



David Danfer

Project Portfolio

Using Licensed Solidworks Professional & AutoCAD, CAD Software.

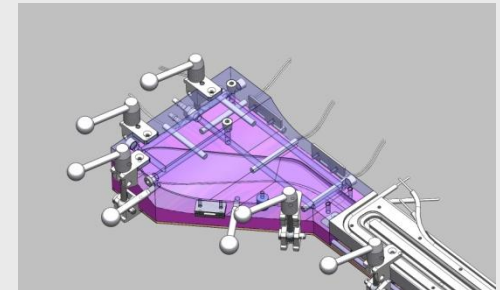
Rendered Glass Container by me using Solidworks.



David J. Danfer BENG

Drawing Image Files
Courtesy of;

C2 Composites Ltd
Alderman Tooling Ltd
South West Shopfitting Ltd
Bradlaw Richards Ltd
Lapmaster UK Ltd
Carbon Black System Ltd
Steel Innovation Ltd
Harris Cox Ltd



Updated
July
2014



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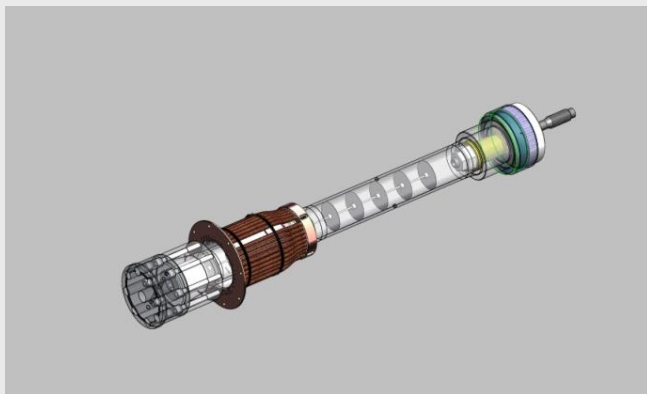
About David Danfer

I have an aeronautical engineering degree and am able to bring a practical engineering mind to any project. I will actively tackle engineering and production problems at the crucial early stages of the design process. I always use a structured, methodical approach to any engineering product design.

I specialise in 3D design and use Solidworks to develop your products from a concept sketch through to complete engineering drawings. My 3D design can be created in native file formats to export data to any other platform. I work closely with you to ensure we meet your exact requirements and project specification at all levels.



Some examples of projects produced using Solidworks, courtesy of C2 composites.



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Recent Projects



Carbon Black System Ltd

Recently I have been involved with a new wheel chair concept. I have worked closely with the customer to produce a "high-end", light weight, carbon composite wheelchair. The client provided me with the initial concept and "dumb" native CAD data, which was evolved to produce a product design that provides adjustment to suit the ergonomic and aesthetic requirements for wheel chair users.

All mechanical parts were also designed, detailed and manufactured under the instruction of Carbon Black System Ltd.



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Recent Projects

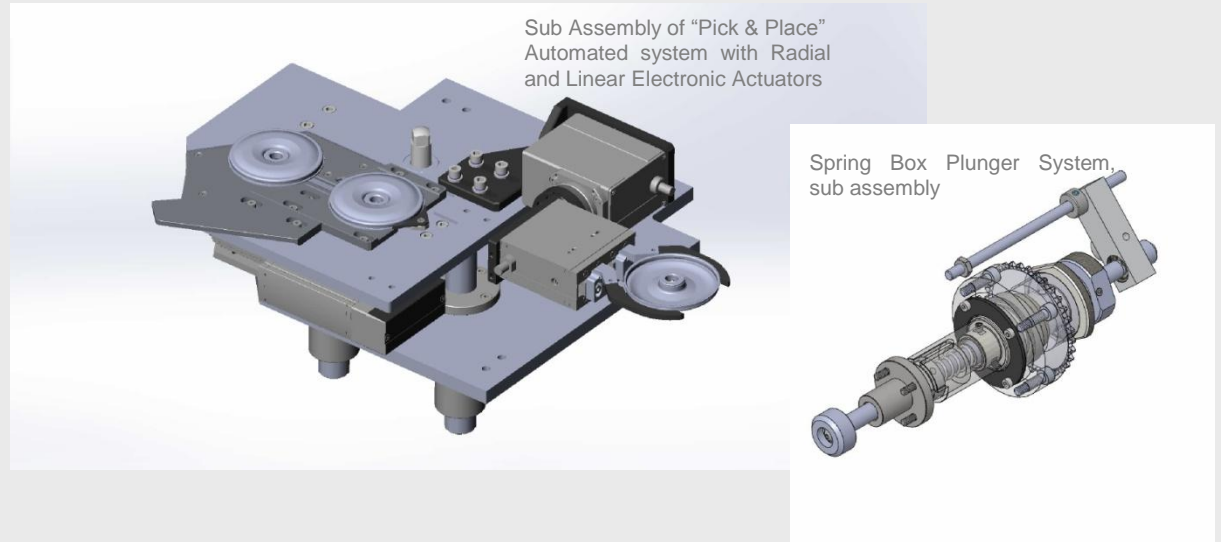
4 Ring Lapping Machine with
Pneumatic Lift System
Rendered Image created by me
using Solidworks



Lapmaster UK Ltd

Their core business was to create bespoke machines to lap and polish parts of a certain, size, weight and material. I was involved in taking two machines from concept to delivery. Once I had a design, drawings and a structured BOM, I would also have direct contact with key suppliers to ensure they had a full remit on what was required.

Due to the bespoke nature of the project, it was vital to have a direct control, at every stage, to ensure parts/assemblies mated together and gave the desired solution. On these bespoke projects there was no real time to develop/test so an extra eye for detail was paramount to avoid costly errors. As part of the team I furthered my experience on creating design solutions using, servo motor & drives, linear guides and slides, ball screws, belt and chain drives, electric motors, electric and pneumatic actuators, peristaltic pump technology and bespoke design solutions using an array of standard mechanical parts.



Sub Assembly of "Pick & Place"
Automated system with Radial
and Linear Electronic Actuators

