

POWER *Line*

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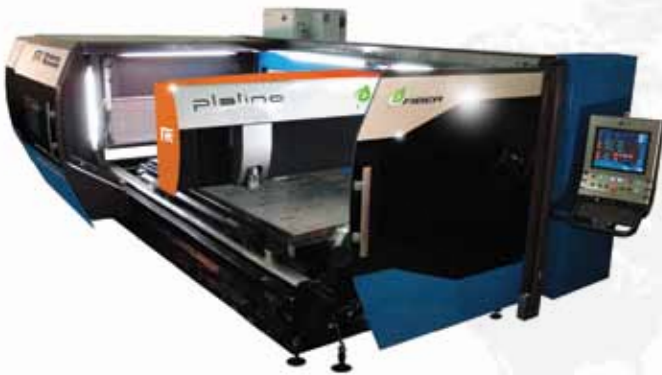


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CUSTOMER PROFILES • NEW TECHNOLOGY • PRODUCTIVITY • FLEXIBILITY

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3D Editor for Prima Power 3D Laser Machines: Simple, Fast, Low Cost

By Patricia Garetti, R&D - Software CNC



Increasingly, our customers use 3D laser machines 24/7 in an intensive production environment.

Within this environment, a “visual” approach for machine use and programming is essential.

Each operation must have the most intuitive interface possible. This is a key aspect for productivity gains in systems where the difference between a gain or loss are measured in percentage of uptime.

When you need to make minor changes to a part program, our new 3D Editor software can be extremely useful. The user interface has been developed to be entirely graphic, leaving the task of identifying the affected portion of the program and making the changes in G-code language to the software.

In practice, it is in some ways the same revolution that was experienced going from DOS to Windows. Today no one would have the patience to learn tedious sequences of commands in the language of the operating system. Similarly, programmers, who are accustomed to preparing the part program using a CAD / CAM, want a graphical approach even into the CNC, but at a much lower cost, especially for systems consisting of many machines side by side.

The 3D Editor for Prima Power 3D laser machines displays the working paths, starting from a G-code machine part program, allowing modifications and the simulation of the part program, and generates a new part program with the applied modifications.

This editor program runs on the machine console of the RAPIDO Evoluzione2 machine or on an external PC.

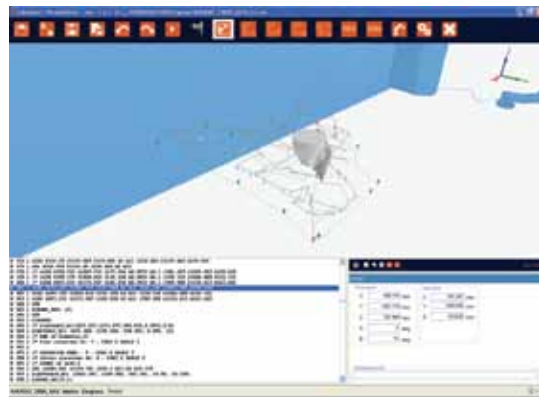
What can be displayed on the 3D Editor:

- the model of the head of the machine
- the working paths
- the allowed commands
- the program listing

Working Paths

The working paths are displayed starting from a part program written in G-code.

Each path is displayed with the color associated to the laser line. Vectors, starting on final points of each movement instruction, show the head positions along the path; the orientation is computed using the positions of A and B axes defined in the instructions.



Modification Commands of a Part Program

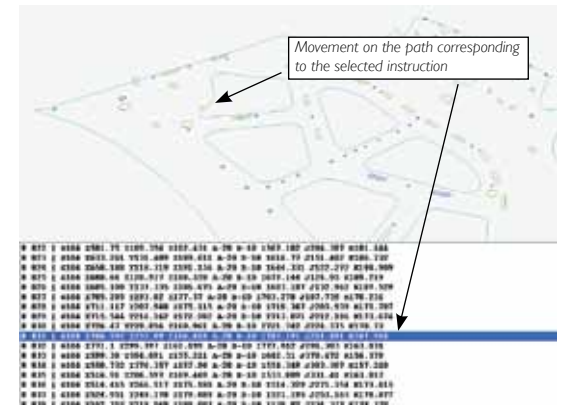
The allowed commands are always displayed on the screen. The screen is divided into 3 areas: one for the display of the program in

graphical format, one for the display of the listing of the part program, and one for the modifications.

