James Barnes

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OBJECTIVE

EXPERIENCE

Raytheon Technologies **McKinney, TX**
Electrical Engineer II June 2020 – *present*

Land Warfare Systems:
Factory Support/Test Engineer

- Troubleshoot and disposition system failures, both electronic and mechanical, to maintain factory production efficiency.
- Create and review testing procedures and assembly instructions for factory use.
- Performed calibration procedures for Factory Test Equipment i.e., supply voltage adjustments.
- Created Python Applications to automate production testing for a development program.
- Created Python and MATLAB Scripts that automate testing and quickly process and analyze large amounts of data to assist Chief Engineer and Engineer Fellows in diagnosing critical system failures.
- **ITAS:**
    - Validation procedure for new test set
    - Troubleshoot electronic/mechanical failures with Afocals
        - Related to assembly process, miswires, stepper motor failures, as well as mechanical issues related to binding of mechanical components.
- **CITV:**
    - Calibrate test sets
    - Troubleshot optical, electrical, and mechanical failures.
        - Optical failures related to IR coatings
        - Balancing and band tensioning
        - System related electronic failures, sensor malfunctions etc.
        - Scratch/Dig inspections.
- **CIV:**
    - Legacy Windows XP Test sets that tend to fail often.
    - Implemented a backup archive of ‘removable hard drives.
    - Implemented a preventative maintenance procedure for test cable maintenance.
- **SEPv4 CPS/GPS:**

    - Lots of leak issues, designed leak fixtures to diagnose leak issues at sub-assembly to detect and repair leak related failures sooner in the assembly process, reducing potential rework time due to full build teardowns.
    - Lengthy and manual test process, implemented simple modular Python automation, that allowed program to modify, remove, or add tests easily, while executing test and collecting test data much faster and reliably.
    - Being a development program, failures were all new and required investigating. Giving me experience with thinking critically with system designs and how they can be improved.
    - Troubleshot NI TestStand code for both CPS and GPS.
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- **3GEN BKIT:**

Airborne Systems:
Test Equipment Development/Sustaining

- Operate and Troubleshoot Windows NT, 95, 98, 2000, XP, Vista, 7, and 10 systems.
- Reverse engineer undocumented legacy Test Equipment for repair, maintenance, and upgrade.
- Design and operate Cirris, DIT-MCO, and Omni Continuity Testers that identify interconnect flaws in CCAs, Flexes, and Cables.
- Install and troubleshoot various test equipment utilizing NI Suite.
- Assembled and performed validation/release processes for newly assembled test stations to production use.