Oracle

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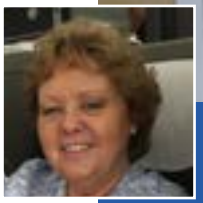

ISME at Thinktank for 'Meet the Experts' Day

We are grateful to the NEC for working with us to identify an option which we believe will work for the vast majority of our exhibitors and will give our visitors a great chance to see the best of advanced manufacturing technology under one roof.

James Selka, MTA CEO on Mach being rescheduled to 2021.

Contents

Cover and contents feature photo courtesy of Brandauer.

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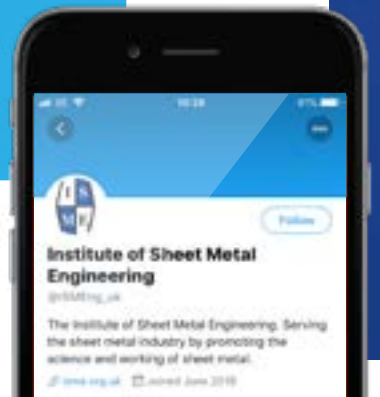


The Oracle published in association with the Metalforming Machinery Makers Association Ltd. ISME & MMMA working together for the benefit of the Sheet Metalforming Industry.

The Oracle, mouthpiece of the Institute, speaks for and to the world of Sheet Metal Forming & Pressworking by way of featuring New, Views and Topics around the Industry.

www.isme.org.uk

Tool Process Design Engineer (TPDE) Trailblazer Degree Course

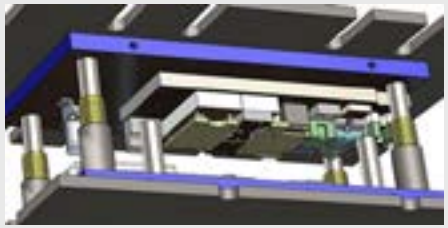
To advance some of our young and up skilling press toolmakers into Tool Process Design Engineers the CBM with 10 member Companies have put together a TPDE Trailblazer Apprenticeship package to a degree standard working with the Institute of Apprenticeships.

A CBM Survey 4 years ago identified that we had a major shortage of qualified toolmakers in the UK whether they were working in domestic toolrooms or at Contract Toolmaking Companies.

Ensuring there was a Level 3 Trailblazer qualification for tool & Die makers the CBM recognised with its members we needed to take it a step further. This means that in September 2020 the TPDE Trailblazer Apprenticeship will be available to those who show an interest and flair to take their sheet metal engineering occupation to the next level.

The Degree Apprenticeship develops the person's ability to take the component cad drawing through the TOOL PROCESS DESIGN steps into to mass production meeting the customers criteria. This means the syllabus will include;

- Cost Estimating
- Manufacturing process development
- Cad tool design & Forming simulation CAE
- Capacity planning
- Pre-production component manufacture
- Related H&S
- Metrology
- Metallurgy
- Related Maths



For more detail please go to:
www.instituteforapprenticeships.org
Click: Apprenticeship standards
Then Search: Tool Process Design Engineer

If you need more information, please contact Adrian Nicklin CBM /ISME Events.
Email; adrian.nicklin@thecbm.co.uk
Tel: 07774 260126

Be a part of the Institute of Sheet Metal Engineering

Why not encourage your colleagues to join us in ISME to help promote the Sheet Metal Working Industry? Student members, if you've reached the age of 25 you are eligible to apply to become full members.

CURRENT MEMBERSHIP SUBSCRIPTIONS ARE:

Company Membership	**£300.00**	Corporate Individual	**£40.00**
Fellows Membership	**£85.00**	Student Membership	**£20.00**
Individual Membership	**£60.00**		

Membership application forms are on the ISME web site **www.isme.org.uk** or telephone Bill Pinfold, ISME Hon Secretary on **07891 499146**

From the President

Alan Shaw,
President

I am sure you will find plenty to interest you in this issue of the Oracle. My thanks to all of the contributors and Council members involved in its creation.

I hope it will provide you with some much-needed distraction from some of the political, economic and other matters of concern currently filling the air waves, not least the serious threat represented by the Coronavirus outbreak. On the subject of Covid-19, I feel it is incumbent upon me to bring your attention to the undoubtedly sound advice in Section 5 of the gov.co.uk "Guidance for Employers",

Preventing spread of infection

"There is currently no vaccine to prevent COVID-19. The best way to prevent infection is to avoid being exposed to the virus".

