

Work Process Schedule

WORK PROCESS SCHEDULE		ONET Code: 49-3011.00
Airframe and Powerplant Mechanic		RAPIDS Code: 0005R
Job Title: Airframe and Powerplant Mechanic		
Level:	Specialization:	
Stackable Program: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Base Occupation Name: Airframe and Powerplant		
Company Contact:		
Address:	Phone:	Email:
Apprenticeship Type: <input checked="" type="checkbox"/> Competency Based <input type="checkbox"/> Time Based <input type="checkbox"/> Hybrid	Prerequisites: A high school diploma, associate degree, or a postsecondary certificate.	

Job Function 1: Conducts extensive work on aircraft interior (systems) and exterior (sheet metal and composite aircrafts)			
Competencies	Core or Optional	RTI	OJT
A. Repairs or replaces and assembles wings	Core		
B. Repairs or replaces fuselage and empennage assembly	Core		
C. Repairs or replaces and assembles landing gear	Core		
D. Repairs or replaces and assembles control cables	Core		

E. Repairs or replaces and assembles engine/propeller exterior	Optional		
F. Repairs or replaces and assembles fuel systems and batteries	Core		

Job Function 2: Capably constructs aircraft covering and finishes (sheet metal and composite aircrafts)			
Competencies	Core or Optional	RTI	OJT
A. Uses tools such as power shears, sheet metal brakes, and welders to construct coverings	Core		
B. Uses acetylene welding equipment, rivet gun, air and electric drills to construct finishes	Core		
C. Knows composite layup design, application and inspection	Core		
D. Understands repair patch theory, design, and construction, identifying corrosion and heat treatment application	Core		

Job Function 3: Rebuilds or replaces airframe or its components			
Competencies	Core or Optional	RTI	OJT
A. Replaces aircraft landing gear systems	Core		
B. Installs hydraulic, pneumatic, or electrical systems	Core		
C. Replaces cabin atmosphere control systems	Core		

Job Function 4: Uses information to repair and replace engine equipment			
Competencies	Core or Optional	RTI	OJT
A. Checks manuals for specifications needed to repair and replace reciprocating engines	Core		
B. Repairs and replaces turbine engines or electrical engines based on specifications outlined in manuals	Core		
C. Inspects the engine and checks manual for need to repair and replace equipment	Core		
D. Replaces worn or damaged fuel injectors, alternators, carburetors, superchargers, magnetos, etc. using hand tools, gages, testing equipment	Core		

Job Function 5: Examines powerplants for problems			
Competencies	Core or Optional	RTI	OJT
A. Examines engine systems for cracked cylinders, oil leaks, sticking or burnt valves	Core		
B. Examines Instrument Systems, Fire Protection Systems, and Electrical Systems to determine need for repairs	Core		
C. Inspects turbine blades to detect cracks or breaks	Core		
D. Inspects fuel line and fuel injector	Core		

Job Function 6: Tests aircraft or engine systems using test equipment			
Competencies	Core or Optional	RTI	OJT
A. Uses and Ignition Analyzer to check engine functions	Core		
B. Uses compression checker to check engine	Core		
C. Uses distributor timer to ensure proper	Core		
D. Uses ammeter	Core		

Job Function 7: Removes engine from aircraft and makes repairs			
Competencies	Core or Optional	RTI	OJT
A. Performs operational check	Core		
B. Troubleshoots system	Core		
C. Removes engine from aircraft	Core		
D. Disassembles and inspects parts for wear, warping, or other defects	Core		
E. Makes repairs where necessary	Core		
F. Replaces defective parts	Core		

G. Reassembles and installs engine in aircraft	Core		
H. Uses nondestructive testing to identify internal component damage	Core		

Job Function 8: Adjusts, repairs, electrical wiring, accessories, and instruments			
Competencies	Core or Optional	RTI	OJT
A. Connects power and digital input/output wiring	Core		
B. Selects and appropriately connects sinking and sourcing inputs and outputs	Core		
C. Configures and connects a programming device to upload, download, and save a program	Core		
D. Changes preset timer and counter values and applies and removes forces from a program	Core		
E. Troubleshoots a machine or process by observing indicator lights and reviewing the software ladder diagram (relays, timers, and counters)	Core		
F. Adds a function to a machine or process that requires wiring of additional I/O and basic ladder logic programming	Core		
G. Troubleshoots by observing input and output conditions and monitoring the program in real time	Core		
H. Applies proper grounding techniques and identifies sources of electrical system opens and shorts	Core		
I. Properly installs and terminates wiring for low level analog signals	Core		

Job Function 9: Inspects, services, repairs pneumatic and hydraulic systems or electrical system			
Competencies	Core or Optional	RTI	OJT
A. Locates a machine according to a print	Core		
B. Levels a machine (noncritical machines +/- 1/8")	Optional		
C. Verifies circuit size and protection	Core		
D. Verifies proper voltage and phasing, grounding, and proper guards are in place	Core		
E. Installs proper mounts and raceways for adding a component (such as a sensor) or interlocking a machine	Core		

F. Properly sizes, installs, labels, and tests circuit conductors for adding a component or interlocking a machine	Core		
G. Properly lays out, cuts, drills, taps, and assembles a control station for an addition to a machine	Optional		
H. Connects compressed air to a machine from a supply header and verifies proper air pressures and volumes for a machine	Core		
I. Adds pneumatic or hydraulic components and lines to a machine	Core		
J. Fabricates hydraulic lines	Core		
K. Aligns and adjusts shafts, motors, belts, and chains on a machine	Core		
L. Verifies proper operation of all safety devices and circuits on a machine and checks and verifies circuits on a machine	Core		
M. Checks, lubricates, and powers up a machine	Core		
N. Verifies proper current draw of a machine and machine operation according to a sequence of operation	Core		

Job Function 10: Performs computerized systems maintenance			
Competencies	Core or Optional	RTI	OJT
A. Inspects, repairs, and maintains computerized aircraft systems	Core		
B. Performs data downloads and software reloads	Core		

Job Function 11: Performs miscellaneous service duties			
Competencies	Core or Optional	RTI	OJT
A. Flushes crankcase cleaning screens	Core		
B. Greases parts to ensure proper usage next time	Core		
C. Checks brakes for any issues	Core		