

AS 9100 QUALITY

INSIDE THIS ISSUE:

<i>Automate to Calibrate</i>	2
<i>New CAD CAM</i>	2
<i>Calibration</i>	2
<i>Contract Review</i>	3
<i>Health & Safety</i>	3
<i>Castle Background</i>	4
<i>New Factory</i>	4

Special points of interest:

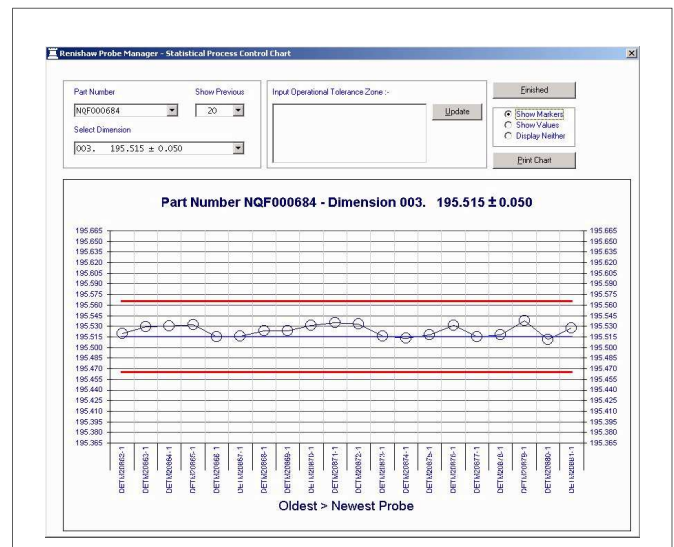
- New SL600
- New CadCam System
- Future New Factory

AS 9100 IS OUR FUTURE

Welcome to the first issue of AS 9100 Quality. This is a new (to us) quality system used by the Aerospace industry worldwide. It affects all aspects of our business and all our employees, so if you think this has nothing to do with me, think again.

So what is it. Basically AS 9100 is a quality management system which promotes the adoption of a process approach, and emphasises the importance of understanding and meeting customer requirements, adding value, performance measurement and continuous improvement.

Companies unable or unwilling to meet this standard will cease to supply the industry. This requirement is being driven by the Civil Aviation Authority, not just our customers and is thus becoming mandatory. Since the system is process based, it fits in well with our computerised production control system. Many of the processes mandated by the AS9100 are currently carried out informally in Castle. The new systems will formalise these,



Renishaw measurement, one key component to better quality. Operators monitor operations using probe data at the machine tools.

as well as adding new checks, processes and measures.

An important part of AS-9100 is communication and this newsletter is one of the new ways in which we will be keeping people informed. If anyone wishes to contribute, drop a note to Andrea and we will consider it for inclusion. The scope of the AS

9100 standard is very wide. It covers all aspects of the business including, Sales; Purchasing; Manufacture; and Administration. The trick will be to incorporate the requirements of the standard into our systems, without creating additional administrative burdens and bureaucracy. Every department will have to provide

NEW MORI SEIKI SL600 ARRIVES.

This month the company took delivery of it's fourth SL600 lathe. Castle's SL 600s which are uniquely configured to provide extra horse power at low revs, will produce 10HP at 10 revs and are powerful enough to tackle the most demanding jobs. The CNC turning facility

at Castle is probably the best equipped subcontract unit within the UK. These large capacity powerful lathes with their advanced controls should give us more flexibility enabling us to meet our customers quality and delivery requirements more easily.

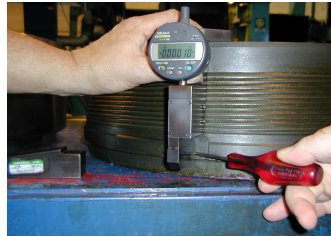


AUTOMATING THE CALIBRATING

Currently, we manually record and manage the calibration of micrometers internal and external, depth mics, verniers, etc. This is not as efficient as it could be. We intend to computerise this process but as it is a standard application it makes sense to purchase an off the shelf solution and integrate it with our production system. We will visit the Inspex exhibition to assess the various software systems on the market. Since almost everyone on the shop floor utilises measurement equipment training in the new system will be necessary for most people on the shop floor. In the meantime it is essen-

tial that every operator must ensure that the gauges which he uses are marked showing a currently valid calibration label. The labels are colour coded and a list showing the current valid colour are on all the notice boards and also on display within each section.