Good to see that the art of penning statements of the obvious is alive and well, but more seriously the post does include some useful information.

the post does include some useful information"

From the Secretary

Bill Pinfold - Honorary Secretary

The Coronavirus is affecting all aspects of our way of life and ISME is no exception.

We have had to cancel the Metal Bashers Ball planned for May but have managed to rearrange it on Friday 16th October 2020 with the same venue, speaker (Eddie the Eagle) and band.

We were also about to announce an ISME works visit to a world class Birmingham pressings supplier in April but this will now take place later this year.

We have also now decided to cancel the Skills Competition in June.

This will now take place in June 2021. Entrants who have produced test pieces will be able to roll them over to next year.

The AGM has had to be postponed and will now take place in September (See notice p23). We will take advice from the Government statement on how AGMs may be held later than normally required and possibly by remote voting.

I hope that the Autumn Oracle is able to bring some more positive news.

Our skills competition will now take place in June 2021

Skills competition entries from 2019

ISME Trophy Overall Winner 2019

Sam Ryan's Submission 2019

ISME at Thinktank 'Meet the Experts Day' February 2020

Each half term the Thinktank in the Birmingham Museum, Millennium Point hold a Meet the Experts Day where large companies and Institutions are invited to put on an exhibition with an intent to engage young people into engineering and in STEM subjects generally. The format is for engineers to show various aspects of engineering basically from their own work experience.

This is often in the form of interactive activities. Companies are encouraged to bring along various examples of engineering parts and be prepared to talk about these and how they are used within their industry. Parts which the children can "play" with – dismantle – build – explore – etc. are particularly welcome.

ISME were represented by Impression Technologies and Midland Power Press Services.

ISME's good friend, Alec James again provided some of the excellent models he has built including a rotary engine and a Wolsey radial engine.

The visiting parents and children were amazed to learn that these models actually worked and had been hand built.

The Thinktank is usually busy at half term but the torrential rain of the previous week meant the footfall in the Thinktank was the highest we have experienced with many parents and their children taking a keen interest in our exhibits and the stories behind them.

Many long conversations were held with children and their parents which made it a very rewarding day.

The Institute was supported on the day by Adrian Nicklin, Bill Pinfold, Mark Whitcomb and Ali Foster.

A long day but very rewarding and hopefully we will do it again next year with an even bigger and better display.

John Yarnall CEng, CEnv, FIMMM, MISME Consultant.
Surface Innovations Consultancy.

Sheet Metal Forming Tools:

Introduction to Surface Coatings & Treatments for Protecting Tools & Dies Against Wear in Service.

This article is the first in a series of features to cover a range of latest tool surfacing technologies for protecting sheet and bulk metal forming tools against the most severe conditions of high volume metal pressing production.

The main intention of this series is to introduce the main mechanisms and surface failure modes that tools experience in high production manufacturing. We will look at some historical best practice tool protection which enabled manufacturing of basic geometric forms, to complex multi-stage forming of automotive and general engineering structures. The final section of the series will focus on tool and die protection of high strength alloys and composites in some detail using Thin Film Ceramic coating, duplex treated surfaces and laser cladded deposition layer protection; with some reference to tool reclamation features. In the later series sections some mention with be made of the advanced role of tool lubrication in combination with surface coatings and selection of tool steels via their respective heat treatment to effect optimum performance to achieve best metal forming process economics.

HISTORICAL REFERENCE

It is believed that the first reference to sheet metal forming was in the description of coins and how they were struck in what is modern-day Turkey in the seventh century B.C. by the Lydians. Until 1550 the hammering method of coins remained the primary method of coin-making when Marx Schwab developed a new process for stamping in Germany that involved as many as 12 men turning a large wheel to press metal into coins. Until the 1880s the stamping process remained mostly the same until the stamping process was further innovated and automated via water power, then electric/Hydraulic/mechanical screw motor drives.

> **It is believed that the first reference to sheet metal forming was in the description of coins and how they were struck in what is modern-day Turkey in the seventh century B.C.**

The most popular equipment in these early years was hand powered ball presses which were used for stamp pressing and bending of brackets, steel chassis and covers for horse drawn and railway transport. Tool design and materials were then further developed to provide the conditions for economic viability multi-stage high accuracy parts using high hardness achieved with newly developed high alloy tool steels which provided intrinsic anti-surface wear characteristics. With the advent of higher purity wrought mild steels appearing in the late 1800c and the subsequent introduction of Light Aluminium Alloys, metal pressing tools were further optimised to make possible relatively long high volume production for automotive and aerospace manufacture during the two world war periods. Advances in tool steel metallurgy, and metal forming fluid chemistry, further provided opportunity to meet the demand for high volume mass production of repeatable quality steel and non-ferrous metal engineering structures.

