform airframe conformity and airworthiness inspections.

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AIRFRAME SYSTEMS AND COMPONENTS

Demonstration of knowledge in all areas

1. AIRCRAFT LANDING GEAR SYSTEMS - 100 hrs

Inspect, check, service and repair landing gear, retraction systems, shock struts, brakes, wheels, tires, and steering systems.

2. HYDRAULIC AND PNEUMATIC POWER SYSTEMS - 100 hrs

Repair hydraulic and pneumatic power system components; identify and select hydraulic fluids; inspect, check, service, troubleshoot, and repair hydraulic and pneumatic power systems.

3. CABIN ATMOSPHERE CONTROL SYSTEMS - 100 hrs

Inspect, check, troubleshoot, service, and repair heating, cooling, air conditioning, pressurization systems, and air cycle machine; inspect, check, troubleshoot, service, and repair heating, cooling, air-conditioning, and pressurization systems; inspect, check, troubleshoot, service and repair oxygen systems.

4. AIRCRAFT INSTRUMENT SYSTEMS - 150 hrs

Inspect, check, service, troubleshoot, and repair electronic flight instrument systems and both mechanical and electrical heading, speed, altitude, temperature, pressure, and position indication systems to include the use of built-in test equipment; install instruments and perform a static pressure systems leak test.

5. COMMUNICATION AND NAVIGATION SYSTEMS - 150 hrs

Inspect, check, and troubleshoot autopilot, servos and approach coupling systems; inspect, check, and service aircraft electronic communication and navigation systems, including VHF, passenger address interphones and static discharge devices, aircraft VOR, ILS, LORAN, Radar beacon transponders, flight management computers and GPWS; inspect and repair antenna and electronic equipment installations.

6. AIRCRAFT FUEL SYSTEMS - 100 hrs

Check and service fuel dump systems; perform fuel management, transfer and defueling; inspect, check, and repair pressure-fueling systems; repair aircraft fuel system components; inspect and repair fluid quantity indicating systems; troubleshoot, service, and repair fluid pressure and temperature warning systems; inspect, check, service, troubleshoot, and repair aircraft fuel systems.

7. AIRCRAFT ELECTRICAL SYSTEMS - 150 hrs

Repair and inspect aircraft electrical system components; crimp and splice wiring to manufacturer's specifications; repair pins and sockets of aircraft connectors; install, check, and service airframe electrical wiring, controls, switches, indicators and protective devices; inspect, check, troubleshoot, service, and repair alternating and direct current electrical systems; inspect, check, and troubleshoot constant speed and integrated speed drive generators.

8. POSITION AND WARNING SYSTEMS - 125 hrs

Inspect, check, and service speed and configuration warning systems, electrical brake controls, and anti-skid systems; inspect, check, troubleshoot, and service landing gear position indicating and warning systems.

9. ICE AND RAIN CONTROL SYSTEMS - 125 hrs

Inspect, check, troubleshoot, service and repair airframe ice and rain control systems.

10. FIRE PROTECTION SYSTEMS - 100 hrs

Inspect, check, and service smoke and carbon monoxide detection systems; inspect, check, troubleshoot, and repair aircraft fire detection and extinguishing systems.

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