If you are unsure about the correct method of operation of any piece of inspection equipment which you are required to use in your daily work, please contact the Quality Manager who will demonstrate the correct procedure, or he will arrange for the appropriate training.



Slot measurement for Vetco

With regards to our major inspection equipment such as the Brown and Sharp CMM's, these are covered by annual contracts which cover all recalibration requirements so that all aspects of our QC process are covered.

NEW CAD/CAM SYSTEM

After using ProCad ProCam for around 6 years, that system will no longer be developed. A replacement system which utilises Solid works as a front end, and Camworks as the CAD engine is currently under test by the projects office. Initial impressions are extremely favourable. Upon successful completion of a three month trial

the company has contracted to install 6 seats allowing 2.5 axis milling; 2.5 axis turning, including 4th and 5th axis positioning. This new system will shorten engineering lead times and automate part of the engineering process. The system achieves this by taking a 3D model and utilising its tool libraries and material databanks to make a first

stab at cutting paths automatically.

As well as the projects office it is planned to have a workstation in the tool room which will give access to customers drawings, and dimensioning, through the SolidWorks front end. Training has commenced and the system should be fully functioning by November 2005.

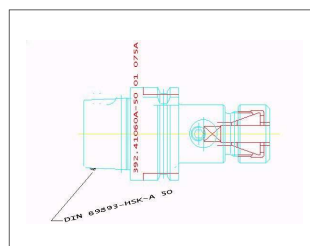
"As well as the projects office it is planned to have a workstation in the tool room"

TOOLING KITS

Continuous improvement is one of the main requirements of AS 9100. Demonstrating improvements in quality; delivery, and cost of manufacture are not just desirable, but mandatory. However, working harder is not the answer. Working smarter is! Do you have a complete and unchanged set of tools for the job? If NOTHING changes on a setup then the risk in the job is reduced; setup is reduced

to almost zero & less effort is required to run the job. It's easier! If anything has to be redone, tools remade, etc then the whole process has to be carefully checked. This takes time and effort and increases the risk of error. Therefore always ensure that repeat jobs have a dedicated untampered complete set of tooling. If anything is missing advise your supervisor, or production manager with a view to their purchas-

ing the necessary tools or ensuring that existing tools are never borrowed by other processes.



Complete Tooling Kits make life easier!

AS 9100 CONTRACT REVIEW

A core requirement of AS 9100 is the ability to ensure that before we start production we have checked to ensure that, the product requirements are defined, changes are resolved, we can meet the defined requirements, and we have evaluated the risks.

The production control system is currently being updated to formalise the process by which this is done. Once the system is complete, training will be given to all those involved in the process in various departments.

Castle Precision Engineering Limited		Route Card	Tap No 4574
Works Order No : 641045		Description :-	
Customer : Rolls Royce Derby		Spacer NQF000756	
Drawing Number : NQF000756		Sheet 1	
Revision Level : 1			
Qty Ordered : 8			
Issue Date : 21/10/2002			
Delivery Date Acknowledged : 07/11/2002			
Op No	Machining Area	Description	
10	INSPECTION	** NOTE ** All Parts Must Be Cleaned, Deburred And Part Marked As Required After Each Operation CRITICAL PART SUBJECT TO:- JES125, JES206 & JES208/1 CONTROLS VERIFY FORGING DIMENSIONS TO DRAWING RECORD FORGING No & SERIAL No IN REGISTER	
20	CNC LATHE	Setup Time : 9 hours Run Time : 280 Minutes Total : 28 hours Face, profile turn inner and outer form. Transfer material correlation marks and piece number to final position. Inspect to inspection procedure card. Fit retaining assembly and part off to finished length. 4 off per forging. Check drawing number and mod standard. Check component correlation marks and piece number. Check programme number and mod standard.	