INTRODUCTION TO CURRENT HIGH PRODUCTION AUTOMOTIVE METAL FORMING

With sheet-metal forming tools the automotive industry produces body and structural parts by deep drawing, brake press and/or blanking operations. In addition to mechanical properties, like hardness, compressive strength, tensile strength or toughness, the tools should show a sufficient resistance to tribological loads during production.

METAL FORMING LUBRICATION – TO AID SHEET METAL FLOW ACROSS TOOL SURFACES

Lubrication is employed to control the friction and to protect the tool and work piece from wear. Separate areas of the tool surface can be subject to hydrodynamically lubricated conditions, mixed or boundary lubricated conditions. The most exposed areas are those operating under boundary film conditions. In these areas, which are the ones focused on in this article, the sliding contact is supported both by an adsorbed lubricant film and by metallic contacts. Friction and wear control under boundary lubricated conditions require specific additives that form boundary layers at the contacting surfaces. The performance of these lubricants is connected to the thermal stability of the formed boundary layer. The boundary layers can be formed through three mechanisms: physical adsorption, chemical adsorption and chemical reaction. Physically adsorbed layers adhere to metallic surfaces by polar heads of long hydrocarbons. In chemical adsorption, chemically reactive metallic surfaces and the lubricant form a metal soap at the contact interface.

Press tool sections PACVD post polish finished after treatment

THE FUNCTION OF TOOL COATINGS:

Thin coatings deposited on forming tools are used to optimize the forming process and to increase the life of the tool. The main properties required are the reduction of friction as well as improved resistance against abrasive and/or adhesive wear. Furthermore the bonding strength between coating and substrate is an important fact for a successful application. DLC-coatings (Diamond-Like Carbon) show very good results in aluminium sheet forming processes. Due to the low friction coefficient and the high resistance against adhesive wear the WC/C-coating (~ 1200 HV), which is one of the DLC- coatings, distinctly reduces the build-up of aluminium on the tool surface.
The new ceramic layer-coating (5-10 micrometres in thickness) deposited by CVD, has been created for sheet-metal forming of high-strength steels. >

With a high surface hardness of ~ 3500 HV and low internal stresses these coatings combine the high abrasive wear resistance of a standard TiC-coating with an improved bonding strength between coating and substrate.

Plasma nitride & PVD TiN Duplex surface coating of automotive press tool sections

In addition to Chemical Vapour Deposition (CVD) multilayer tools coating, a further advancement has been developed during the past 20 years called, PVD (Physical Vapour Deposition) which is applied via plasma assisted environmentally approved process carried out at lower temperatures that CVD with a resultant film thickness of 1- 5 micrometres. PVD coatings can be applied to most tool steel dies and punches, which mitigates any tool distortion issues during coating of both large and small tool sections by utilising lower coating process temperatures as low as circa 200 DegC are often used for certain lower alloy tool steel grades. Careful selection of tool steel and coating process technology is therefore recommended for a particular design, geometry and tool steel grade.

This is of paramount importance to the degree of success of a surface wear protection coating and treatment to be used.

THE KEY ISSUES & PARAMETERS

- Type of material and quality of workstock material being press formed/stamped
- Tool Steel selection for the type of metal forming operation and surface protection coating to be used
- Tool design for surface coatings and optimisation criteria for producing high volume manufactured parts to consistent quality, conformance and drawing part size requirements (QA standards)
- Tool and die manufacturing method to be used with respect to machining and surface finish
- Type of Heat Treatment to be used for tool hardening and tempering
- Post tool manufacture inspection, and environmental compliance standards.

NEXT INSTALMENT PART 2: 2020

This will cover:

1. Tool coatings and treatments types for sheet metal pressing and deep drawing processes
2. Tool steel selection and heat treatment for tool coating & surface treatment of ferrous and non-ferrous sheet metal forming
3. Machining process technology for dies and tools to be surface coated for wear protection
4. Introduction of surface finishing of tools for wear protection coating.

