

NETSHAPE

Hatebur magazine for horizontal cold and hot forming – 1/2010



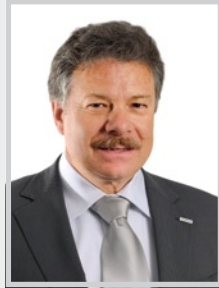
DURA: complex part geometries with the Coldmatic AKP 4-5

CEO'S VOICE

2009 WAS PARTICULARLY...

...DIFFICULT

Because the slump in new machine orders at the end of 2008 hit suddenly and with unexpected force. We all know the reasons for it. After the crisis in the financial world, the automotive industry was the hardest hit. The record turnover for 2009, predicted in September 2008, could no longer be achieved because of the rather meager number of orders coming in. Ongoing machine projects at that time, with some respectable order volumes, had to be postponed or put on ice. This was mainly because some customers got into financial difficulties. From an organizational and cash-flow point of view, this has been an extreme challenge for us all.



In spite of this situation, Hatebur was able to produce satisfactory figures for the 2009 business year, thanks to the above-average orders in hand from 2008. The outlook for 2010 is no longer so rosy because of the modest number of orders received.

The Asian markets however are the silver lining to the cloud. That is where economic activity, particularly in the automotive industry, seems to be recovering significantly more quickly, which has a positive effect on sales of new machines and the demand for Aftersales services. In Europe too, some movement is returning to project activity.

...IMPORTANT

Because Claudine Hatebur de Calderón is leading the company Hatebur Umformmaschinen AG into its third generation. The daughter of Paul Hatebur is taking over all her father's shares, which will secure the future and independence of the company.

...EXCITING

Because the successful Hotmatic HM 35 will soon have a big sister in the HM 45! A new star on the horizon of modern hotformers.

I hope you enjoy reading NETSHAPE.

Yours, Urs Tschudin

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Cover picture:
Valve spring retainer
manufactured by
DURA.

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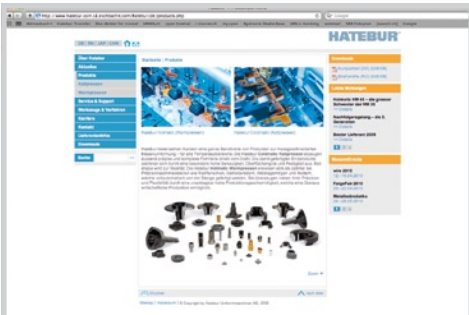
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WWW.HATEBUR.COM NEW APPEARANCE

The Internet presence of Hatebur has been thoroughly revised in the past few months, with the focus firmly on improving navigation through the website. Downloading information has also become more attractive. All issues of NETSHAPE are now available in PDF format, for example. The initial step is to present the website in German and English, followed soon by Chinese and Japanese.



ARCADE ENGINEERING AG BEST SUPPLIER 2009

In 2008, it had to admit defeat, but only just. Last year, however, Arcade Engineering AG was able to claim the title of "Best supplier". This led to much celebration at the official handover of the award in Reinach.

Having achieved 89 out of a possible 100 points, Arcade Engineering AG, based in Allschwil, was named number 1 for the year 2009. This accolade now forms a firm basis for a co-operative relationship between Hatebur and its suppliers.

For many years now, Hatebur has enjoyed an extremely good business relationship with Arcade Engineering AG. Arcade is the specialist for drive and the main control systems, having made the apparently "impossible" possible many times before.

From left: S. Hoff (Head of Engineering Arcade CH), C. Müller (Deputy Manager at Arcade Industries SAS), F. Ehret (Manager at Arcade), U. Tschudin (CEO at Hatebur).



ACHIM PRACEJUS STRENGTHENS SALES IN GERMANY

After an intensive familiarization phase in Switzerland, Achim Pracejus is already strengthening the sales activities of Hatebur GmbH in Germany. His sales office is located in Wiehl, between Cologne and Gummersbach.

HOTMATIC HM 45 – THE BIG SISTER OF THE HM 35

📄 + 📷 Stephan Dürer

Not that long ago, the Hotmatic HM 35 was presented by Hatebur as an ingenious, new-generation hotformer. The properties of this machine were so convincing, that seven of them have already been sold. In early 2012, the HM 45, the big sister of the HM 35, will have its market launch. Same technology, just somewhat larger.

When the Hotmatic HM 35 first appeared almost four years ago, word spread around the industry like wildfire. This machine has what it takes to become a real “racer” in the truest sense of the word. With a maximum stroke rate of up to 180 strokes/minute, Hatebur forged ahead into manufacturing speeds that had never been reached before in this class of horizontal hotformer. Seven machines were sold within a short space of time.

