

Jabez Lewis

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EXPERIENCE

Leeds University Rocketry Association – Fluid Systems Lead/ Chief Engineer Sep 25 – Jul 26

- Designed, built and tested **3kN rocket** with self-pressurising N₂O and regulated IPA pressurisation
- Modelled rocket performance using **NASA CEA** and **Excel** (with **CoolProp**) to predict performance based on environmental conditions on launch/ test days
- Designed **liquid oxygen pump** (3kg/s, 45 BarA) including 25kW submerged motor
- Created and approved drawing packs with full **tolerance stack-up analysis** and **GD&T**
- Led test campaigns, including **hot-fire** testing, **hydrostatic** proof testing and **cryogenic** qualification

Orbex – Assembly, Integration and Test Engineer (*Internship*) Jul 24 – Aug 25

- Led design of **cryogenic** fluid systems for **engine and integrated-stage test stands** to **industry standards**, produced **requirements**, **P&IDs** and **SolidWorks CAD** for propane, LOX, and LIN networks
- Oversaw six-figure test-site reconfiguration and build including **400+ pipe spools**
- Designed and oversaw **manufacture of platforms** for 30,000L water tanks, verified with **FEA**
- Coordinated with propulsion and test teams to **design and install** pump-fed and pressure-fed **water deluge systems** for test sites and spaceports, including novel spaceport system
- Produced **ISO standard** manufacturing and assembly drawings in **SolidWorks** for pipe networks
- Selected and coordinated vendors for **valves**, **pipeline fabrication**, **fittings** and more for test facilities
- Produced **verification and validation plan** for spaceport fluid systems using **ECSS** standards, achieved European Launcher Challenge Pre-Selection
- Led flight hardware **pressure and leak testing** using **Epsilon**, oversaw pre/ post-test reviews
- Produced **ATEX zoning** documentation, aided **HAZOP** studies ensuring **site compliance and safety**
- Conducted **risk assessments** for manufacturing/ installation processes and **FMEA** for final designs

HPC Compressed Air Systems – Technical Support Engineer Nov 22 – Feb 23

- Managed six-figure modification of **25 compressor systems** for sale to worldwide distributor
- Formulated **full 60-page build and test procedure** to ensure high-quality conformity

EDUCATION

University of Leeds, West Yorkshire Sep 20 – Jul 26

Mechanical Engineering, MEng, 1st Class with Honours

Masters project: Design of an Orbital Transfer Stage for Micro-launchers (in collaboration with Orbex)

- Led team of 4 to develop full kick-stage design including GNC, propulsion, structures and RCS
- Designed **full propulsion system** for a N₂O/ propane system including a doublet injector, additively manufactured C-103 chamber with integrated film cooling modelled using **NASA CEA** and **RPA**

Bachelors project: Development of test chamber for Cu-Al contacts in extreme environments

- Designed and built environmental control system for humidity and oxygen concentration
- Implemented **PID** control using binary output of solenoid valves with an **Arduino** control system

Lancing College, West Sussex Sep 15 – Jun 20

A Levels: Mathematics – A*, Physics – A, Design and Technology – A*, Economics – A*

TECHNICAL SKILLS

SolidWorks, OnShape, Epsilon, Visio, Excel, CoolProp, Python, C++, Ansys, Abaqus, NASA CEA, RPA

INTERESTS

- Sports, including triathlon and football

References available on request