LIST OF REFERENCES:

1. New Trends in Thin Coatings for Sheet Metal Forming Tools- C. Escher, T. Henke Dorrenberg, Edelstahl, GmbH. Germany
2. The Positive Effects of Nitrogen Alloying of Tool Steels in Sheet Metal Forming. Irma Heikkila, Uppsala University
3. PVD Coating of Metal Pressing Tools - Courtesy of Sheffield Hallam. National HIPIMS Technology Centre, UK
4. IonBond IHI Group, Consett & Mansfield, UK

ISME Thank our event sponsors

Dutton Simulation supports 'Love Hope Strength' Foundation

Last September, Julie and Trevor Dutton (ISME member), directors of Dutton Simulation Ltd, took on the challenge of Iceland's epic Laugavegur trail to raise awareness of the work of Love Hope Strength (LHS) Foundation.

The challenge – Iceland Rocks – was a 55km trek over three days with a group of around 25 others. Trevor reports that "It was perhaps the hardest physical challenge that we have ever undertaken, but also the most rewarding. We walked through some astonishing terrain in all kinds of weather – sun, rain, hail, sleet and at one point a full-on blizzard! But knowing that we could be helping to save lives kept us going."

LHS was co-founded by acclaimed musician Mike Peters (The Alarm), who aims to save lives, one concert at a time, and give hope to families affected by cancer. Over the past decade LHS has established the 'Get On The List' programme to help people with a blood cancer who need a second chance of life. To date LHS has registered over 200,000 people to international stem cell donor registries. Over 4,000 of those who've registered have been identified as potentially lifesaving matches. Over £1m has been raised globally to help support some of the most vulnerable people affected by cancer. LHS has equipped hospitals and community cancer services with new facilities and equipment in parts of the UK, US, Africa and Asia.

Trevor and Julie hope that their efforts will encourage donations to LHS, inspire others to take part and, especially, to 'Get On The List'. Their next challenge is already in the offing – Sahara Rocks in October 2020, involving four days trekking and camping in the desert dunes of Morocco.

JustGiving

If you are able to support Trevor and Julie then you will find their donation page at **https://www.justgiving.com/fundraising/trevor-and-julie-lhs-2020**

Midland Power Press Services Ltd.

Now partnered with SIMPAC Presses

MPPS has been appointed the UK Sales and Service Agent for SIMPAC Mechanical and Hydraulic presses.

SIMPAC based in South Korea has been building presses for over 45 years with a dominant share in its home market and a growing global presence through its own sales/service companies and agents around the world. For continuous development and optimisation of the product range the company has R&D centres in both Korea and Germany.

SIMPAC
YOUR PARTNER FOR **SHEET METAL FORMING EQUIPMENT**

> **The SIMPAC product range includes mechanical and hydraulic presses, servo presses, transfer presses, blanking and tandem lines.**

Additional to our partnership with SIMPAC - We are also delighted to announce that we have been awarded the 9001 Quality Accreditation.

ISO 9001:2015

We have demonstrated the ability to consistently provide products and services that meet customer and regulatory requirements.

Worldwide users include manufacturers of domestic appliances and household goods and electronic components in addition to the automotive industry and its suppliers.

SIMPAC has already secured its first order in the UK for an automated press line comprising of four 300 tonne Solid Frame Presses with Blank Destacker/Feeder and Inter-press Shuttle Transfer system. This press line will be installed at a leading manufacturer of central heating products later this year.

The SIMPAC range of presses is complimentary to MPPS's established reputation for the installation, maintenance and repair of mechanical power presses and hydraulic presses.

The MPPS management team at their Tipton facility.

SIMPAC
YOUR PARTNER FOR **SHEET METAL FORMING EQUIPMENT**

Servo Presses
Monobloc &
Tie-rod design
300 – 3000 tonnes

Solid Frame Presses
Crank, Link or Servo Drive
200 – 1000 tonnes

C-frame Presses
Crank or Link Drive
35 – 300 tonnes

Automation – Coil Handling, Blank Destack/Feeders, Robotics, Tool Changing Systems