Spring Box Plunger System,
sub assembly

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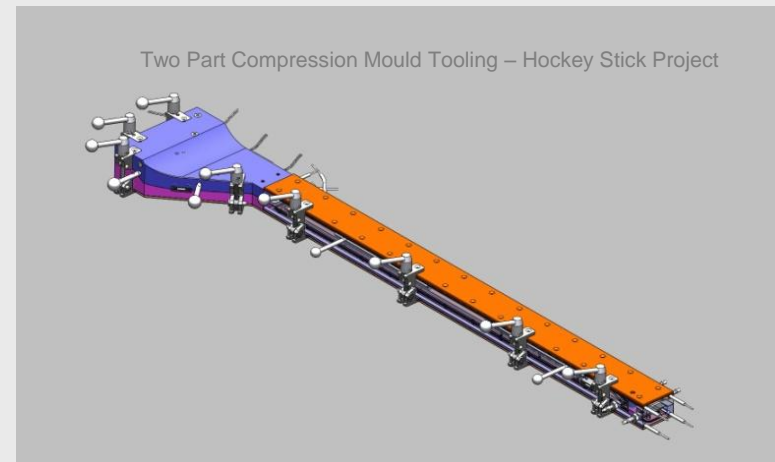
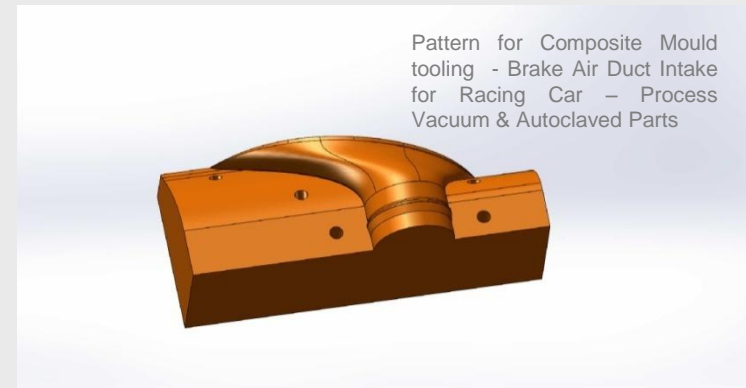
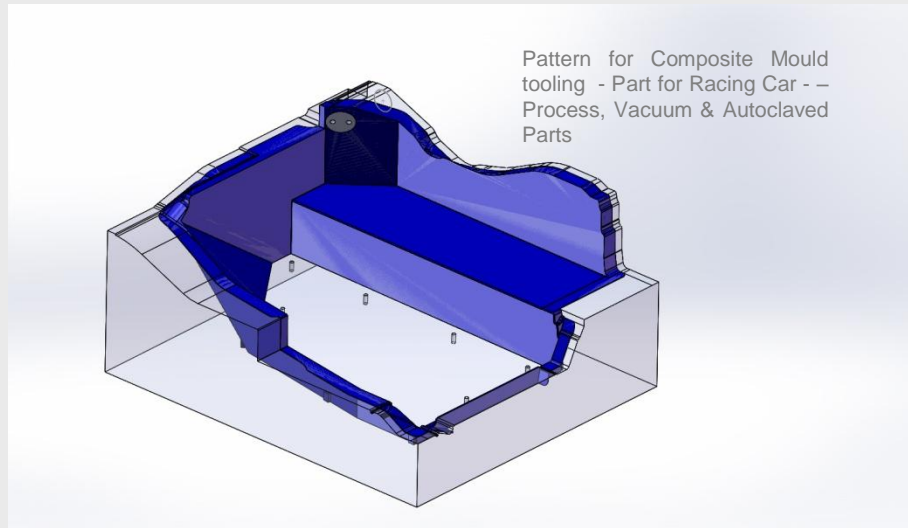


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Mould & Tool Design

Various mould tool and pattern designs using Solidworks software for F1 composite supplier. Bespoke development and mould tool design using 2 part compression moulding techniques.

Recent Projects



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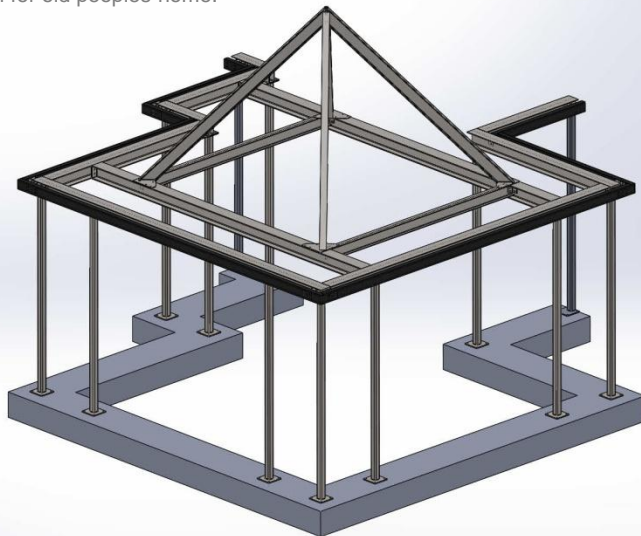
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Bespoke Structural Steelwork Projects

Architectural and structural engineers require detailed component drawings and BOM's for approval before any manufacture. Some steelwork suppliers for these projects have requested me to detail the whole project and submit my details for their final approval. To ensure the end user gets a seamless build and supply.

Recent Projects

Skeletal Structure of Glazed extension for old peoples home.



Typical bespoke Parallel Flanged Channel (PFC) detailed drawing, with details of standards, finish etc, required.

STEEL SPECIFICATION NOTE:

- Parallel Flanged Channel (PFC)
- STEEL SECTION MUST CONFORM TO EN 10025 S275
- MASS PER METRE - 28kg/m
- SECTION DETAILS AS BELOW
- FINISH - AFTER MANUFACTURE PART TO BE HOT DIPPED GALVANIZED TO ITS MINIMUM THICKNESS TO BS EN ISO 1461 (SYSTEM B1.2)
- SIZES AS BELOW

IMPORTANT NOTE:
LUGS REQUIRED FOR SPANDREL FIXING - LUGS TO BE WELDED TO SUIT SPANDREL, ONCE SOURCED.

REVISIONS

REV	DESCRIPTION	DATE	APPROVED
1	FIRST ISSUE	14/07/2014	

BALLOON ITEM | **QTY REQ'D**

27	1
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SECTION B-B

SECTION E-E

DETAIL F

CAPPED END PLT DETAIL BOTH ENDS

NOTES:
PROJECT - WESTCLIFF HOTEL
SIOAMOUTH, DEVON

LENGTH AND GENERAL SPECIFICATION
TAKEN FROM SANDS CIVIL ENGINEERS DRAWING
GROUND FLOOR SHETS 1 OF 2 AND 2 OF 2,
REF. 008 Rev. 024

Part Notes

THIS DRAWING IS A PRIVATE AND CONFIDENTIAL COMMUNICATION AND IS THE PROPERTY OF SOLIDWORKS. IT IS TO BE USED ONLY FOR THE PROJECT OF STEEL MANUFACTURE AND NOT BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF SOLIDWORKS.

DRAWN | **DID** | **DATE** | **DATE**

27/07/2013

DESIGN CHANGE NO. | **CURRENT ISSUE** | **CHANGE No.**

0

REMOVE ALL BURRS & SHARP EDGES

PROTECT FROM RUSTING

DO NOT RESURFACE SCALE

NOTE DIMENSIONED FEATURES TAKE PRECEDENCE TO ALL OTHER DIMENSIONS

UNIT & DIMENSIONS: METRIC

FINISH: USE NOTATION

MATERIAL SEE NOTATION

END ELEVATION - CAPPED END PLT DETAIL BOTH ENDS | **A3**

SHEET 1 OF 1

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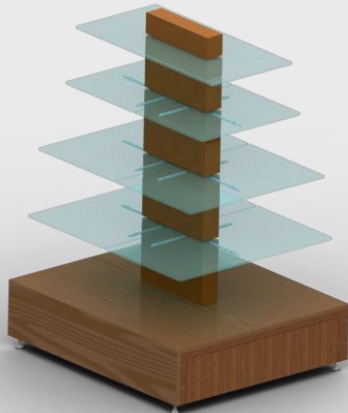
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Retail Design, Setting Out and Engineering of Fixtures & Fittings.