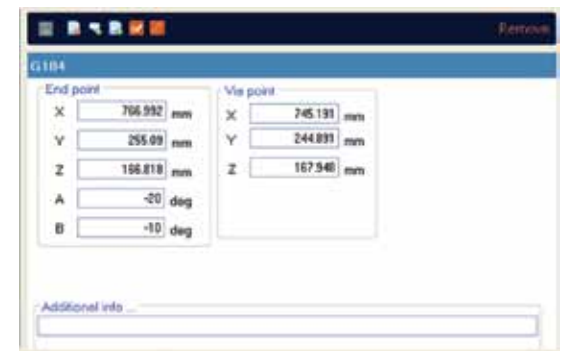
The changes are executed on the instruction selected by means of a specific panel showing the characteristic data of the instruction.

Visualization Example

Selected path with head movements and orientation (normal).



Panel associated to the selected instruction:



Editing of the Technology

The command allows for selection of a different set of parameters or another piercing type.

After the changes, the path is displayed with the color associated to the selected parameter set.

Continued on back cover



Cover photo: Spyridon Gianniotis, Greece's world champion of swimming, runs with the Olympic flame and an olive branch during the Olympic torch relay at the site of ancient Olympia in Greece May 10, 2012. Photo by John Kolesidis/Reuters.

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A New Organization to Better Serve a Global Market

By Ezio Basso, Prima Industrie Managing Director, Prima Power Division



In today's global market, companies can keep their competitiveness only if they offer innovative, high-performing products which can improve productivity, increase efficiency, and lower costs...and if they can satisfy the needs of their customers throughout the entire lifecycle of the product.

With this aim in mind, Prima Power has recently restructured its organization, mainly based on four Product Units and three Regions.

The four Product Units are focused on the development and manufacturing of their specific product lines and technologies, with product innovation and quality as core tasks:

Collegno (TO) Italy: 2D and 3D laser cutting and welding machines.



Kauhava (Finland): turret punch presses, combined punching/laser and punching/shearing machines, and Flexible Manufacturing Systems.



Cologna Veneta (VR), Italy: press brakes, panel benders and bending cells



Champlin (MN), US: laser drilling, welding, and cutting systems mainly dedicated to the aerospace, energy, and automotive industries.



The Sales & Service structure is now a regionally-oriented model and has combined its local business units into three regional organizations:

- Europe & South America
- North America
- Asia and RoW

Due to the many language and cultural differences of the international environment in which we operate, these Regions are focused on satisfying customer requirements on a local basis.

The regional organizations coordinate the Prima Power Sales and Service network, active in over 70 countries through subsidiaries, branch offices, and well-established partnerships with specialized distributors.

Recently, in order to increase our efficiency and to better serve our wide customer base in countries where we had no direct presence, we have opened four new subsidiaries:

Prima Power South America Ltda., opened in May 2011 in São Paulo for direct sales and service activities in Brazil and as support for our distributors in the other countries of this area.

Prima Machine Services India Pvt. Ltd., based in Pune, was officially inaugurated in February 2012, to support sales and service activities in this market along with our historical partner Electronica Hitech Engineering Pvt. Ltd.

Prima Power Makina Tikaret Ltd Sti., is located in Istanbul. Through this new subsidiary we can be closer to our customers and prospects in a country which is growing at a rapid and steady pace.

Prima Power Korea Oy, the most recent branch office established by Prima Power is based in Seoul. In this fast growing market, we work together with our local distributor, Jin-A Commerce & Co, to provide comprehensive sales and after-sales activities to our customers.

Sub-Zero Warms Up to Flexible Fabrication



John Dolinski, manufacturing engineering technician (right) and Howard Masters, supervisor, believe that the consistency and short setup times are the key features of the Prima Power EBe automated bender.

Since its founding in 1945, Sub-Zero, Inc. has pioneered quality products and has earned the reputation as the recognized leading manufacturer of premium built-in home refrigerators. In the mid-1950s, the company developed the built-in refrigerator – a unit that changed the future of kitchen design by fitting within surrounding counter and cabinet space. Over time, the company has refined its early concept and has brought to market a comprehensive line of built-in models. Indicative of the company's innovative engineering is its dual refrigeration system, which relies on two separate, self-contained cooling systems to keep fresh food fresher and preserve frozen food longer. For nearly 70 years, Sub-Zero has offered innovative, aesthetically appealing, and technologically advanced solutions to meet virtually any home refrigeration need. With Sub-Zero's acquisition of Wolf Appliance in March 2000, the company has expanded its product line to now include a full array of domestic cooking appliances from kitchen stoves, cooktops, wall ovens, warming drawers, and ventilation equipment.