TRIED AND TRUSTED MECHANICAL ENGINEERING

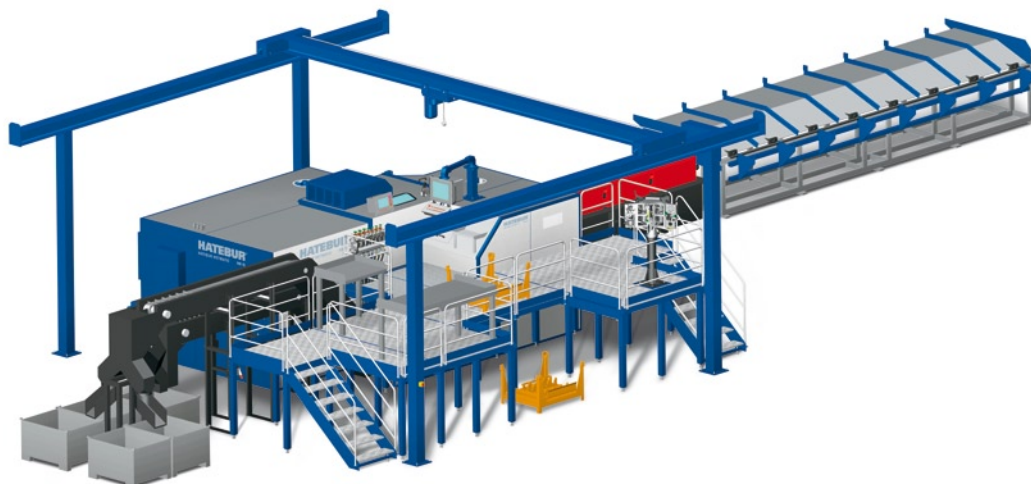
In addition to the well-known benefits of a Hatebur former, e.g. precision and long life, the HM 35 was able to show its worth with new highlights. More precisely, we could mention here the reliable and efficient trans-

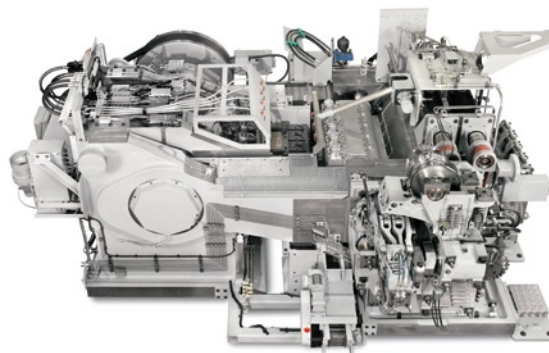
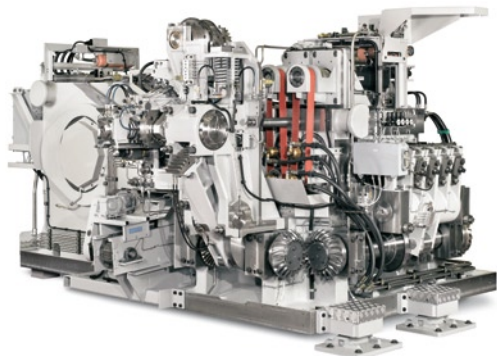
fer system with monitoring functions of the individual grippers, and the particularly low-impact lateral discharge system and increased operating comfort with shorter set-up times.

ALWAYS ONE STEP AHEAD

“Always one step ahead”... this has been the motto for the development of the Hotmatic HM 45. And now it is definite: the HM 45 is on its way. Spring 2010 sees the start of a Hatebur roadshow. From 2011, the first machine will be set up in the assembly plant, and will be officially launched onto the forming market in early 2012.

We are looking forward to the newest offspring from the house of Hatebur.





Indistinguishable to the naked eye: the HM 35 and HM 45 look almost like identical twins. The Hotmatic HM 45 is simply a little larger (Pictures show HM 35).



Hotmatic HM 45 technical data

Forming stations	4
Total press capacity	4700 kN
Max. outer diameter*	82 mm
Max. outer diameter for combination blanks*	74 mm
Bar diameter	20–50 mm
Initial weight	0.07–1.2 kg
Stroke rate (infinitely variable)	90–150 rpm

* For round steel parts, depending on the filling degree, sequence of operations, material and temperature.