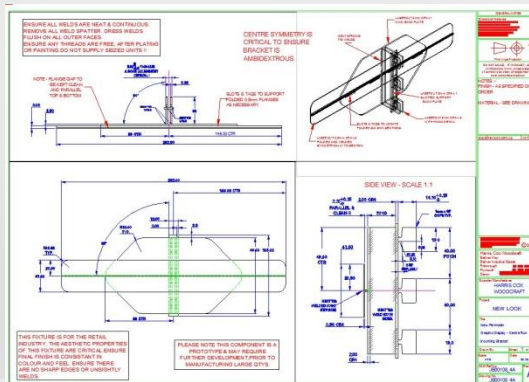
During my 5 years at Harris Cox as part of a technical team I designed, developed and produced fixtures and fittings for large retail outlets including New Look, Burtons, Dorothy Perkins, Hawkshead, Principles, Superdrug, Safeway and Royal Botanical Gardens – Wakehurst. Production of POS (Point Of Sale) Counters, VM (Visual Merchandising), Cash Desks, Shelving, Bespoke Display units. I have also been directly responsible and managed technical aspects of Chinese supply chain and assessed manufacturing sources out in China. I have visited the country 3 times, on various projects.

Recent Projects

Shoe Display Unit for Principles High Street Retailer – Rendered Image created by me using Solidworks.



Typical bespoke Cash Desk and overhead module for Burtons Retail.



Typical detail of bespoke bracket system for hanging large graphic panels. This was development work for large retailer.

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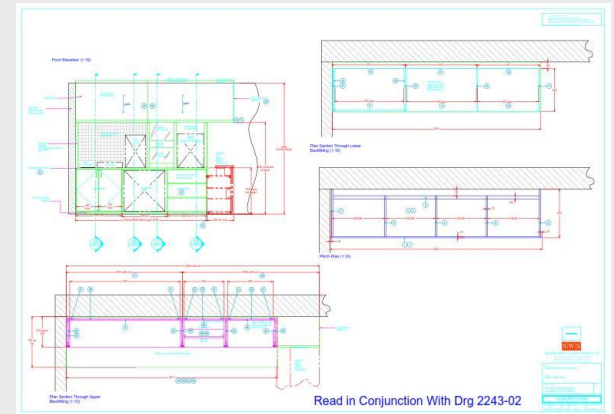
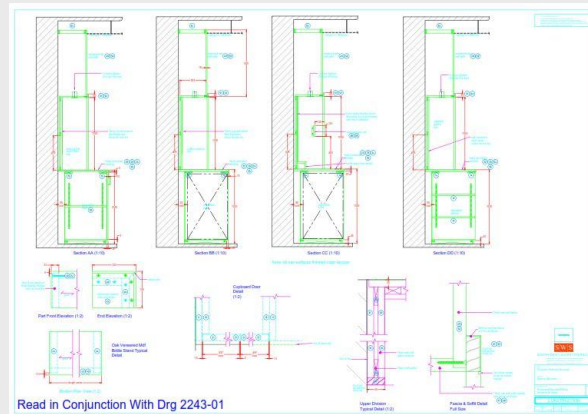
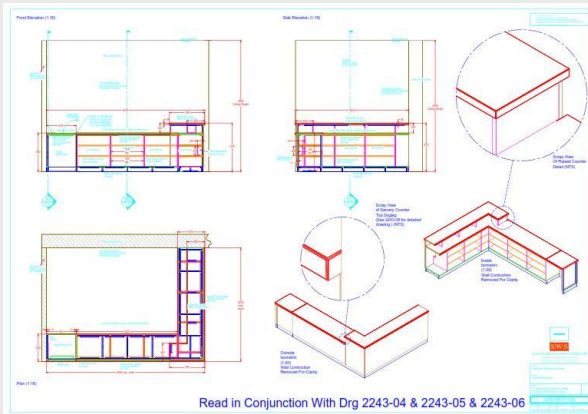
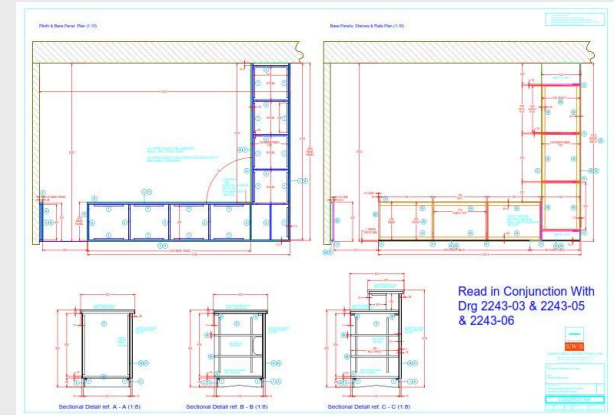
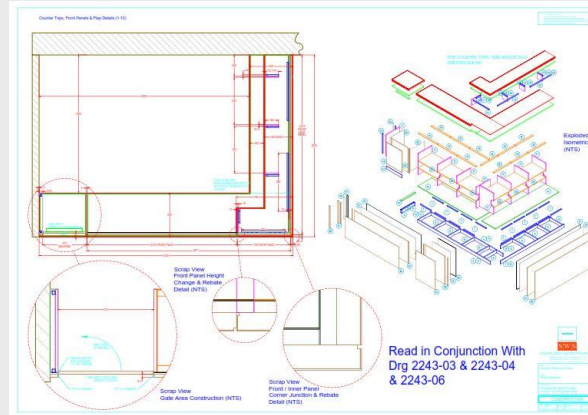
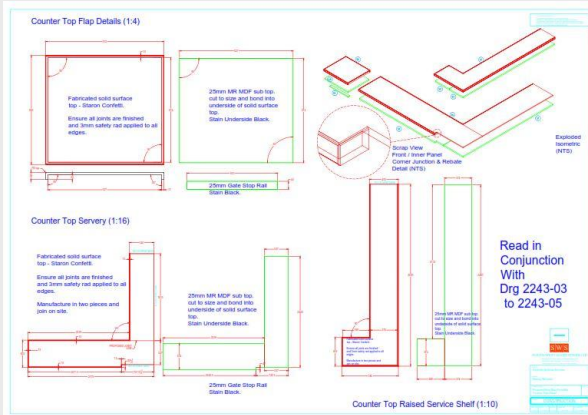


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Recent Projects

Retail Design, Setting Out and Engineering of Fixtures & Fittings.

From my experience at Harris Cox, since being self employed I undertook some work for a large local shop fitting company. Below are the “setting out” details for a bespoke bar and counter. With this detail a full BOM was also provided with all the relevant fittings required for each carcass and shelf unit.