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The company has three manufacturing facilities in North America – two in Fitchburg, WI, and one in Goodyear, AZ. The 480,000-square-foot Goodyear plant was opened in mid-2011 to accommodate the company's growing production demands. It currently has 300 employees working two shifts, five days/week. Its sheet metal fabrication equipment list includes stand-alone turret punch presses, lasers, a Shear Genius punch/shear combination, and an EBe servo-electric automated bender from Prima Power, formerly Finn-Power.

Shear Genius Flexibility

According to John Dolinski, manufacturing engineering technician, Sub-Zero purchased the Shear Genius in 2008. "We were having issues with the existing fabrication equipment and began searching for new technology," explains Dolinski. "The Wolf plant has a Finn-Power laser/punch that is highly regarded...so we looked closely at their equipment."

"The Shear Genius is much quicker and more accurate than what we were using before. Automation is what really takes it to a new level. It also processes longer parts much better than the old stand-alone turret punch presses."

With the Shear Genius integrated punch/right angle shear combination concept, the objective is to provide one machine capable of transforming a full-sized sheet into punched parts. These parts can be moved to secondary operations utilizing the sorting and stacking automation and on to bending operations without being touched by human hands. As loading, punching, and shearing of parts become automated, the result is finished parts with a dramatic reduction in scrap and manual labor while increasing profitability. The Shear Genius functions with simplicity, able to perform the most demanding jobs with minimal set-up times and "lights out" operation. The Shear Genius increases material productivity through efficient and versatile nesting programs. The level of automation can be customized through Prima Power's flexible modular solutions for raw

material storage, loading, unloading, sorting and stacking. These features can be added later as budgets allow and production demands increase.

“We try to run lights out on a daily basis. With the Shear Genius, we don’t have to shear blanks to size and we can now nest multiple parts on a sheet. We’ve also eliminated a great deal of material handling.”



With the Shear Genius integrated punch/right angle shear combination concept, the objective is to provide one machine capable of transforming a full-sized sheet into punched parts.

The Shear Genius eliminates wasteful skeletons and costly secondary operations such as deburring. Nibbled edges on the part exteriors are eliminated through the use of the integrated right angle shear. In fact, the same clamps that hold the sheet for punching also hold it for shearing. In essence, the Shear Genius allows the automated process to begin with a full-sized sheet of material and end with a punched part after automated loading, punching, forming, shearing, stacking and unloading -- all in one operation. This allows true single-piece flow to be synchronized with a customer’s takt time.

“The Shear Genius is much quicker and more accurate than what we were using before,” says Dolinski. “Automation is what really takes it to a new level. It also processes longer parts much better than the old stand-alone turret punch presses.”



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The EBe is a bending solution that is designed specifically for each fabricator’s production requirements to achieve maximum productivity, quality, and repeatability.

“We try to run lights out on a daily basis,” adds Howard Masters, supervisor. “With the Shear Genius, we don’t have to shear blanks to size and we can now nest multiple parts on a sheet. We’ve also eliminated a great deal of material handling.”

EBe Servo-Electric Bender

Sub-Zero purchased the Prima Power EBe servo-electric Express Bender in 2009. The EBe is a bending solution that is designed specifically for each fabricator’s production requirements to achieve maximum productivity, quality, and repeatability. The bending operation is fully automated, from the loading of flat punched parts to unloading of the finished product.

“The EBe has been a very dependable machine. It just runs and runs... we have no issues with it at all. And the EBe is very productive. One of our parts used to take three press brake operations to produce 80-100 parts in an eight-hour shift. With the EBe, we can now do the job in 90 minutes.”

The EBe bender has a maximum bending length of 100.39” (2550 mm) and a maximum opening height of 8” (200 mm). The new construction features actuations of the bending blade movements (vertical and horizontal) by NC servo axes instead of hydraulic cylinders. The upper tool movements are also made by another NC servo axis.

Prima Power’s EBe provides the high bending quality required in demanding applications. The quality is achieved through precise control of bending axes, fast and smooth bending motion, open programmability, and rigid construction that is immune to variation in thermal conditions.

“The EBe has been a very dependable machine,” says Dolinski. “It just runs and runs... we have no issues with it at all.” And the EBe is very productive. “One of our parts used to take three press brake operations to produce 80-100 parts in an eight-hour shift. “With the EBe, we can now do the job in 90 minutes.”