DURA AUTOMOTIVE SYSTEMS GMBH – COMPLEX PART GEOMETRIES WITH THE COLDMATIC AKP 4-5

 +  Stephan Dürer

DURA Automotive Systems GmbH, a subsidiary of DURA Automotive Systems Inc., Rochester Hills, Michigan (USA), commissioned a new Hatebur coldformer only very recently. Having purchased a horizontal Coldmatic AKP 4-5 five-station former, the management of this North German-based company have put their trust in this machine. The aim of modernization in the field of cold forming is quite clear: Tightening the previous production processes while at the same time maintaining the same product quality, known as “lean production” in management speak.

An icy wind blows across the land, with Northern Germany firmly in the grip of winter. Warm clothes go without saying. It's 8.30 am in Rotenburg, and an interview is scheduled to take place with representatives from DURA Automotive Systems. Mr. Heuven (Plant Manager in Rotenburg), Mr. Behnken (Head of Production) and Mr. Riebesell (Head of Maintenance) are meeting to discuss DURA and the new AKP 4-5. It's nice and warm in the meeting room, with the subtle smell of coffee wafting through the air. After a brief exchange of greetings, the factory tour

begins, with very detailed information provided.

WARM CLOTHES – COLD FORMING

From the cold outside into the warm factory. Only a few minutes into the meeting, it becomes clear: Dressing warmly applies not just to this cold season, but also to the type of business in which DURA Automotive Systems are active. For many years now, the Rotenburg plant has been manufacturing high-precision parts for the automotive industry, using the cold forming method. And this is where Hatebur comes

dia. = 36.15 mm | 37.6 g



13.45 mm | 31.2 g





In the coldforming limelight at DURA: the new Hatebur Coldmatic AKP 4-5.

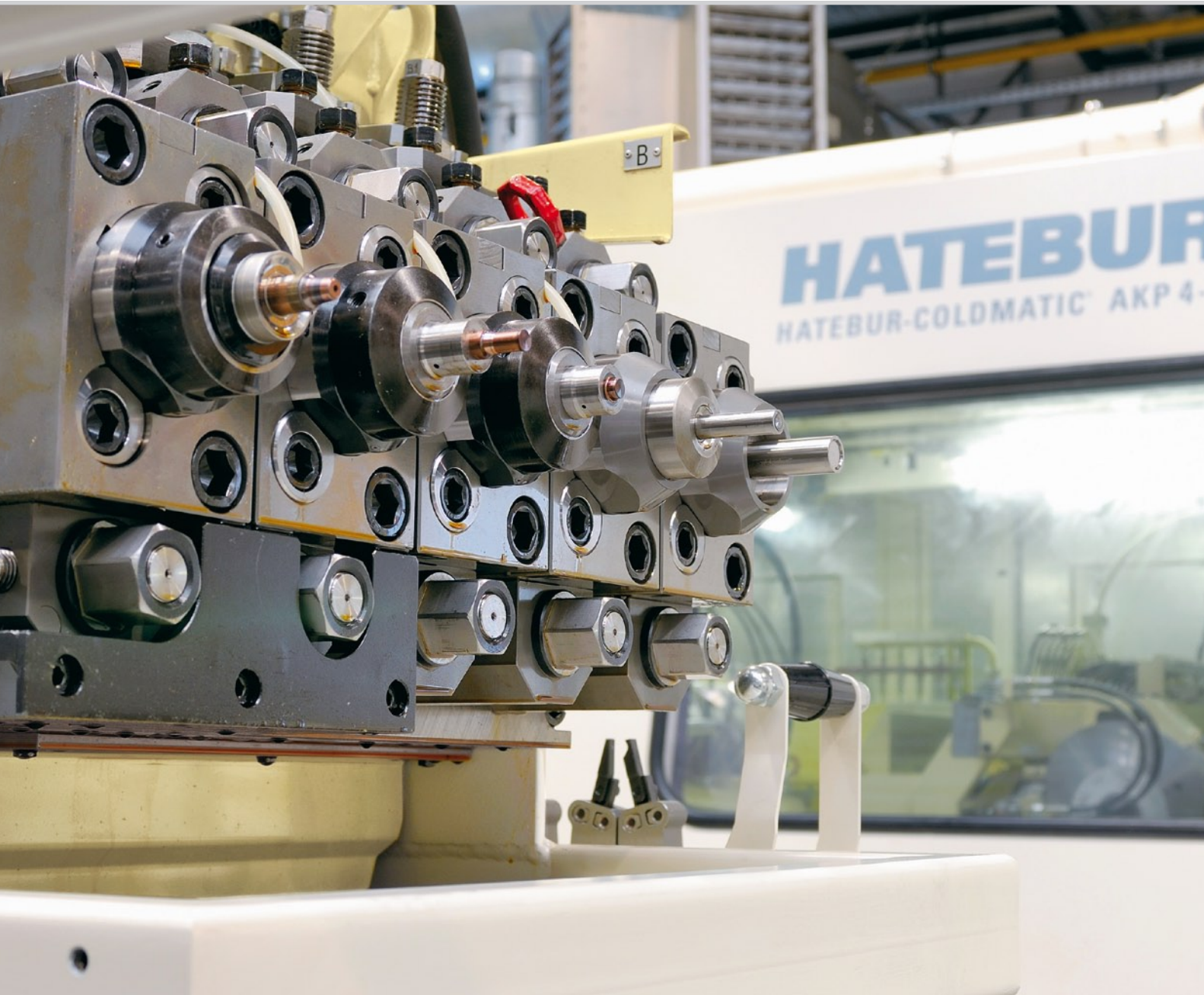
in. The raw material output of the plant is around 40 tons of wire of the most varied quality each week. From the C15 to the highly-tempered steel 42CrMoS4, from 9 to 22 millimeters in diameter. These figures are all the more impressive if you compare the products and their dimensions and weights.