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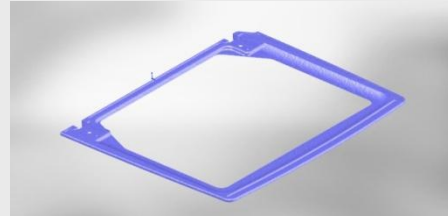
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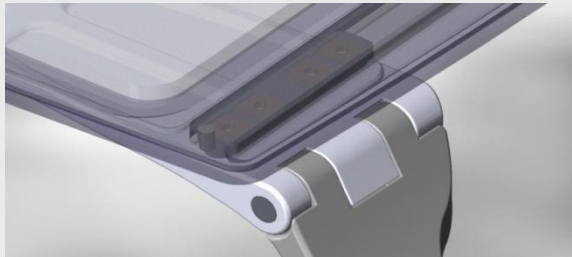
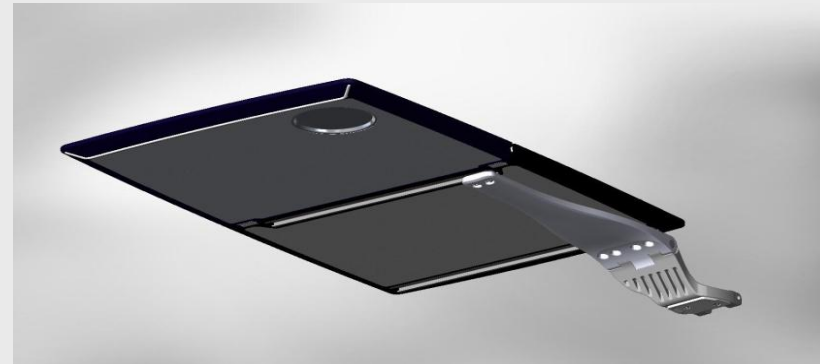
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Solid Modelling.....

I have invested into the latest CAD software platform, Solidworks, to ensure it is at the cutting edge of technology. Solidworks provides the perfect platform for meeting all draughting needs, from basic computer modelling to full animation and photo realistic rendering. Solidworks has a history of supplying CAD software and services to major Automotive and Aerospace manufacturers. It has been developed over many years and provides a seamless service from generic 3D modeling to full engineering analysis. Solidworks is compatible and can support most CAD software platforms.



Rendering indicating colour options on composite moulded frames.



Bi Fold Business Class Meal Table presentation images for Solidworks, for Crystal Cabin Award Entry in Hamburg 2010.

Gained place in last 10 entrants from 150 entries.



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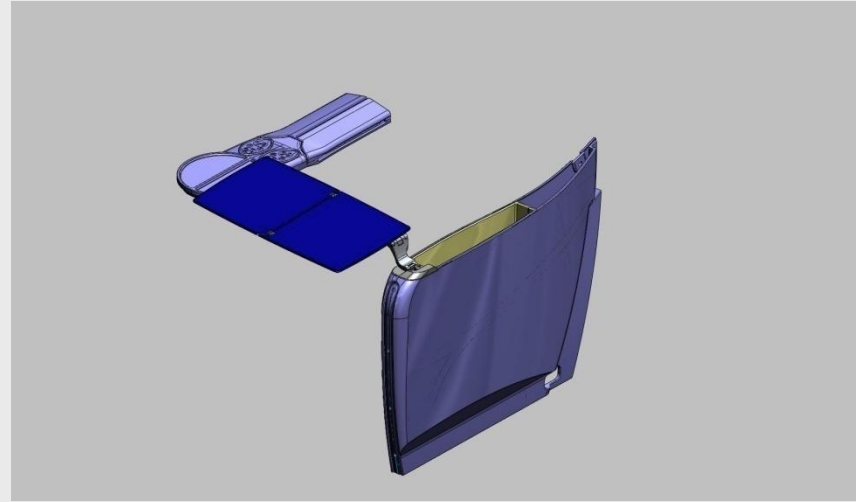
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CAD Experience.....

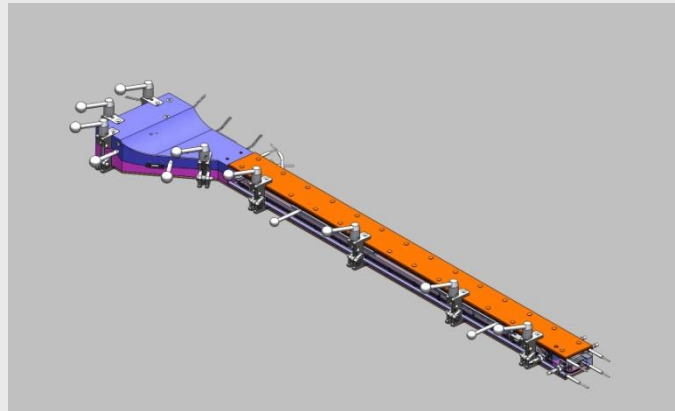
Solidworks is extensively used over many projects and contracts. Solidworks has been used for over 7 years and subsequent to that AutoCAD has been used for nearly 10 years.



GA of Bi Fold Table attached to side arm assembly.

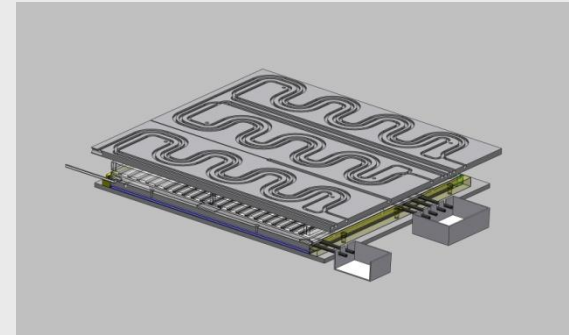


Concealed Hinge Design On Bi Fold Meal Table Design.



Solid Assembly Model of Composite Hockey Stick Tooling

Be-spoke design of Heated / Air Cooled Press Plate Assembly using Solidworks



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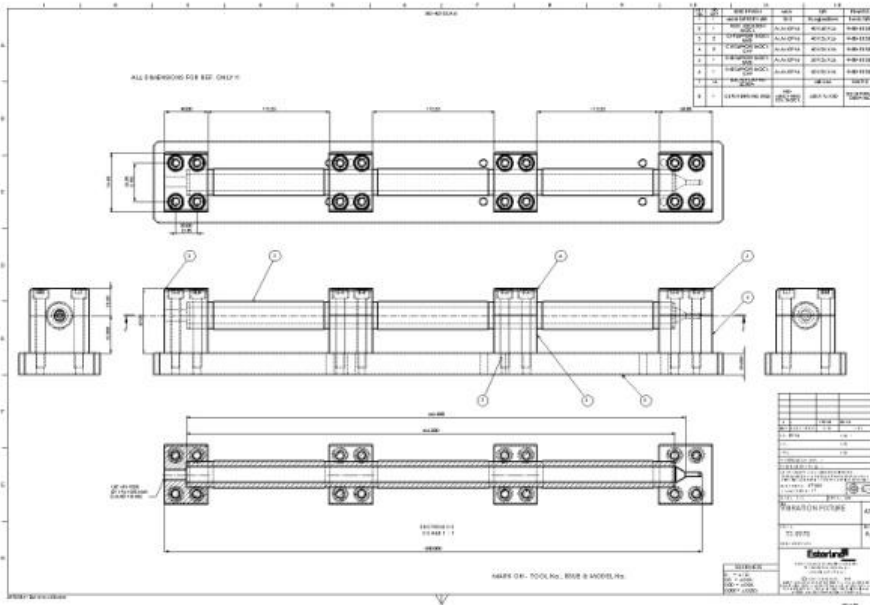
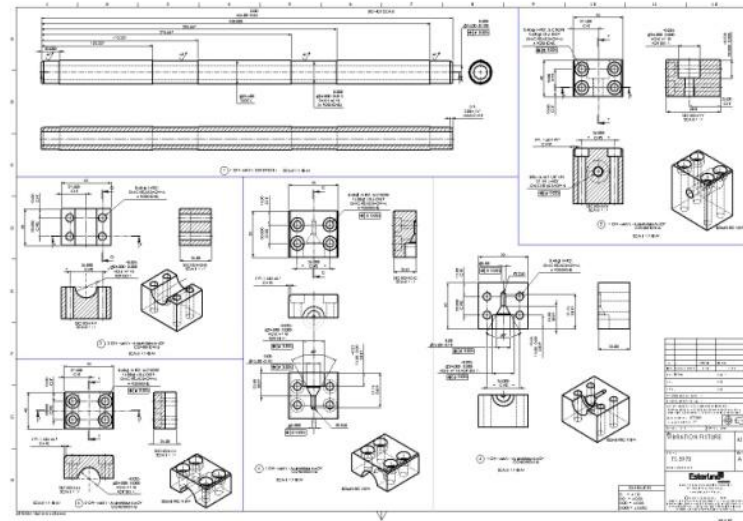
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CAD Experience...cont.....