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“Another impressive feature of the EBe is how we can emboss on the bend line. This part pushes the EBe to the limit...and it does it very well.”

Dolinski explains that while currently the EBe is used primarily on galvanized parts, it will soon be expanded to stainless steel panels. “On these large stainless panels, we often have two different press brake operations,” explains Dolinski. “With the tool change in between setups, it could take an operator up to four hours to run parts. Now we can do the same part in about one minute on the EBe, and setup time is next to nothing. The consistency and short setup times are key features of the EBe. Another impressive feature of the EBe is how we can emboss on the bend line. This part pushes the EBe to the limit...and it does it very well.”

“Large parts requiring multiple tooling changeovers for forming have been moved to the EBe and roughly give an 8X improvement in productivity, while reducing the ergonomics of forming large parts on traditional press brake tooling.”

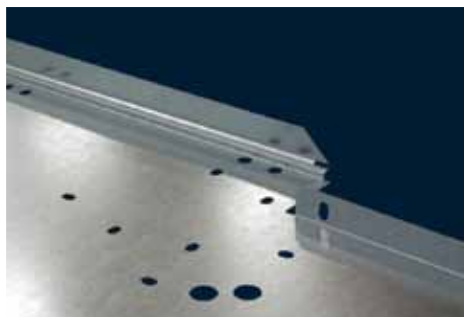
Ron Jones, plant manager, sums up the benefits of the Shear Genius and EBe to Sub-Zero: “The Shear Genius and the EBe have allowed Sub-Zero to improve sheet metal performance in many ways. Large parts requiring multiple tooling changeovers for forming have been moved to the EBe and roughly give an 8X improvement in productivity, while reducing the ergonomics of forming large parts on traditional press brake tooling. The Shear Genius has provided significant improvements in cutting, punching, and palletizing parts that previously would have required multiple routings and operations to be done on one machine center. Overall, Prima Power has allowed Sub-Zero to bring complex machine routings and programs into



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The Premier Group Uses Prima Power Laser Technology for the 2012 Olympic Torch

Prima Power, the Machinery Division of the Prima Industrie Group specializing in laser and sheet metal processing machines, is proud to announce that the London 2012 Olympic Torch is manufactured using its laser technology. The Premier Group (TPG), a first-class Coventry-based supplier of turnkey engineering and manufacturing solutions for the transport field, uses Prima Power machines to cut the holes and to weld the parts of this beautiful icon of the Olympic Games.

The Olympic Torch was designed by Edward Barber and Jay Osgerby working in partnership with The Premier Group and presented on June 8th in London. One of the most important elements of the Torch is the 8,000 holes running the length of the body. These holes are both symbolic and practical. They represent the 8,000 Torchbearers who will carry the Olympic Flame on its journey around the UK from May 19 to July 27, 2012, when the Games will open at the Olympic Stadium. The holes also have a practical function, since they also offer visibility of the internal parts of the Torch and of the burner system which will keep the Olympic Flame alive, as well as reducing weight and ensuring that heat is quickly dissipated without being conducted down the handle.



Sincrono, the 2D laser cutting machine by Prima Power used to cut holes on the Torch

“Because of its symbolic meaning, the number of holes on the Torch is a must,” explains Ezio Basso, Prima Industrie Managing Director, Prima Power Division, “To cut 8,000 holes fast and with high quality, our Sincrono 2D laser machine may be unbeatable. The parallel kinematic structure of the machine head and its numerical control allows very high speed... even with the complex trajectories of the



Lord Coe, chairman of LOCOG, with Directors of The Premier Group, George Mollison (left) and Gez Halton (right).

pattern of holes on the Torch. We can say that the cutting of these holes was the *Olympic Challenge* for Premier. Premier took home the gold medal thanks to their experience, talent and professionalism... and with the help of the Prima Power technology.”

Another symbolic element of the Torch is its triangular shape, representing the number 3 with its different meanings linked to the Games: the three Olympic values of respect, excellence and friendship; the three words that comprise the Olympic motto, faster, higher, stronger; the three times the Olympic Games have been held in the UK, etc.

The Torch's unique shape is obtained from aluminum sheet metal blanks cut by Premier and formed using a special pressing tool. Aluminum is widely used in the automotive and aerospace industries because it is lightweight and has good tensile strength and heat resistance. This makes the Torch both lightweight and strong. The Premier Group uses the Prima Power 3D laser technology to weld the parts of the Torch together in a smooth, seamless joint and to cut holes into the welded areas.