THE VALVE SPRING RETAINER

Wherever you look, in virtually every production hall, you will find them: valve spring retainers, in every shape and size. The heavyweight in DURA Automotive Systems' product portfolio. Millions of such parts are formed every year for big names in the automotive manufacturer sector and

dia. = 19.85 mm | 6.7 g

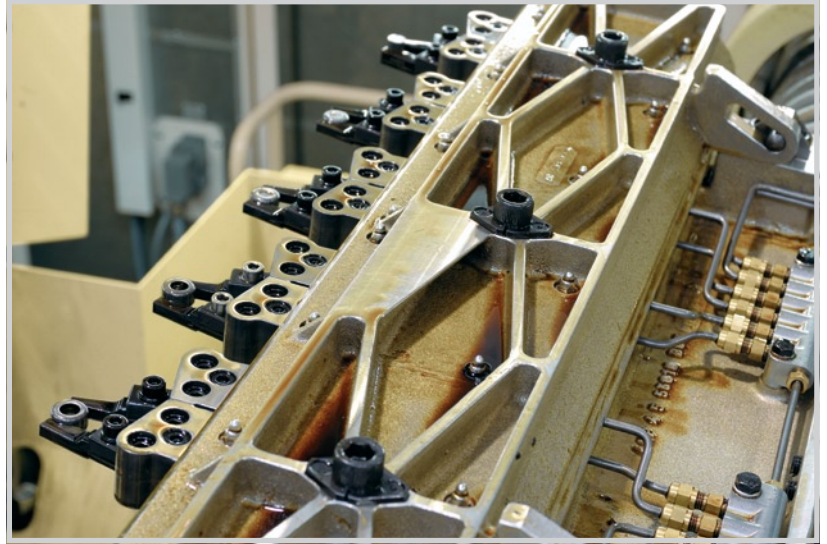
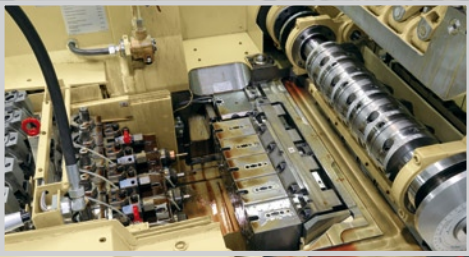
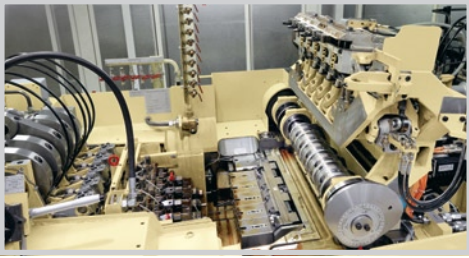




Coldmatic AKP 4-5 technical data

Forming stations	5
Total press capacity	1700 kN
Max. outer diameter*	approx. 30 mm
Max. length of the part	125 mm
Max. wire diameter (600 N/mm ²)	20 mm
Stroke rate (infinitely variable)	110–160 rpm

* For round steel parts, depending on the filling degree, sequence of operations, material and temperature.



Image, page 8: prepared and ready to go Variblock modul. Images, above: view inside the tool area of the AKP 4-5.

then finished in the hardening shop. These DURA parts are used not just in passenger cars, but also in utility vehicles and marine diesel engines.