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ROEMHELD
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Everything for the Quick Die Change

in automatic punching presses and high-speed presses

Products for productivity

ROEMHELD

Single Minute Exchange of Dies

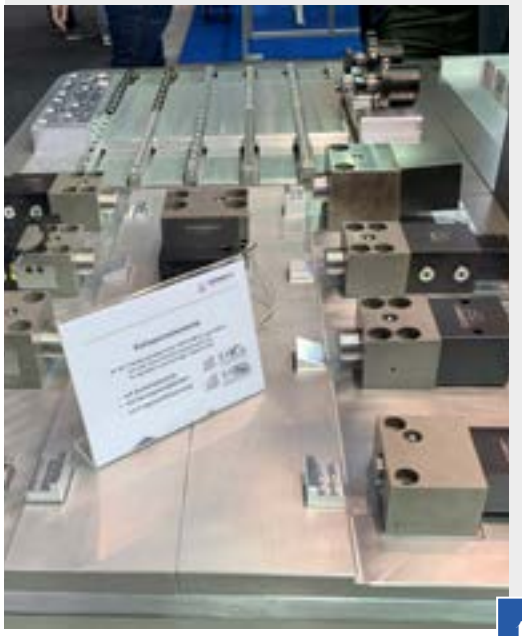
In a majority of cases we are requested by customers to provide hydraulic clamping to improve the set-up times on their presses.

At this time we advise the customer that hydraulic clamping is the last thing they require.

There are several reasons that influence the decision for automation.

- Improving Productivity
- Reducing Set-Up Times
- Increasing Flexibility
- Safety
- Reducing Inventory

To incorporate **SMED** into a Press Shop there are several key elements that need to be in place.



Questions to be asked:

1. How often do you change the tools per day?
2. What is the hourly rate for the Press Setter & machine?
3. Do your press tools/moulds have standard bolster heights?
4. Where are the tools/moulds located?
5. How are the tools presented to the press?
6. How are the tools loaded into the press?
7. What is the total Press Tonnage?
8. Are there any Ejection or stripping forces?
9. Do the press beds have T-Slots or Tapped holes?

In general most press shops have various size tools so the process of "standardising" bolster can be expensive, the solution to this can be the localised machining of the bolsters to allow positioning for the hydraulic clamping element. This can be Hollow Piston Cylinders, Travelling Clamps, Sliding Clamps & several other options.

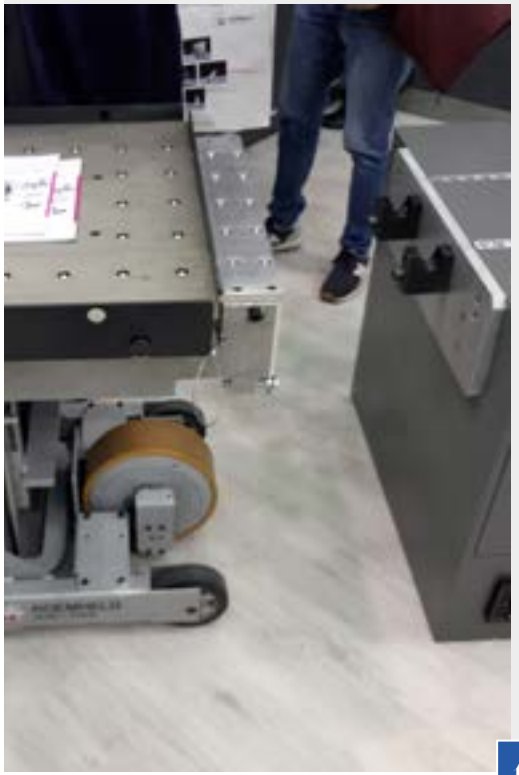
The tools should be located locally to the press & presented to the press ready for tool changing.

>

Loading of the tools is also critical, are they loaded by crane or fork lift onto Die Handling equipment, Electrically Driven Rollers for heavier tools, Die Carts & manually positioned Carrying Consoles.

> **Inside the press tools can be positioned using either Spring Loaded or Hydraulically operated Roller or Ball Bars which allow the movement of tools into the press bed.**

For the clamping of the Tools there are several parameters that need to be determined prior to the selection of the preferred Hydraulic Clamping element.



- **Stripping Force on the Slide**
- **Ejection Force**
- **Acceleration Force**
- **Die Weight**

The press capacity is a key element along with the press operation e.g. stamping, deep drawing, high speed etc. are there any ejectors & what are their forces, stripping forces & acceleration forces for heavy tools or high speed presses.

With this information the total clamping force for the hydraulic elements can be determined. A general rule is to provide between 10%-20% of the total Press Tonnage as the clamping force on each bolster with obvious consideration for the forces mentioned previously.

Once these forces are known the selection of the Hydraulic Clamping element can be advised to suit the required tonnage, fixing (T-slot or Tapped Hole) & permanently fixed to the bed or removable clamps to parking stations during the tool change process.