Both welding and cutting operations on the Torch after it is formed are performed by Prima Power Optimo 3D laser machine with Vivida technology. This machine can be easily converted from cutting to welding through a quick change of the head attachment, so a single machine is used for different applications.



Optimo, the 3D laser machine by Prima Power used to cut and weld the 2012 Olympic Torch

“It is fascinating how state-of-the-art laser technology, using light in a very modern way, will contribute to create the Olympic flame, an ancient form of light representing the most traditional and noble sports competition,” concludes Basso. “We are extremely proud that our laser technology will help The Premier Group manufacture this outstanding and beautiful object.”

Italian Technology Roams Paris Streets

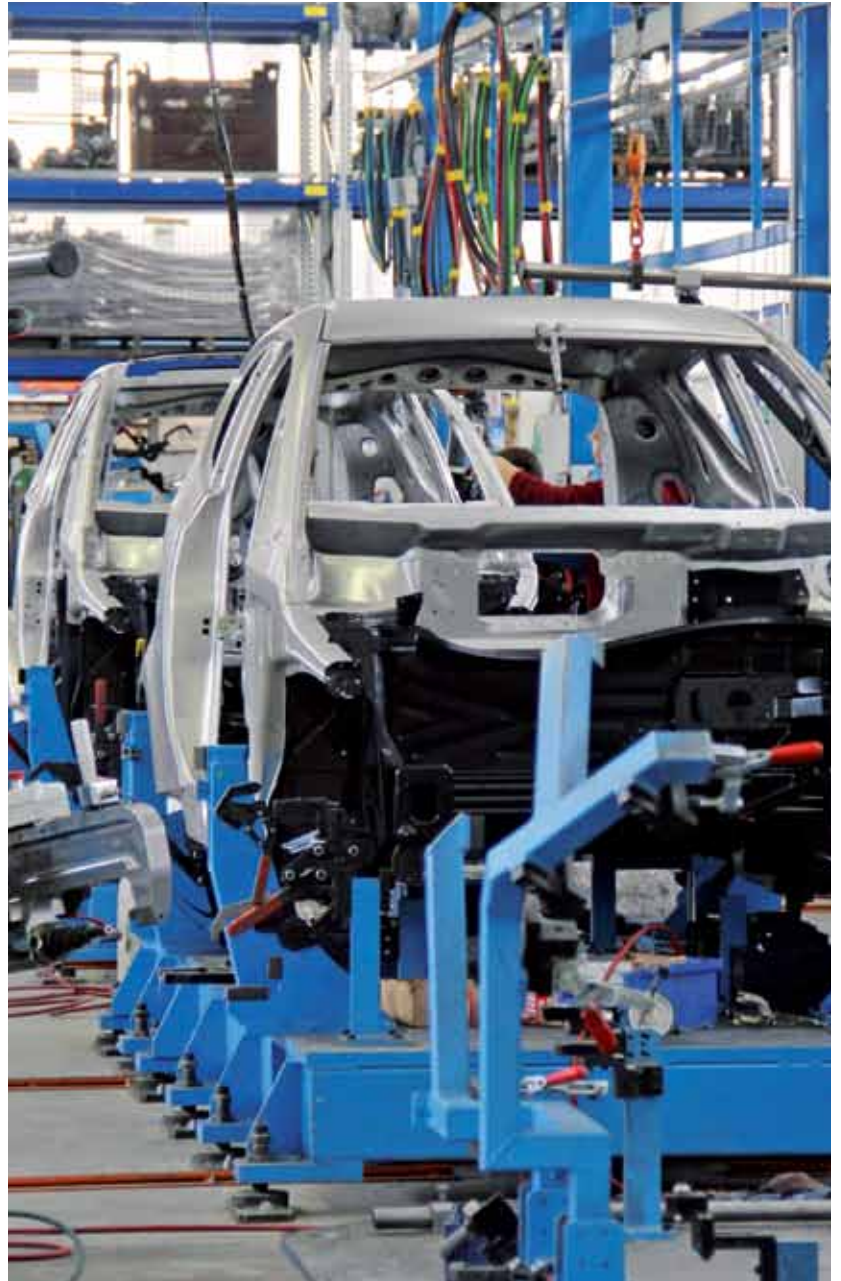
By Fabrizio Garnero

An Italian heart pumps vitality into Autolib', the Parisian car sharing project. The project's fleet of fully-electric automobiles is entirely manufactured by the Italian company CECOMP, located in La Loggia (Turin). Made in Italy also labels the laser technology that the company employs to cut the automobile bodywork components -- four Prima Power laser systems, three of which are 3D.