GA & Piece Part Details For Gas Turbine Sensor Vibration Test Rig.

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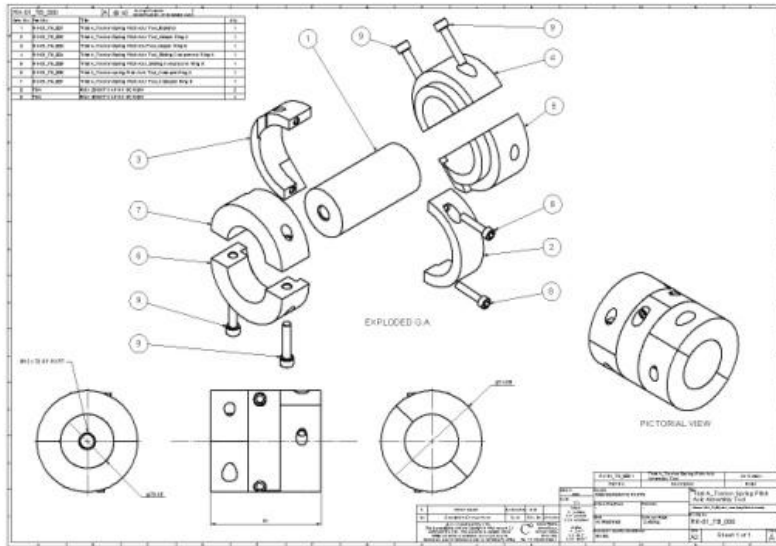
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CAD Experience...cont.....

GA of Composite Torsion Spring Moulding Tool.



Section Of Composite Compression Tube For Magnet Assembly in MRI Scanners.

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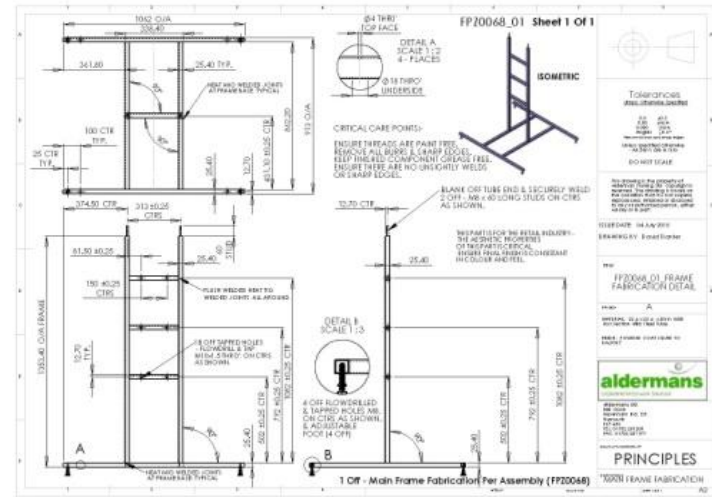
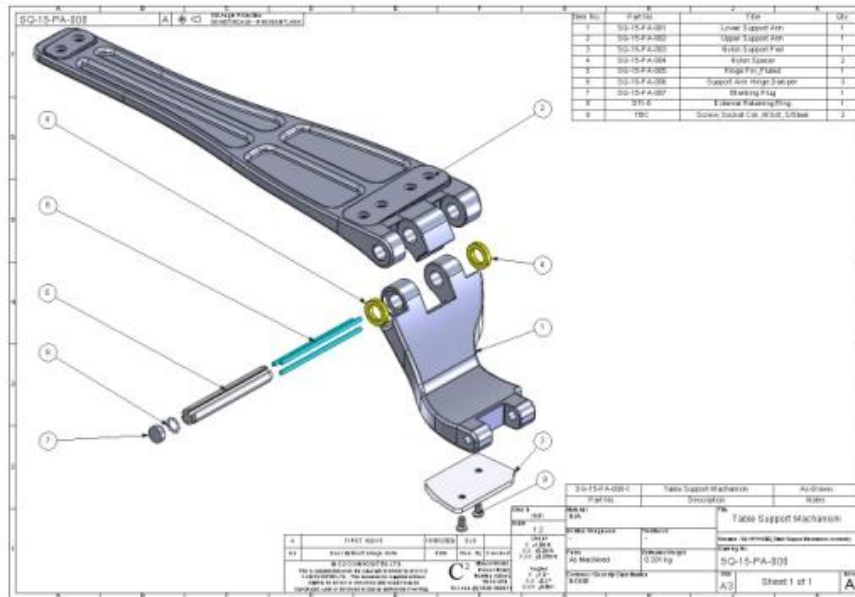
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CAD Experience...cont.....

GA Of Damped Support Arm Mechanism For Aircraft Meal Table.



Detailing for Shoe Display Unit for Principles High Street Retailer.

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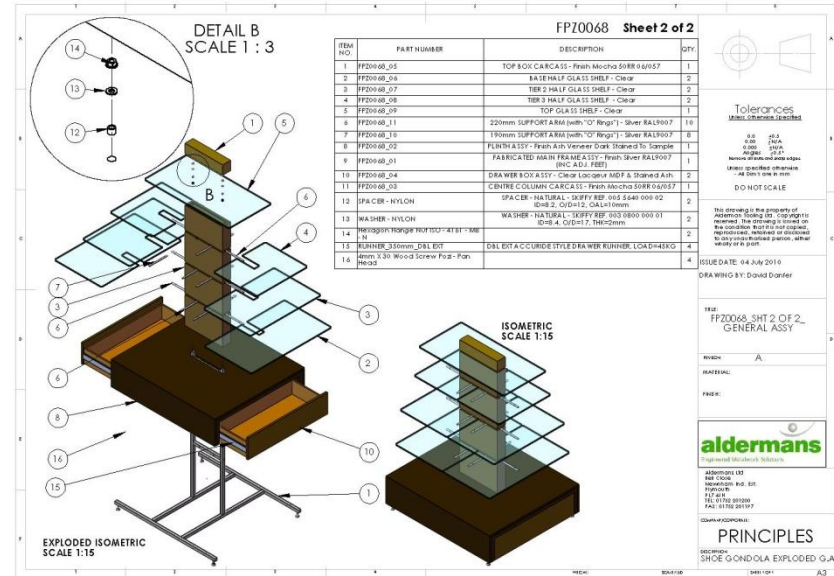
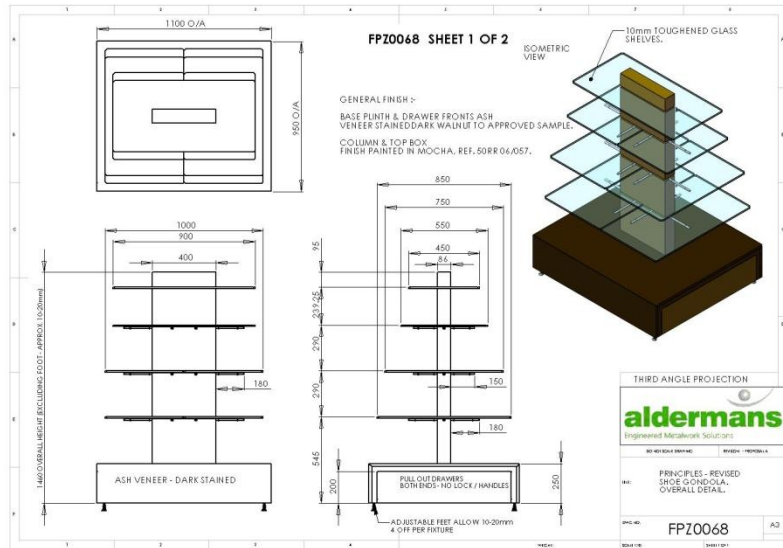
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CAD Experience...cont.....