Are we making the right thing, to the right revision, to the requested delivery.

HEALTH AND SAFETY

Whilst some of the girls in the factory may appreciate the sight of the young men with their overalls tied around their waists, it does represent a serious hazard. Loose garments can be caught in moving machinery with devastating consequences. The Company has a very good safety record but complacency will put that at

risk. We can improve as evidenced by the wearing of safety glasses which is now the norm. This good practice shows what we can achieve when everyone gives safety the proper consideration. Progress towards achieving ISO14001 Environmental Management System is moving forward and all employees will be updated regularly

and input required from many Senior personnel. A visit is planned in the near future to Linn Products to see how they have implemented ISO14001 which should expedite our own progress to achieving the standard.

"We can improve as evidenced by the wearing of safety glasses which is now the norm."

2005 A GOOD YEAR FOR CASTLE

Since 911 the Company has had three problematic years. During that time we continued to invest in plant, people and training. Now that an upturn has occurred in the market Castle has been well placed to take advantage of this upturn. After several years of our customer base narrowing we are now making real progress in diversification. The Company has also made inroads into Aerospace and Defence pro-

grams that are still in their infancy but which will run for many years if not decades. Although the world economy is still fragile and oil prices sky high, we appear to be well placed to exploit the niche markets which we have targeted. The Company recognises the hard work and imagination of those who have helped us to prosper in difficult times and appreciates their efforts.



Castle is the single source for many RR engine spacers

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Glasgow

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See us on the web at
castleprecision.com

AS9100 is our future.



Castle is an innovative company defined by quality utilising a professional line-up with sustained investment in skills, expertise and plant to deliver the manufacturing solutions clients demand.

Castle was established in 1951 as the Textile Engineering Company. Early growth saw diversification away from dependence on textile machinery to more general sub-contract engineering as well as tool making.

In 1963, the Company changed its name to Castle Precision Engineering (Glasgow) Ltd and moved location to new purpose-built premises in Castlemilk.

In 1983, Castle became one of the first engineering companies in Scotland to be awarded BS5750, later ISO 9002 and was also one of the first adopters of CNC machining techniques in the UK.

Now with over half a century of experience, Castle has grown into one of the foremost independent CNC production facilities in the UK. Currently possessing 50 plus major CNC machine tools occupying an area of 60000 sq ft, the Company retains full tool room facilities to support its production requirements.

Throughout its history, Castle has consistently provided an engineering resource that customers have relied on for delivery, accuracy, efficiency and cost effectiveness.

Today Castle is recognised as a World-Class Company that delivers optimum manufacturing solutions.

NEW FACTORY

We have approached Glasgow City Council with a view to purchasing extra land at the back of the 211 building. If this and issues regarding the lease can be resolved, then we intend to demolish the factory which Barry Sagar currently occupies and expand the new factory over the site. This will result in the new factory almost doubling in size.

Before we can start we will require to relocate all the plant that currently resides in the old 211 building. This will involve moving into the tool room area and the back of the 235 building. Once all that has been done and all the planning issues are resolved then construction of the new unit will begin. Upon completion the tool room will be relocated to the



With 11000 sq ft the new factory is a clean and safe environment, and the goal for the whole site.

new factory and the current tool room area refurbished to provide a high tech environment to house high precision multi-axis CNC machine tools and CMM measuring equipment. This area will then be suitable to supply precision components to defence contractors, such as BAe and Raytheon.

This project will take some years to come to completion, so in the mean time we must optimise our use of the existing space.

It is also important that we do not wait for the new unit to improve our housekeeping. At the present time it is only the new factory that nearly always meets the required level of presentation which we need to project.

All employees are responsible for keeping their workplace clean and tidy. This is good

practice both in terms of health and safety, and in terms of productivity.

We must not forget that the factory exteriors are also important. Pallets against buildings represent a fire hazard as well as compromising security. Too many containers in the yard cause clutter and obstruct access.