The last component for a SMED system is the hydraulic power unit. The system should be supplied with Machine Interlock which monitors the clamping pressure during the machine operation & should hydraulic pressure fall lower than 80% system pressure the press is brought to a controlled stop.

> **Control of the clamps can be via manual pendant control or via a separate control cabinet.**

Safety circuits are built into the hydraulic system which in the event of hose or pipe break on either the top or bottom tools only 50% of clamps either top or bottom are effected. This allows for the press to stop but also maintain the position of the tools in both top & bottom slides.

CBM Health & Safety Meeting

The meeting featured a presentation by Essel acoustics on Noise and Hand Arm Vibration (HAV).

The main points on Noise were: -

1. Operate a "Buy Quiet" policy for new equipment.
2. Make sure personal protection is appropriate and effective.
3. Beware of the danger of Over Protection. The example given was the recent tragic case of railway workers killed when they didn't hear a train coming.
4. A growing awareness of the dangers of Ototoxicity where certain chemicals absorbed through the skin can affect hearing.

The main part of the presentation discussed HAV. Over 47% of RIDDOR ill health reports from 2014-2018 involved HAV.

Fines for HAV infringements were increased in 2016 sentencing guide lines to £500k+. They take into account not just harm but also risk of harm. The level of fines reflects the turnover of the business.

Companies that have not yet got a HAV policy in place should start with health surveillance first with a risk assessment to focus on where the main risks lie.

Risk assessments must be performed by a competent person. Risk should be assessed using the "The Control of Vibration at Work Regulations 2005." Exposure depends of level of vibration and time exposed.

Manufacturers of hand tools must supply acceleration data for their equipment and values are also published on the HSE web site.

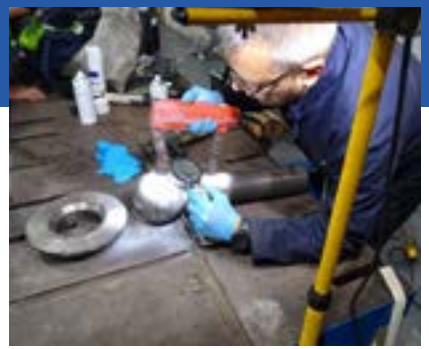
When taking vibration measurements, they should be taken on the tool, not the glove or the wrist.

When considering remedial action, it is more important to reduce the vibration rather than the exposure time. There is no effective PPE for HAV.

Alternative tools should be considered such as high frequency torque wrenches replacing impact wrenches.

Baseline examination of incoming employees hearing should be performed.

Meeting to Discuss HSG236 Power Presses: Maintenance and thorough examination. January 2020.



Last year the HSE asked for comments on HSG236 as it was due for review. A meeting held at the CBM in September 2019 attended by representatives from SAFED, MMMA, ISME and the CBM reviewed the document in depth and submitted an agreed set of comments to the HSE.

> **The HSE was represented by Fiona McGarry H M Inspector of Health and Safety, Metals Sector Lead and Paul Grady HSE Mechanical Specialist Inspector. Representatives of the CBM, SAFED, MMMA and ISME were present.**

The purpose of the January meeting was for the HSE to respond to the comments and hopefully get agreement on any updates.

The HSE was represented by Fiona McGarry H M Inspector of Health and Safety, Metals Sector Lead and Paul Grady HSE Mechanical Specialist Inspector. Representatives of the CBM, SAFED, MMMA and ISME were present.

There were two major points of discussion. The September meeting had recommended changing the title of the guidance note from Power Presses to Presses and expanding the scope from sheet metal to all materials. This would remove anomalies such as two identical machines working side by side with one punching metal and the other punching paper being subject to different regulations although the risks were similar.

Fiona McGarry said that it was not possible to change either of these definitions as they came from the overarching PUWER Regulations which would require an Act of Parliament to change. The audience expressed their strong disappointment at this response and eventually Fiona agreed to investigate what would need to be done to change the definitions but warned it could take years.

Most of the other recommendations from the working group were accepted. The HSE inspectors said that they would update the document and circulate a final draft for comment but this would take some months.

Two other areas of lengthy discussion in the meeting were the provision of training for press shop personnel and the qualifications required for NDT. These were not matters for the HSE but for the Industry to set its own standards.

Bruderer UK's order book boosted by end of political uncertainty

Adrian Haller, Managing Director of Bruderer UK

Investment in manufacturing is on the rise following the General Election according to one of the UK's leading suppliers of precision high-quality stamping and forming technology.

