JOSH WALL

Mechanical Design Drafter | Inventor · AutoCAD · Fusion

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PROFESSIONAL PROFILE

Recently qualified Mechanical Design Drafter (Diploma of Engineering), currently completing the Advanced Diploma. Produces AS 1100 detail, assembly and fabrication drawings in Inventor and AutoCAD.

Mechanical design lead for the University of Newcastle team that placed fourth in the Warman Design & Build International Final, supported by 24 courses of undergraduate Mechatronics and Software Engineering study.

Experience in the workshop of an industrial wastewater-equipment manufacturer, fabricating parts and kitting builds from drawings and bills of materials (BOMs) has taught me to draw with fabrication in mind.

Seeking a junior mechanical drafting or design role.

EDUCATION

MEM60122 Advanced Diploma of Engineering (Mechanical) **Expected 2027**
TAFE NSW – Tighes Hill, NSW | Feb 2026 – Present

- Units completed so far include engineering detail drawings, process planning and applied engineering calculus.

MEM50222 Diploma of Engineering – Technical (Mechanical) **2026**
TAFE NSW – Tighes Hill, NSW | Feb 2025 – Feb 2026

- Drafting units covered AS 1100 detail, assembly and fabrication drawings in Inventor and AutoCAD, including surface modelling and model rendering.

Diploma in Engineering (Exit Award) **Study completed, pending award**
University of Newcastle – Callaghan, NSW | 2016 – 2023

- Undergraduate studies in Mechatronics and Software Engineering: 24 courses.
- Relevant results: Sustainable Engineering Practice (HD, 97); Engineering Complexity (HD, 92).
- Hunter Water Undergraduate Scholarship, 2016.

AVI30419 Certificate III in Aviation (Remote Pilot) **2026**
TAFE NSW – Tighes Hill, NSW | 2026

TECHNICAL SKILLS

CAD: Inventor (parts, assemblies, drawings, surface modelling, rendering); AutoCAD (2D detailing); Fusion (parametric modelling, 3D-print prototyping).

Drafting to AS 1100: Detail, assembly and fabrication drawings; section views; exploded isometrics; limits and fits; GD&T fundamentals (flatness, parallelism, datums); weld symbols; surface finishes; rendered models.

Design & analysis: Concept development; design for manufacture and assembly; statics, beam and stress calculations; materials selection; fit and clearance calculations; 3D printing; Excel calculation models.

SELECTED DRAFTING & DESIGN PROJECTS

Available for review online at joshwall.io

Drafting Coursework – TAFE NSW **2025 – 2026**

- AS 1100 drawing sets: ball towing coupling, belt tensioner, and pivot bearing and base with surface modelling and rendered brochure drawings (Inventor); agricultural machinery (AutoCAD).

Warman Design & Build Competition – University of Newcastle **2023**
Mechanical Design & Prototyping Lead | Fourth Place, International Final

- Led the mechanical design of a four-person team's autonomous vessel-handling machine within a 400 mm cube envelope and 6 kg mass limit, modelling components and assemblies in Fusion.
- Fixed gantry rail deflection by switching to bearings, then recovered the mass margin by tightening the bearing-to-rail tolerances, redesigning the carriages and machining slots in the rails.
- Prototyped, machined (CNC and manual) and assembled the final design used at the International Final, checking parts with calipers and testing against the competition scoring criteria.

RELEVANT EXPERIENCE

MAK Industrial Water Solutions – Cardiff, NSW **Sep 2026 – Present**
Water Treatment Consultant

Industrial water and wastewater treatment group that Baldwin Industrial Systems merged with.

- Carries on the workshop, stores and CAD work as at Baldwin (below).
- Supports the integration into MAK Water through:
  - Knowledge capture and training: build, assembly, inspection and test procedures, and specialty packing and dispatch.
  - Providing ongoing support for the Baldwin product range.

Baldwin Industrial Systems – Cardiff, NSW **Sep 2025 – Sep 2026**
Workshop Assistant / Stores Person

Manufacturer of oil-water separators, dissolved air flotation units and oil skimmers for industrial wastewater treatment.

- Made parts and kitted builds from fabrication drawings and bills of materials (BOMs), and carried out final assembly.
- Raised drawing-to-part mismatches with the head of fabrication before anything was made: replaced rough Inventor models of gearboxes and motors in legacy CAD assemblies with manufacturer-configured models so drawings matched the parts on the build.
- Assisted boilermakers, sheetmetal workers and electricians building oil-water separators, dissolved air flotation (DAF) units and oil skimmers: sheetmetal pressing, small-scale TIG welding, panel fitting, sensor and functional testing.
- Ran stores: received, checked, stored and issued parts and consumables; operated a forklift (LF) and gantry crane; packed and dispatched completed systems and spares.

Newcastle & Gladstone Safety Servicing – Cameron Park, NSW **Jun 2021 – Aug 2022**
Service Assistant

Servicing and certification provider for gas detection, breathing apparatus, confined-space and working-at-heights equipment.

- Serviced, calibrated, inspected and repaired customer equipment in the workshop and on client sites; worked to manufacturers' instructions, Australian Standards and statutory requirements.
- Managed service jobs in ServiceM8 from receipt and assessment through completion and dispatch, attaching certificates and reports to each job.

LICENCES & CERTIFICATIONS

- High Risk Work Licence – Forklift (LF)
- CASA Remote Pilot Licence (RePL)
- Work Safely at Heights (RIIWHS204D)
- Construction Induction (White Card)
- Full NSW Driver Licence (C)

REFERENCES

- References available on request.