# **Work Process Schedule**

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| Avionics Technician | |
| **Job Description:** Install, inspect, test, adjust, or repair aerospace electronics equipment, traditionally including—but not limited to—communication, navigation, surveillance, and connectivity systems, as well as control and information systems in aircraft or space vehicles | |
| **RAPIDS Code:** 0464CB | **O\*NET Code:** 49-2091.00 |
| **Estimated Program Length:** 4 years | |
| **Apprenticeship Type:**  Competency-Based  Time-Based  Hybrid | |

Suggested On-the-Job Learning Outline

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| Maintains safety, health, and professionalism at work | | |
| **Competencies** | **Date Completed** | **Initial** |
| 1. Recognizes safety, health, industrial, and environmental requirements in all departments |  |  |
| 1. Reliably follows others’ instructions |  |  |
| 1. Willingly asks questions about things not fully understood |  |  |
| 1. Establishes a system of maintaining appropriate notes and reminders and completes any required logs, calibration records, etc. |  |  |
| 1. Ensures proper communications between previous and next shifts, with operations and with supervision |  |  |
| 1. Identifies problems and changes that could lead to problems by exchanging information with operators, supervisors, and others |  |  |
| 1. Establishes trust and rapport with operators, supervisors, and others |  |  |

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| Follows company and regulatory guidelines | | |
| **Competencies** | **Date Completed** | **Initial** |
| 1. Identifies points of contact within and outside of the organization |  |  |
| 1. Reads, comprehends, and follows company policies, procedures, operations, and guidelines |  |  |
| 1. Reads, comprehends, and follows regulatory guidelines applicable to the operation, servicing, and maintenance of the aircraft |  |  |

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| Locates and uses technical data | | |
| **Competencies** | **Date Completed** | **Initial** |
| 1. Identifies points of contact within and outside of the organization |  |  |
| 1. Reads, comprehends, and follows company policies, procedures, operations, and guidelines |  |  |
| 1. Reads, comprehends, and follows regulatory guidelines applicable to the operation, servicing, and maintenance of the aircraft |  |  |

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| Locates and uses technical data | | |
| **Competencies** | **Date Completed** | **Initial** |
| 1. Reads, comprehends, and applies the information contained within installation and service documents |  |  |
| 1. Reads, comprehends, and applies the information contained within engineering and certification drawings and documents |  |  |
| 1. Reads, comprehends, and applies the information contained within applicable regulatory documents |  |  |

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| Demonstrates ground operation and servicing to include protection of employer and customer assets | | |
| **Competencies** | **Date Completed** | **Initial** |
| 1. Follows company guidelines for asset protection |  |  |
| 1. Identifies typical ground operation hazards |  |  |
| 1. Conducts preliminary visual aircraft inspection |  |  |
| 1. Services the electrical systems |  |  |
| 1. Marshals and secures the aircraft |  |  |
| 1. Starts and operates the aircraft |  |  |
| 1. Taxis the aircraft |  |  |
| 1. Uses tie-down procedures |  |  |

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| Identifies and uses tools and test equipment | | |
| **Competencies** | **Date Completed** | **Initial** |
| 1. Demonstrates knowledge of appropriate common hand tools for use in installation and maintenance |  |  |
| 1. Demonstrates knowledge of appropriate specialty tools for use in installation and maintenance |  |  |
| 1. Demonstrates knowledge of test equipment for maintenance and installation of avionics systems |  |  |

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| Performs electrical system calculations and analysis | | |
| **Competencies** | **Date Completed** | **Initial** |
| 1. Knows and identifies basic facts and general principles about basic circuits |  |  |
| 1. Performs calculations and analysis of basic circuit performance |  |  |
| 1. Troubleshoots basic circuits |  |  |

