



## Vehicle Processing Certification Competencies

- Aerospace Systems
  - Identify spacecraft systems and sub systems and how they relate to the entire spacecraft
  - Demonstrate understanding of the operation of spacecraft systems
  - Identify operational differences between expendable and reusable spacecraft
  - Demonstrate knowledge of basic principles of hydraulics/pneumatics
  - Demonstrate knowledge of basic principles of pyrotechnic devices
  - Demonstrate knowledge of basic principles of rocket propulsion
  - Demonstrate knowledge of basic principles of electro-mechanical systems
  - Demonstrate basic knowledge of ground support equipment
  - Assemble/disassemble components from various systems
  - Demonstrate basic knowledge of how to modify or rework major systems and components to close tolerances
  - Perform fit check/functional test
  - Operate ground support equipment (GSE)
  - Operate switches, circuit breakers and valves
  - Demonstrate knowledge of thermal barriers
- Electronic Fabrication and Fiber Optics
  - Measure capacitance and inductance
  - Calculate and measure electrical power
  - Measure voltage, current, resistance, continuity, and leakage
  - Determine the relationship of voltage, current, and resistance in electrical circuits
  - Read and interpret electrical circuit diagrams
  - Inspect and service batteries
  - Utilize proper electrical safety procedures
  - Demonstrate basic knowledge of wire wrapping, potting, crimping, cable lacing and repair
  - Demonstrate basic soldering skills and the identification of components common to electronics
  - Troubleshoot electrical systems
  - Demonstrate knowledge of safety procedures when handling fiber
  - Demonstrate knowledge of different types of fiber optic materials and their characteristics
  - Make terminations, splices, and connections
  - Test fiber optic systems using various test equipment
  - Perform fiber optic troubleshooting and diagnosis
- Fluid Systems
  - Identify various mechanical connections
  - Demonstrate knowledge of the function of regulators, valves, and gauges
  - Identify unique safety requirements and hazards involved with various fluid systems
  - Identify and inspect components and conduits for compatibility with commodities
  - Differentiate between dedicated and multi-purpose components and conduits
  - Assemble, operate, inspect, and test fluid systems
- Structural Fabrication
  - Demonstrate a basic knowledge of applied trigonometry
  - Demonstrate a basic knowledge of machine tools
  - Interpret a basic drawing/blueprint



- Produce a layout/template
- Fabricate a sample project
- Demonstrate the use of brake and shear
- Demonstrate the ability to finish a component per given requirements
- Demonstrate the use of precision measuring tools including micrometer and vernier caliper, square, etc
- Fabricate a project per drawings and specifications
- Recognize good and bad welds
- Complete a repair project per drawings and specifications
- Inspect finished product for conformity
- Technical Task Analysis
  - Evaluate a given job
  - Select appropriate equipment for a given job
  - Select appropriate materials and supplies for a given job
  - Identify essential personnel for a given job
  - Apply troubleshooting skills where necessary
  - Identify and take corrective action where necessary