In addition to these cold-formed valve spring retainers, DURA has another mainstay in Rotenburg. Using the precision blanking method, high-precision parts for gear components and gearshift systems are manufactured.

THE AKP 4-5 IN FOCUS

Towards the end of our tour around the factory buildings, we arrive at the Coldmatic AKP 4-5, with the typical, rhythmic forming sound of the coldformer immediately greeting our ears. At 150 cycles/minute, the production of a small valve spring retainer purrs away.

You can immediately sense Mr. Behnken's excitement at having made the right decision in buying this machine. "If there were no service strokes, the AKP 4-5 would run for 24 hours without a single fault. I've never seen anything like it before", he comments spontaneously.

Surrounded by some other coldformers (vertical), the AKP 4-5 takes center stage, not just from a physical, but also a production strategy point of view, as the gentle-

men from DURA assure us. With this investment, further slimming down should be possible as part of the "lean production" process in the cold forming sector, so that DURA remains a strong market player in the future.

"If there were no service strokes, the AKP 4-5 would run for 24 hours without a single error. I've never seen a system like it before."

Sven Behnken, Head of Production

COMPLEX GEOMETRIES

Shortly after commissioning, the new Hatebur coldformer was put through its paces. Valve spring retainers with complex geometries were on the program. In future, all valve spring retainers for Porsche engines, for example, will be manufactured in small numbers and to extremely high specifications on the AKP.

To provide support during the first production runs, an experienced member of the Hatebur team of instructors was standing by during the start-up phase. Despite the practically new technology at DURA, the machine operators are already entering the plant quietly and calmly, as if they had already had the Coldmatic in their production lines for years. “Not just the precision of the AKP, but the simple, well-thought-out user-friendliness of the machine were crucial factors in the decision to buy this Hatebur coldformer”, said Henry Riebesell, Head of Maintenance at DURA. Mr. Heuvers, Head of the Rotenburg plant, added: “We replace tools very frequently, and Hatebur is just the machine for this purpose. This brings us strategic advantages as well, of course. It is therefore possible for us to produce small batches thanks to quick tool change times, which helps minimize storage costs.”

“The expectations were very high because we have finally managed to buy the ‘Mercedes’ of cold-formers.”

Bernd Heuvers, Plant Manager

In front of the annealing oven, the finished valve spring caps are waiting to be finished.



In the many annealing ovens at DURA, the formed parts are finally finished or undergo intermediate annealing.



HATEBUR HAVE BEEN THERE FOR SOME TIME ALREADY

On our way back to the meeting room, Mr. Behnken does not miss the opportunity of introducing four Hatebur PKE 16 “cold forming dinosaurs”, still fully functional. “As you can see, we have remained faithful to Hatebur, even after many years.” And in fact, the oldest of these formers was built in 1958. Almost unbelievable, but true: Some of these single-station coldformers are still fully in use, but will now gradually be taken out of use. Currently, blanks are produced, washed, intermediate annealed, pickled, bonderized, soaped and final formed.

SKEPTICISM HAS DISAPPEARED

As for the actual acquisition of the AKP 4-5, the initial skepticism of the employees disappeared after just a few weeks. All the initial praise heaped upon the new Hatebur former is fully justified, as is the machine’s ability to form parts that pass through the in-house quality control without problem. And this quality check is extremely demanding. With an output of up to 300 parts per minute, this system scans all the parameters that are important for producing perfect parts. This is particularly impressive because a camera photographs all parts as they pass through, and if even the smallest of imperfections occur, the imperfect part is isolated and ejected.

A considerable stock of raw materials with various wire thicknesses and steel grades.





An imposing assembly of machinery with diverse coldformers. Middle right: the Hatebur Coldmatic AKP 4-5.

“The expectations were high because we have finally managed to buy the ‘Mercedes’ of coldformers, and our expectations have been completely fulfilled so far”, beams Bernd Heuvers, Plant Manager in Rotenburg.



*Looking into the future through the wire coil.
Left to right: Timo Guroll, Sven Behnken,
Joachim Mazur and Andreas Storch.*

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ESA – RELIABILITY WITH BAR ENDS

 +  Stephan Dürer

Hatebur horizontal hotformers normally process bar material. To prevent two bar end pieces becoming fused into one part, Hatebur developed a sophisticated monitoring system: the ESA system, an automatic system for increased reliability when separating bar ends.



*"Mr. ESA",
Guy Pfendler.*

Section by section, the Hatebur Hotmatic horizontal multistage headers forge the metallic raw material. Since the bars can only very rarely be divided by the length of each forge cut-out, oddments (or so-called 'bar ends') occur. This is where the automatic ESA comes into action. It detects the ends, follows them and separates them after the shearing station.