General Assembly Schematics for Shoe Display Unit for Principles High Street Retailer



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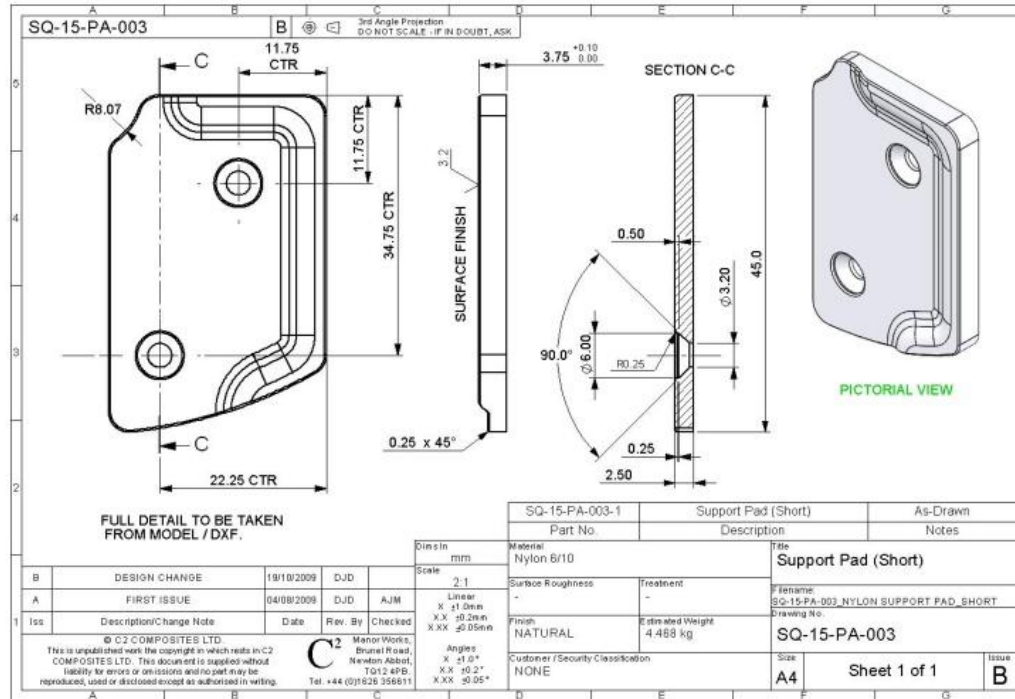
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Detailing.....

Detailed Engineering Piece part drawings are compiled to BS8888. GD & T are included where necessary to ensure functionality of the design.



Nylon Support Pad for BI Fold Meal Table Support Arm Assembly.

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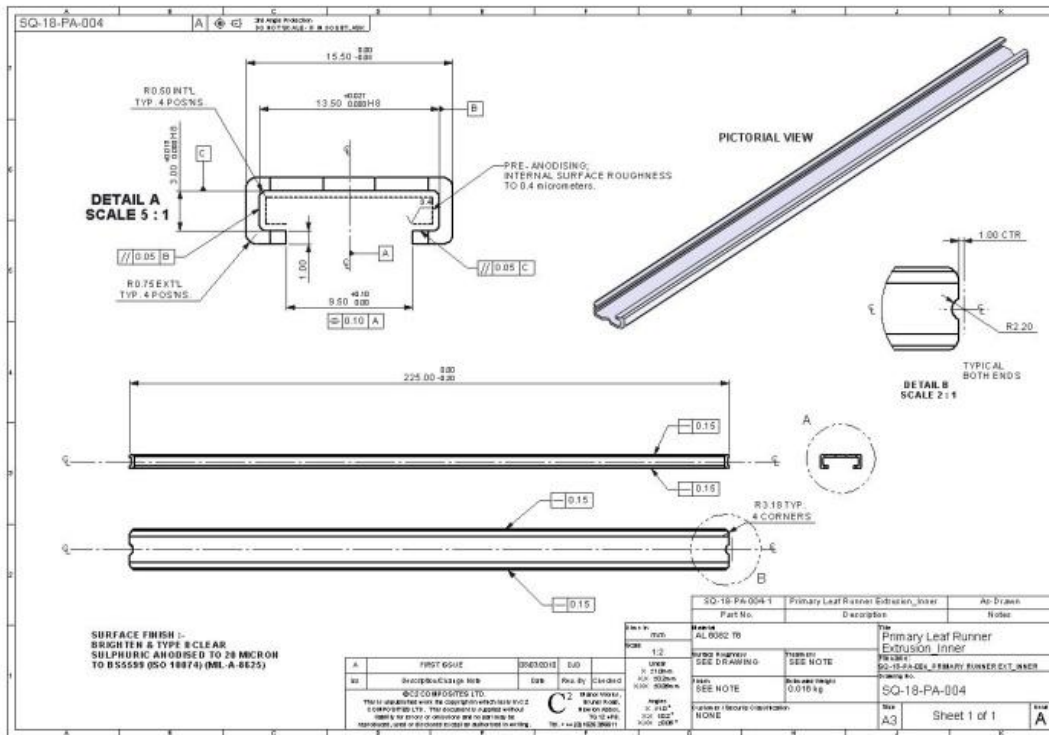
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Detailing...cont...