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| Installs and maintains electrical wiring harnesses, electronic components, and instruments | | |
| **Competencies** | **Date Completed** | **Initial** |
| 1. Adheres to safety practices and procedures for aircraft electrical and electronic power systems |  |  |
| 1. Fabricates, installs, and maintains electrical wiring harnesses |  |  |
| 1. Installs, maintains, and troubleshoots instruments |  |  |
| 1. Interprets electrical control and power schematics to ensure the operation of the system and its components |  |  |
| 1. Measures voltage, current, and resistance in an electrical circuit to verify system operation and power levels |  |  |
| 1. Selects, installs, and tests circuit protection devices |  |  |

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| Fabricates, modifies, and repairs aircraft structures | | |
| **Competencies** | **Date Completed** | **Initial** |
| 1. Identifies and selects aircraft hardware and materials |  |  |
| 1. Selects, installs, and removes fasteners to include rivets |  |  |
| 1. Forms layout and bends sheet metal |  |  |
| 1. Inspects and repairs composite and nonmetallic structures |  |  |
| 1. Understands and applies bonding techniques and practices on metallic and nonmetallic structures |  |  |
| 1. Fabricates and installs doublers, shelves, brackets, bracing, and support |  |  |
| 1. Installs antennas using proper techniques, bonding, and cable routing |  |  |

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| Performs operational checks of aircraft systems and components | | |
| **Competencies** | **Date Completed** | **Initial** |
| 1. Follows safety procedures |  |  |
| 1. Applies external power to aircraft and systems |  |  |
| 1. Identifies and properly operates specialty test equipment for avionics and instrument system operation |  |  |
| 1. Knows and understands applicable regulatory requirements for operational testing |  |  |
| 1. Follows operational checkout procedures in equipment installation manual |  |  |

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| Diagnoses and troubleshoots malfunctions and operational problems | | |
| **Competencies** | **Date Completed** | **Initial** |
| 1. Identifies and locates appropriate technical data for troubleshooting |  |  |
| 1. Reads, understands, and follows technical data for troubleshooting |  |  |
| 1. Knows and understands fault isolation |  |  |
| 1. Identifies malfunctioning equipment and systems |  |  |

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| Designs and integrates avionics system installations | | |
| **Competencies** | **Date Completed** | **Initial** |
| 1. Understands and specifies equipment required for types of aircraft operations |  |  |
| 1. Identifies current aircraft avionics systems configuration |  |  |
| 1. Reads drawings and interprets symbols and systems schematics |  |  |
| 1. Knows and understands common avionics systems (communications, navigation, surveillance) |  |  |
| 1. Determines wiring interface for a particular avionics installation |  |  |
| 1. Maintains knowledge of installation techniques, including those required for instruments, radios, antennas, annunciator(s), and displays |  |  |
| 1. Creates or updates electrical load analysis |  |  |

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| Configures avionics equipment and manages databases and software | | |
| **Competencies** | **Date Completed** | **Initial** |
| 1. Identifies configuration software and database requirements for the equipment |  |  |
| 1. Configures equipment in accordance with the manufacturer’s data and customer preferences |  |  |
| 1. Connects configuration device to aircraft equipment |  |  |
| 1. Loads and manages software and databases |  |  |

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| Prepares, updates, and maintains maintenance records, installation, and repair work | | |
| **Competencies** | **Date Completed** | **Initial** |
| 1. Documents the maintenance or alteration per regulatory guidelines |  |  |
| 1. Updates and maintains weight and balance records |  |  |
| 1. Updates and maintains aircraft equipment list |  |  |
| 1. Creates or updates Instructions for Continued Airworthiness (ICA), Flight Manual Supplement (FMS), and others |  |  |
| 1. Updates work order and maintenance records |  |  |

Suggested Related Instruction Outline

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| Provider | |
| **Name:** | |
| **Address:** | |
| **Email:** | **Phone Number:** |
| **Suggested Related Instruction Hours:** 576 | |

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| **Course Number** | **Course Title** | **Contact Hours** |
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