ESA PROTOTYPE FROM 1961

Even around 50 years ago, Hatebur engineers turned their attention to rejecting bar ends. Such a system first saw the light of day in the world of horizontal forging with the ESA 1 in 1961. With continuous improvements and refinements, the number of users grew constantly.

The system was first based on thermionic valve technology, but later on transistor technology, and in the ESA 5 using a micro-processor controller. Now almost impossible to imagine in the present computerized age, but it was absolutely at the forefront of modern technology in its day, and even then it provided a great deal of assistance to the hotformers.

THE ESA 600 MILESTONE

With the launch of the ESA 600 systems for all larger series and of the ESA 60 systems, the version for the AMP 20 S, the smallest of hotformers, Hatebur succeeded in making reliability system history. Reliable separation of bar ends was improved significantly yet again, so that today, Hatebur Hotmatics are no longer commissioned without an ESA.

Highly sensitive laser light barriers detect the bar ends and a mechanical measuring wheel (not on the ESA 60) measures every movement of the bars from the magazine to the shearing station. The electronics, into which the machine's parameters are programmed, work with the light barriers and measuring wheel to determine the exact position of the bar ends, and send the machine the signal to separate these end pieces. That is reliability for demanding forging.

LINUX AS OPERATING SYSTEM

Today's modern version of ESA is based on the Linux computer operating system, currently in its fifth software generation. Version 6 is already on its way.

What does the latest version offer? Above all, the integration of Asian and Cyrillic characters will reverberate positively in emerging markets. The new version will be available soon.

RETROFIT POSSIBLE ON ALL MACHINES

Those who still do not have an ESA 60/600 on their Hotmatic or who are still operating an old system would be advised to contact Hatebur's Aftersales service. ESA 60/600 can be installed subsequently on any Hatebur hotformer.



*A look back at the
ESA 4 electronics
of 1970.*



The well-cooled measuring wheel, the mechanical monitor between the feed rolls and shearing station.



ESA 600 operating panel: from May 2010, versions with Asian and Cyrillic characters will be available.

ESA 600 HIGHLIGHTS

- On average, bar ends with fewer than two cut-offs are separated.
- Overheated bar ends can be followed and separated.
- The material flow process from the bar rack to the last forming station is presented in a diagram.
- In combination with the servo infeed, the position of the transition of bars is optimized in order to prevent the shortest of oddments, also called "shards".

PREVENTIVE MAINTENANCE – FOR A LONG MACHINE LIFE

 +  Stephan Dürer

In their everyday use, forming machines are subject to normal wear and tear. To minimize the number of unforeseen downtimes, it is advisable to inspect the particularly sensitive points in the machine on a yearly basis and, where necessary, rework the affected parts. The Hatebur service team can provide professional support here.