Aluminium "C" Section Extrusion Designed to BS EN 755 – Grade AL6082 T6

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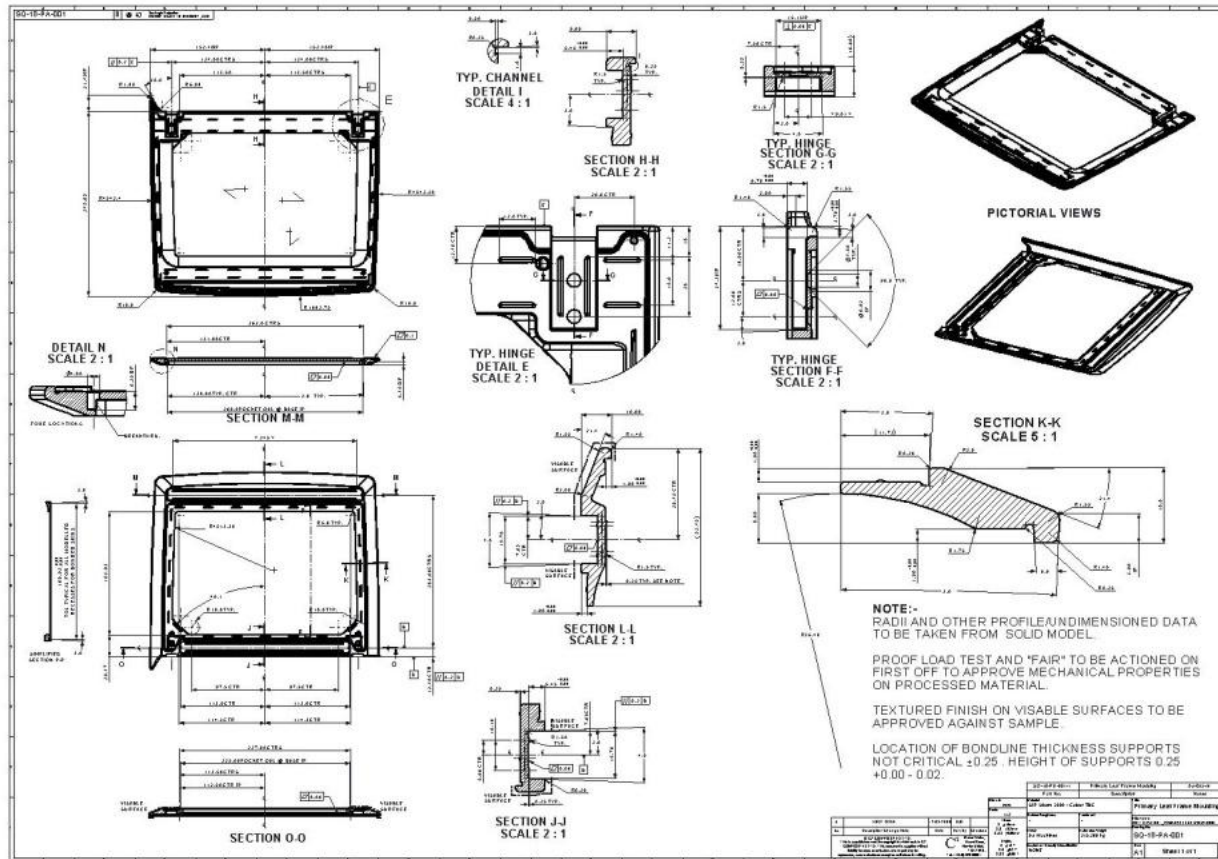
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Detailing...cont...

Composite Injection Moulded
Meal Table Frame – Material
PEI Engineering Polymer



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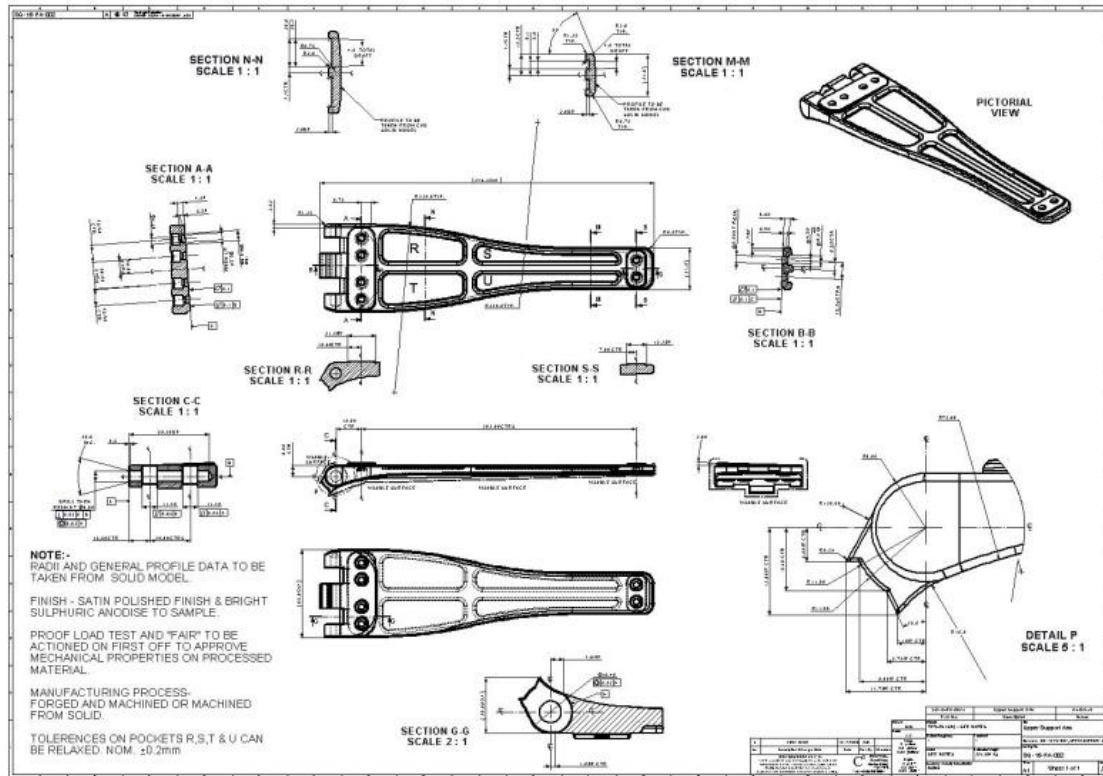
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Detailing...cont.....

I have experience to ensure correct levels of fit, form and function are part of the design whilst ensuring costs are kept to a minimum, by not adding tolerances to areas where they are not required.



Upper Support Arm Forging from Aerospace Grade Aluminium Alloy AL7075.