Bosses at Bruderer UK are predicting a buoyant 2020 after it revealed a £3million pipeline of projects that include the installation of the latest precision high-speed stamping presses and one high tonnage Zani machine for clients involved in the aerospace, automotive, construction and renewables sectors.

Adrian Haller, Managing Director, believes a majority Government has helped to remove some of the uncertainty shrouding industry and his firm are looking to take advantage of new opportunities, creating up to five new jobs across its engineering and administrative departments in the process.

This will include significant investment in developing a number of apprentices, ensuring the young staff absorb the company culture and soak up the experience and knowledge of experienced engineers that collectively have hundreds of years' experience in presses, servicing and maintenance.

"We move into 2020 with a very healthy order book, which reflects the positive attitude of our customers following the Election results in December," explained Adrian Haller.

"The high-speed stamping technology we have provided in the UK for over 50 years is perfectly suited to where many growth sectors are moving, meeting the client's demand for greater production control, more versatility, repeatable quality and, importantly, speed and precision". >

He went on to add: "Electrification is a market that is due to take off after a number of stalled starts and we are currently in the process of tooling up suites of tools for major automotive suppliers in preparation for EV product launches. 2020 could well be the breakthrough year."

Bruderer UK, which employs 14 people at its headquarters in Luton and at a satellite facility in the Black Country, enjoyed a robust 2019, shaking off economic volatility thanks to a surge in major rebuilds on existing presses.

Due to the durability of the firm's machines, a lot of customers took softening in some markets as an opportunity to bring their reliable presses back to 'as new' in the form of in-depth refurbishments, so they could optimise performance in time for the upturn.

"I think 2020 will be very different, with a lot of investments coming to fruition after being stalled for months. There will be significant interest in the latest updates in technology, including Single Minute Exchange of Dies (SMED) and state-of-the-art controls that mean up to 1000 tool store operations can be accessed and applied via a single touch," continued Adrian.

"Industry 4.0, which has been integrated into our machines for over a decade, will also be in big demand as the clamour for real-time information and customer transparency across the entire production process grows."

He continued: "Finally, we are investing in die laser welding, vision system technology and, along with our portfolio partners, enhancements to servo roll feeders, decoiling systems and tool components for plastic and metal tools.

"Our role is to make sure we give UK manufacturing the best possible support in technology and innovation to make 2020 a great year."

Bruderer UK, which enjoyed an extremely successful Autosport International exhibition, is setting its sights on its biggest MACH show yet (April 20th-24th), where it will be showcasing its full portfolio, together with a precision high-speed stamping line, to thousands of delegates.

For further information, please visit www.bruderer.co.uk or follow @brudereruk on twitter.

> The high-speed stamping technology we have provided in the UK for over 50 years is perfectly suited to where many growth sectors are moving

AGM UPDATE

Notice is Given of the 75th Annual General Meeting of the Institute of Sheet Metal Engineering

To be held on Tuesday 8th September 2020.
At 12.00 Noon prompt. At the offices of:
Midland Power Press Services Ltd
Unit 34, High Street, Princes End, Tipton DY4 9HA

MACH 2020 POSTPONED UNTIL JANUARY 25TH TO 28TH 2021

The Manufacturing Technologies Association (MTA), which owns and runs the MACH exhibition on behalf of the industry, has taken the decision to reschedule MACH from April 2020 to January 2021.

Given the spread of the Coronavirus, the MTA has decided that, in order to minimise the risks to visitors and exhibitors and to provide the best possible platform for both exhibitors and visitors, the event will now take place 25-28th January 2021. The event will still be held, in the same Halls, at the NEC.

James Selka, MTA CEO, said: "We believe that this decision, which has not been taken lightly, is in the best interests of the industry and those who work in it. Our first priority is, of course, the health and safety of the 30,000+ people who will visit and work at MACH. In addition, we believe that by moving MACH to January 2021 we are going to be able to offer a better experience for our visitors, and better value for our exhibitors, than by holding it in April under the conditions likely to be in place at that time."

"We are grateful to the NEC for working with us to identify an option which we believe will work for the vast majority of our exhibitors and will give our visitors a great chance to see the best of advanced manufacturing technology under one roof."

All exhibitors that had booked for MACH in April will be offered the same stand space at the event held on the new dates. The MTA team is contacting all 550 exhibitors directly to discuss their participation.

This issue our spotlight turns to Decade Monitoring Solutions, a UK owned and based company providing products and services to the manufacturing industry, offering off-the-shelf products and development of bespoke systems.

