

ROBERT JOHN COCKCROFT
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Summary

I am an enthusiastic engineer with a broad range of experience, ranging from heavy machinery, precision jigs and fixtures to racing, super and hyper-cars. Whether I'm working on improving existing designs or developing a project from an initial specification, I pride myself on my problem solving skills, and my attention to detail. Having worked on a wide range of projects I have an extensive understanding of various CAD packages, including Catia V5, Solidworks and AutoDesk Inventor along with the creaform suite of reverse engineering tools. I intuitively learn new systems and processes quickly and effectively.

Whether as part of a team effort or individual work, I enjoy new challenges; my motivation and ability to think creatively around problems mean I am always looking to improve any project I am working on. I enjoy getting hands on with projects, and always relish the chance to see my designs come to fruition.

Employment History

Progressive Motorsport – Design Engineer **September 2015 - September 2020**

- Designing parts, upgrades and repairing high end race and road cars.
- Using Catia V5 to design parts for motorsport and customisation of clients vehicles, including using advanced surfacing features, reverse engineering and other standard functions.
- Producing designs for sympathetic upgrade and modification of classic vehicles to enable modern functionality without damage or alteration to original components
- Using Creaform Handyscan and C-Track probe system to create comprehensive 3D scans of vehicles to enable reverse engineering of products and allow customisation of vehicles
- Working with mechanics directly to analyse issues and devise appropriate solutions
- Design of tooling and pit/servicing equipment for classic and contemporary racing cars.
- Working as part of a design department to continue the development of stillborn racing car projects
- Using Solidworks add ins to generate tool paths for cutting Carbon Fibre on a 2D router.

Co-Eng LTD – Design Engineer **February 2014 - August 2015**

- Using Catia V5 R 18-24 depending on client requirements to design jigs, fixtures, panel simulators, lifting equipment and storage solutions for a range of companies in the automotive sector.
- Using advanced surfacing functions to modify and generate E-cube and test equipment.
- Producing GA drawings, manufacturing drawings and extensive BOM/Parts lists.
- Liaising with clients to develop schemes for new jobs.
- Taking projects from concept to final buy off - including design concept, scheme, design and detailing.
- Developing new standards with associated paperwork to standardise fixture design.

Fisherleak Systems/Propbrook Ltd – Design Engineer **March 2012 – January 2013**

- Using Solidworks to design test equipment, fixturing and special purpose machinery for the automotive sector.
- Designing lift cars and associated hardware using sheet metal functions.
- Programming sheet metal parts for cutting on laser machining centres.
- Analysing existing designs to develop fixtures which improve cycle time in use.
- Assisting with developing processes and standards to redefine the operation of the design office and progression from 2d to 3d design.

CAD CAM Solutions – Design Engineer **July 2011 – March 2012**

- Using Catia V5 R19 to design tooling and fixtures for the high end automotive sector.
- Working as part of a team designing bespoke tooling for production and prototype part manufacture.
- Producing manufacturing and assembly drawings and schemes.
- Modifying existing fixtures to updated specifications.
- Develop fixtures capable of holding variants of specific parts.
- Completing paperwork to ensure ISO9001 standards are maintained.

Brown and Holmes (Tamworth) Ltd – Design Engineer**August 2010 – July 2011**

- Using AutoDesk Inventor and Solidworks to design and produce detailed drawings of jigs and fixtures.
- Design of hydraulically/mechanically actuated and static jigs, including machining, testing and weld jigs, for large scale projects.
- Working with major suppliers and OEM companies.
- Liaising with clients to ensure projects meet specifications; discussing and making any alterations.
- Producing detailed schemes for approval of concept by clients; converting the developed schemes into finalized designs.
- Working to deadlines producing detailed drawings, including tolerances and quality of surface finish.
- Presenting work in design review meetings with senior design team members and management.

R.Cockcroft Consulting – Freelance Design**October 2007 – August 2010**

- Self employed designer, working for UK and international companies on new and existing projects.
- Working on new products for use within niche markets; producing rendered drawings for promotional work and full 3D models for manufacture.
- Production of manufacturing, assembly and part drawings in addition to bill of materials, parts lists and project documentation to ensure strict schedules were maintained.
- Creating and modifying drawings for railway rolling stock; retrofitting and modification of designs to accommodate new technology, improving safety on the rail network.
- Using sheet working tools to create enclosures and covers for electrical installations whilst still allowing access for maintenance.

Network Rail RuN Project – CAD Technician**March 2007 – October 2007**

(Contracted as freelance October 2007 – December 2008)

- Responsible for maintaining and updating the Master Plan file for Rugby-Nuneaton Remodelling Project.
- Keeping an online file server up to date for project engineers and contractors to view/download the latest models, enabling designs to be integrated with one another efficiently.
- Produce CAD drawings in accordance with company Standards.

Education**University of Birmingham****2002 – 2006**

B.Eng degree in Mechanical and Manufacturing Engineering (with automotive option)

Formula Student/Final Year Project:

During my time at the University of Birmingham, I was involved with the yearly Formula Student project. I worked my way from small part manufacture until in my final year, I took on the role of Technical Director – together with the Team Leader I helped manage the team, as well as being responsible for the integration of the vehicle as a whole. As my final year project I undertook the complete re-design of both the front and rear uprights for the car. This required research into previous designs, development of conceptual designs, analysis of concepts, objective assessment and development of the most favourable concept into a new, innovative and compact design that exceeded all requirements placed on the project. This project required the use of the Catia V5 design and analysis suite.

King Henry VIII School Coventry**1995 – 2002**3 A-levels (Physics, Mathematics, Biology – Grade C)AS-level (Chemistry – Grade C)10.5 GCSE (Grade A-C, including A in Design & Technology and B in English, Maths and Sciences)**Other skills and qualifications**

- 18 years experience with various CAD software – both 2D and 3D systems:
- Competent user of Microsoft Office including Word, Excel, PowerPoint.

Interests

Passion for motorsport at every level – from being an avid fan of F1 and the Le Mans series to building, maintaining and racing my own radio controlled vehicles.

References available on request