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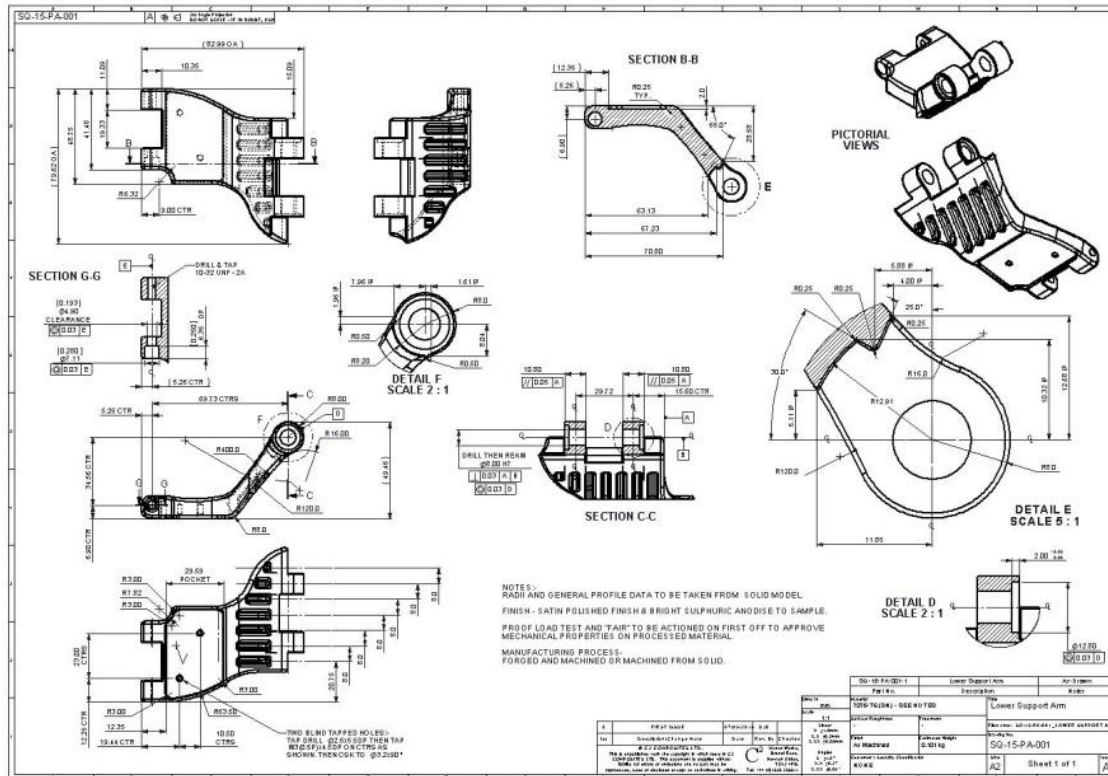
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Detailing...cont.....



Lower Support Arm Forging from Aerospace Grade Aluminium Alloy AL7075.

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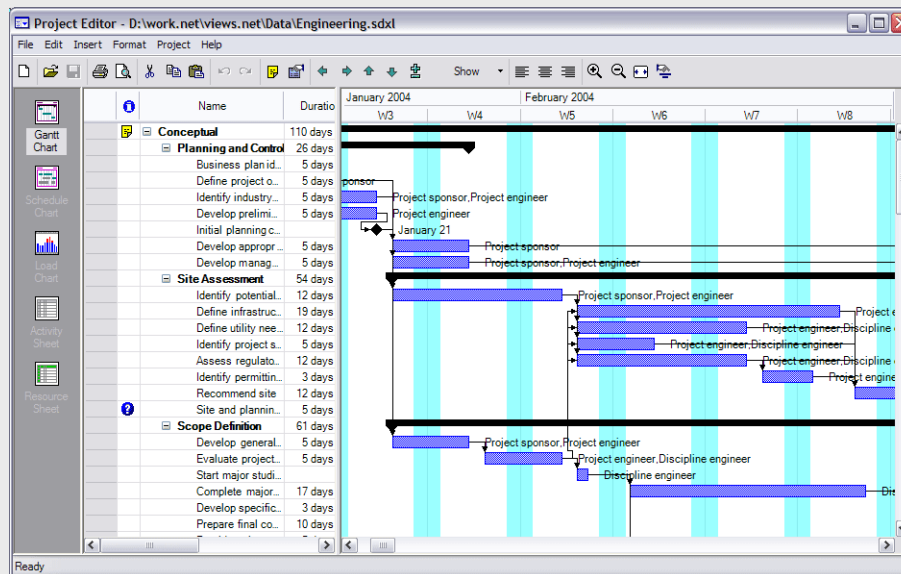
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Project & Cost Management.....

As well as meeting all the design requirements, it is important to ensure all departments are kept informed to ensure a smooth transition into Manufacturing, Purchasing, Quality and Production which are all key to the project. Therefore it is imperative that all these departments are regularly kept informed on the project and how it develops. Costs are key to any product, that is why it is important to have a good understanding of material selection, BOM's and knowledge of MRP to ensure we use stock items where necessary in the design and not create more stock at additional cost.



Understanding of the requirements of being able to manage a project..

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Design & Development.....

I have experience to working to both ISO9000 and AS9100 quality management systems. Design and Process Failure Mode Effects Analysis have been used in the design process for some projects, as well as validation and verification techniques as used in the more detailed design process of AS9100.

System _____
 Subsystem _____
 Component Composite Support Strap (Radial)- 5127061 r3
 Design Lead _____
 Core Team _____

Potential Failure Mode and Effects Analysis (Design FMEA)

FMEA Number _____
 Prepared By D.Danfer
 FMEA Date 06.04.09
 Revision Date 06.04.09

Key
 Date _____
 < 35 MINOR IGNORE
 >= 36 ACTION IS DESIRABLE
 >= 75 ACTION IS ESSENTIAL

Item / Function	Potential Failure Mode(s)	Potential Effect(s) of Failure	S e v	Potential Cause(s)/ Mechanism(s) of Failure	P r i o	Current Design Controls	D e t	R P N	Recommended Action(s)	Action Results				
										Actions Taken	New Sev	New Occ	New Det	New RPN
Materials														
Fibre	incorrect type used	Effect strap performance	9	problem at source	2	Approved/Regulated supplier / Inspection & Load Test	2	36						
Resin	incorrect type used	Effect strap performance	9	problem at source	2	Approved/Regulated supplier / Inspection & Load Test	2	36						
Pre-preg	incorrect type used	Effect strap performance	9	problem at source	2	Approved/Regulated supplier / Inspection & Load Test	2	36						
Fibre	Incorrect fibre volume Percentage (60%)	Effect strap performance	9	problem at source	2	Approved/Regulated supplier / Inspection & Load Test	2	36						
Fibre	fibre control	Effect strap performance	9	problem at source	2	Approved/Regulated supplier / Inspection & Load Test	2	36						
Pre-preg	wrong type used	Effect strap performance	9	incorrectly labelled	2	Approved/Regulated supplier / Inspection & Load Test	2	36						
Pre-preg	wrong type used	Effect strap performance	9	picked up wrong material	2	Material Check / Coloured backing on QP & Load Test	2	36						
Pre-preg	out of date	Effect strap performance	7	stock not rotated	3	QMS Material Log / QP / Load Test	2	42						
Pre-preg	damaged	Effect strap performance	7	Problem at source / Packaging	2	Pre inspection re. QP & Load Test	2	28						
Pre-preg	Imperfections in material	Effect strap performance	7	problem at source	2	Supplier batch Start/End Inspection / C2 Material Inspection	2	28						
Pre-preg	incorrectly stored	Effect strap performance	7	stock not rotated	3	QMS Material Log / QP / Load Test	2	42						
Pre- Preg Cutting														
Cutting Pre-preg	Cut width incorrectly	produce less straps	1	problem at source	3	Cut in controlled environment - Approved/Regulated supplier / Supplier QC	4	12						
Cutting Pre-preg	Cut length incorrectly	thinner straps / effect performance	7	process error	2	Pre Kit Material / Winding Rig set lengths/ Complete QP for size & weight	3	42						
Winding Rig Set Up & Material Application														
Pre-preg application to mandrel	Incorrectly positioned on mandrel for start point	Effect strap performance	6	manual process - operator error	1	Automated Process with alarms / Route Card QP Check & Load Test	3	18						

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