We sat down with Paul Tandy, Operations Director, to find out more:

Can you tell us about the history of Decade Monitoring Solutions?

Decade has been going for about 35 years now! It all began with John Davis, who started producing the first analogue load monitoring systems and ran the company for around 25 years. John then passed ownership to the Sales Director and since then it's changed hands a few times. I started working at Decade as an Engineer around 11 years ago, however I came back 5 years ago to restart the company. Myself and my fellow directors completed a management buyout last year.

How have the last 12 months been for Decade Monitoring Solutions?

The last 12 months have been fantastic, our best year so far! We've had increased sales of 72%, so it couldn't have gone much better.

What are the main services that Decade Monitoring Solutions provides?

Our main services are press load monitoring and production recording for factories. Historically, it's just been press load monitoring, but production recording has been growing. It's becoming our biggest selling product!

What would you say is Decade Monitoring Solutions USP?

We design and build everything in-house at Decade, so we can make it bespoke to our customers requirements. Sometimes, clients will say 'we like this, but can it do XYZ' and we have the capabilites to deliver exactly what they want.

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Where do you see Decade Monitoring Solutions in the next 5/10 years?

We will continue to focus on the growth of production recording and spread out of just working in press shops, with the aim to work in all production environments.

What made Decade Monitoring Solutions become a member of the MMMA?

The MMMA has a fantastic range of members, many of which are press companies. This meant it was the perfect networking hub for Decade and an overall excellent organisation to be part of!

What can we expect to see from Decade Monitoring Solutions at MACH 2020?

We're set to show exciting new products and software, updated monitoring and improved production recording services. We'll be there for the whole duration – Make sure to stop by!

Efficient Production of Sheet Metalworking Tools

German press brake tooling and guillotine shear blade manufacturer, UKB Uwe Krumm GmbH, Burbach, whose products range from 60 mm to 6,000 mm in length and weigh from a few hundred grams to several tonnes, has 14 machining centres on its shop floor. Across all of the equipment, which is also employed for general subcontract machining, only two types of vice are used regardless of the size and geometry of the component and the material being processed.

The workholding devices are supplied exclusively by the Hilma division of the Roemheld group, whose factory is in nearby Hilchenbach. There are around 90 vices in use from the firm's NC160 and VL160 series. Supply of these products in the UK and Ireland is through subsidiary company Roemheld UK, Hitchin.

Standard base length of the vices is 750 mm, providing a clamping range of 508 mm, sufficient for most of UKB's workpieces, while various top jaws enlarge the range to a maximum of 772 mm. Configurations vary from five vices on the smaller milling machines in Burbach up to 14 vices on a DMG Mori DMF 600 linear 5-axis model with a six-metre X-axis.

UKB's head of production Peter Diehl said, "We use the vices for everything from simple 3-axis operations to complex, 5-axis machining applications requiring multiple set-ups. They are highly precise, always dependable and easy to use."

In view of the requirement for high precision machining, typically to within ± 0.01 mm, Mr Diehl attaches special importance to process reliability

He added, "Clamping components with minimum deformation is of major importance to us. With Hilma machine vices, we can hold the workpiece at maximum pressure for roughing – say to reduce a tough Hardox steel blank for a 5-metre tool weighing six tonnes to just 1.5 tonnes – then lower the clamping force for finish machining."

Automated pressing of boiler chassis doubles rate of production

Ideal Boilers in Hull, UK started manufacturing boilers back in 1906. Since autumn 2018, the boiler chassis for the domestic range of boilers have been manufactured in a fully automated and highly efficient process designed by AP&T.

Over 400,000 boilers leave the factory in Hull every year for households and commercial properties all over the UK. In order to meet the growing demand for the company's products, Ideal Boilers decided in 2016 to investigate the possibilities for increased automation and streamlined production. The company wanted to find a partner which could take on full responsibility and supply a turnkey solution for fully automated manufacturing of boiler enclosure parts — which are the parts that surround the boiler itself. After a careful selection process, Ideal Boilers chose AP&T to be its partner in spring 2017.

Doubled rate of production

"With the customer's two new link-motion mechanical presses as the starting point, we designed a fully automated tandem line with short set-up times and the possibility for fast tool changes. The rate of production has at least doubled compared to previously when the parts were handled manually. Since it needs to be possible for up to ten different products to be manufactured in the line during the course of a work day — some formed in both presses, others only in one — achieving an optimized and flexible process was challenging," says AP&T Account Manager Christian Wright.

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