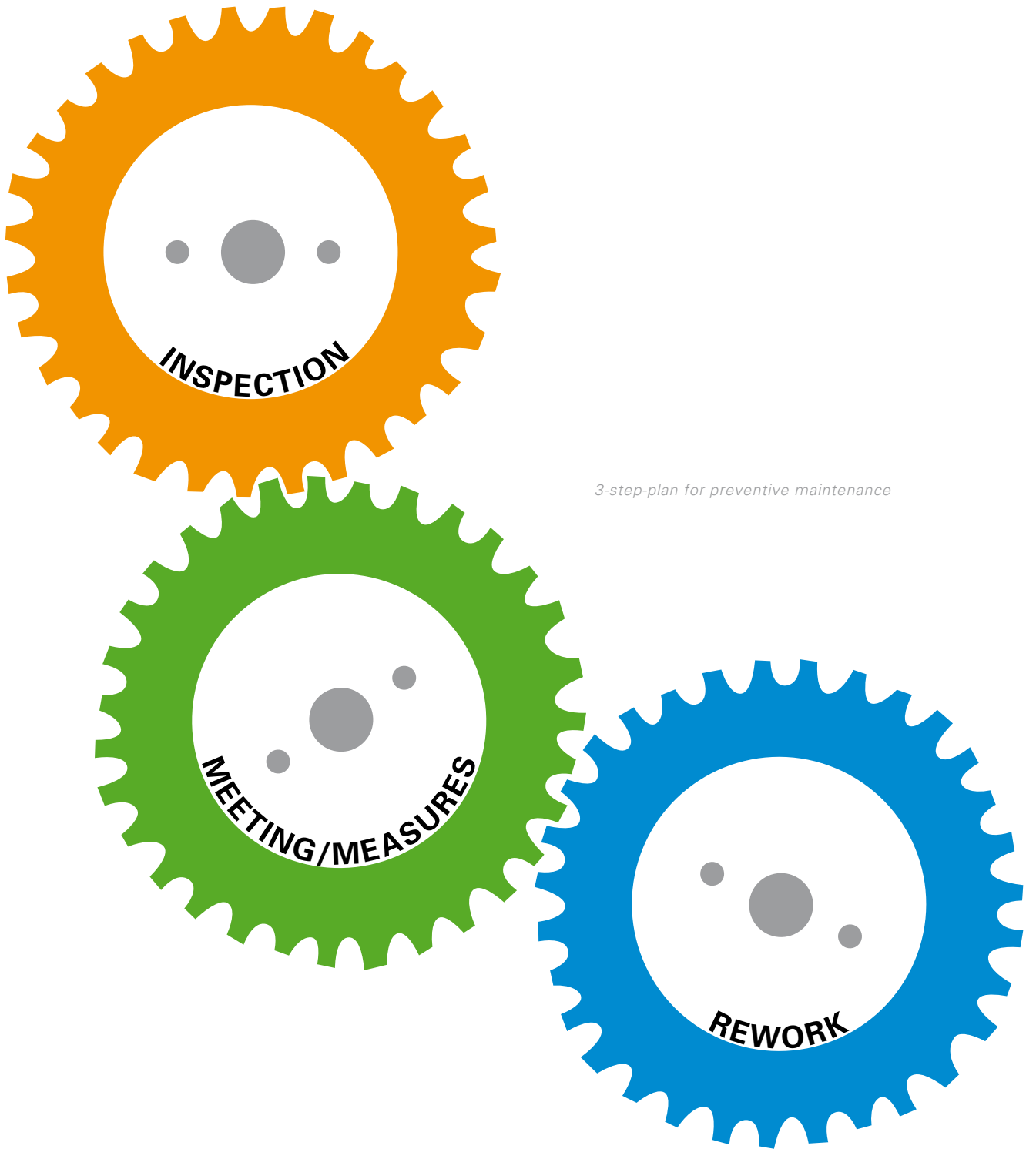
In production plants, an unforeseen downtime always comes at the worst time, but it doesn't have to be that way!

One thing you can do is carry out the maintenance work on Hatebur machines as recommended in the machine manual, and checking for wear and performing subsequent rework is another. Rework can

be scheduled in advance, and it increases the availability of a forming machine in the mid to long term. For this very purpose, service specialists from Hatebur have worked out a 3-step plan, which is presented in detail here in NETSHAPE.

THE BENEFITS

- The period for preventive maintenance can be scheduled in advance. The Sales, Purchasing, Production, HR, Tool Design departments, etc. can plan around it.
- You can easily schedule into this period any work that needs to be done on the machine's peripherals or on the infrastructure, e.g. small foundation work.
- Unpleasant surprises caused by sudden severe damage, resulting in long downtimes, are reduced to a residual risk.
- Maintenance costs can be calculated fairly precisely, and are economical. Across a wide range of customers, it has become evident that the proportion of servicing and maintenance per part produced can be reduced to well below 5%.
- The number of spare parts, and the resulting storage costs can, for most customers, be sharply reduced. To minimize the spare parts costs, Hatebur provides special services.



3-step-plan for preventive maintenance

INSPECTION

Inspecting a machine once a year forms the basis for a successful maintenance strategy.



It helps you to record the wear on parts and assemblies, and observe them over a certain period of time. There is enough time to order spare parts early enough and assure that the spare parts are available.

During the inspection, which lasts two to five days (depending on the machine), the experienced Hatebur service engineer tests the entire machine thoroughly. He works according to a strictly defined procedure, takes measurements of all relevant worn parts, records them and then evaluates them in a target/actual comparison.

At the same time, the engineer evaluates the parts visually, and records the results along with his recommendation in the inspection report.

The complete report, which describes the condition of the system, recommendations and results from the concluding discussion with the customer, is used by the Hatebur Aftersales team after the inspection as the basis for the technical preparation and for the formulation of the quotation.



Top: measuring and examining the wear.

Bottom: inspection report.

MEETING/MEASURES

After the inspection, the second step is to discuss the rework with the customer. The object of this meeting is to discuss the engineer's inspection report, the rework quotation and any recommendations regarding the necessary replacement parts.



The following issues are discussed with the customer:

- Which sections of the machine will be reworked, in order of priority if applicable?
- Which parts will be replaced and which can stay in service for a further period? What is the risk involved in leaving them in service?

- What other work, e.g. mobile mechanical rework or peripheral work, etc., could also be carried out at the same time?
- At what point should the rework be carried out, and how long will it take? How many people will be needed?

Once all these points are clarified, Hatebur Aftersales will revise the quotation accordingly, and a further meeting will take place if necessary. Once that is done, the way is clear for professional rework on the machine.

REWORK



The necessary servicing work has been defined. Now the organization begins, both at Hatebur's premises and around the machine itself on the customer's site. Hatebur acquires the replacement parts, and the service engineer gathers the necessary special tools, measuring instruments and drawings. Once all preliminary work has been completed at the customer's site, rework on the machine begins. The Hatebur service engineer carries full responsibility on site, and he also coordinates third party contractors where necessary. If those working on the machine find further, previously undiscovered wear points, the engineer immediately informs Hatebur Aftersales staff and the relevant customer contact. This will allow any additional work to be agreed between customer and Hatebur very quickly.



The Hatebur service engineer disassembles the machine before carrying out the rework. Here: removing the pressram from a Coldmatic AKP 4-5.



The customer and Hatebur Aftersales discuss the rework.

SUCCESSION PLAN – THE 3RD GENERATION

📄 + 📷 Stephan Dürer

Almost exactly 80 years since the company was founded by Fritz B. Hatebur, Claudine Hatebur de Calderón now follows in her grandfather's footsteps. She is taking over the company from her father, Paul Hatebur. After two years of intensive preparation for this (by no means easy) task, she is now fired with motivation and looking forward to the challenges that lie ahead.

Hatebur Umformmaschinen AG is staying in the family. How important was this for you, Mr. Hatebur?

Very! It gives me great relief to be able to present my daughter Claudine to you all today as my successor.

Thirteen years ago, I took over the company from my brother Hans Hatebur. Even back then, I was already hoping that my successor would also be a family member.

It wasn't easy, and I didn't make things easy for myself. As you probably know, I have six children, five boys and Claudine.

I quickly realized that a successor from outside the family, due to the sale of the company for example, would in all probability spell the end for Hatebur. As an entrepreneur, I also have a social responsibility towards the employees and their families.

I didn't want to disappoint them. I couldn't disappoint them.

After two years of difficult preparations, and many stumbling blocks in the way of the succession plan, we are all happy today.

What is your assessment of your customers' reaction, Mr. Hatebur?

Next to its employees, a company's customers are its engine. They invest in our machines and hope for a solid partner. We have been a solid partner for them, and will continue to be in future. As a family business, we take our responsibility very seriously.

Ms. Hatebur, does the spirit of previous generations live on in you?

I can absolutely identify with the "Hatebur spirit", after all, I grew up with it! Even as a youth, I worked here in Reinach to earn my first pay packet.

It was at the heart of what motivated me to enter the company there and then. To take upon myself that entrepreneurial responsibility that requires more of me than simply to find out how much I've earned at the end of the year. You can believe me when I say that I could have made things easier for myself.

A woman as the proprietor of a very technically based company. How do you see yourself in the middle of this "man's world"?

Well, basically I am well able to deal with it, because I have worked in several very technically based companies in the past, including the automotive industry. As a member of the board of directors, my work is limited to managerial decisions. As my knowledge of the market deepens, however, I will get to know every corner of the company and make it my business to be well-informed. This is the best way that I can play my role at the end of the day.

That said, I am fully aware that I will have to show from time to time that I'm "a man, not a mouse". But today I feel that even after such a short time, there are a lot of

Claudine and Paul Hatebur reading the latest edition of NETSHAPE.



positive attitudes among the staff, and that is a great motivator.

How do you see the company performing in the mid to long term, Ms. Hatebur?

I am looking beyond the coming five years. Let's look forward about 15 years, and we can see the question "what next for the automotive industry?" At present, we are very heavily focused on parts manufacture for the automotive sector. To secure our future and that of our customers, we will have to be able to offer other technologies and services. This is where I want to help.

This will surely be easier for me now, because as someone looking in from the outside, I can still bring a fresh perspective to such issues.

I am really looking forward to our shared future here at Hatebur!





TRADE FAIRS/EVENTS

Visit Hatebur at



METALLOBRABOTKA
in Moscow, Russia: 24.–28.05.2010



3RD ASIAFORGE MEETING
in Shanghai, China: 12.–16.09.2010



12TH BEARING 2010
in Shanghai, China: 21.–24.09.2010



14TH SENAFOR Forging Conference
in Porto Alegre, Brazil: 20.–22.10.2010