The Autolib' car sharing project is centered in Paris and 46 neighboring townships. French billionaire Vincent Bolloré funded the Autolib' car sharing project. The project is based on the successful Velib' bike sharing model launched by the mayor of Paris, Bertrand Delanoë, in 2007. Velib' includes more than 20,000 bicycles distributed through 1,600 stations across the city.

Encouraged by the success achieved from the Velib' project, Delanoë set his sights on the "green dream" at the Paris Automobile Fair of 2008 – an "ecologic" car sharing service he aimed to introduce by the end of his term in office. He was motivated by a study conducted by Apur (Atelier Parisien d'Urbanisme), which revealed that 56% of Paris residents do not own a car, and those owned remain mostly parked. Despite the concrete basis of the idea, there were many skeptics. Indeed, there were many challenges to the car share program: the lack of series model, the high cost of batteries, low autonomy, and lack of charging infrastructures.

The company that won the bid to supply the fully-electric cars was the Bolloré Group, which invested up to 1.5 billion euros in the project. This amount also includes vehicle maintenance and insurance, but most of it was directed to the production of the electric automobile. This contract was awarded to CECOMP, currently leasing the Pininfarina plant of Bairo Canavese in the province of Turin. The manufacturing lineup also includes approximately 60 specialized automotive workers who plan to produce 4,000 automobiles by the end of 2013 – 3,000 of which are destined for lease. These cars are distinguished by their aluminum gray color, and are "greener", given the lack of body paint.



The founder and CEO of CECOMP Giovanni Forneris (center), flanked by his sons Gianluca and Paolo.

A Production Capacity of 15 Autos Daily

CECOMP is a company that strives to bring the ideas of designers, automotive style centers, and car makers to life. CECOMP was founded in 1976 by Giovanni Forneris, who developed his expertise at Centro Stile Fiat, while working for the most prestigious designers and body workers, such as Michelotti and Giugiaro.

Since its inception, CECOMP has worked with the leading automobile companies, and has been committed to excellent workmanship and attention to every detail, while utilizing the most innovative production systems and most advanced technologies available. The company is currently managed by its founder/president, closely flanked by his two sons Gianluca and Paolo Forneris, who respectively hold the positions of chief technical/sales officer and chief financial/administrative officer. CECOMP undertakes a variety of activities, such as prototype and pre-manufacturing phases, masterfully combining craftsman detail and industrial innovation.

CECOMP has fully embraced the project of the Bolloré group, going beyond the design and prototype phases of the electric automobile to take on the role of bodywork producer and manufacturer of the entire vehicle. Currently CECOMP is fully involved in producing the bodywork and assembling and detailing the cars, 15 of which are completed daily. "Reaching this productive capacity required us to seek a solution that allowed us to reach and maintain this quota since we are not car makers," recounts Paolo Forneris, CECOMP CEO. "The Pininfarina production plant of Bairo Canavese was the perfect solution for us. Each day our 15 cars utilize only one assembly station out of three. Despite this, having the assembly line already set up, with only a few changes for electric vehicle production, as opposed to Pininfarina's internal combustion engine models, was essential."

High-Strength Steel and Aluminum is a Matter of Weight

"Thinking about the car production cycle," continues Paolo Forneris, "we started from the bottom up... which means from assembly to the finishing line. The job began back on October 2009 for us, and we gave way to the manufacturing process of the first vehicles after only two months, once the design was approved. We delivered the first cars in July of last year. In only 18 months, we were able to start manufacturing our automobiles with all the required approvals. Vehicle standardization is the same as for large series, but with a limit on the amount that can be manufactured. CECOMP can produce 1,000 vehicles per year."



CECOMP preferred laser cutting flexibility to traditional sheet punching.

CECOMP followed the "style" of the electric vehicle that Pininfarina had begun to study for the Bolloré Group, which is the head of the consortium that was awarded the contract. "This is a four-passenger, two-door vehicle that is 3.65 meters long and weighs 1,100 kg. In comparison to the original, its interiors were re-conceived to limit production costs", continues company CEO, Paolo Forneris.

The Flexibility of Laser Cutting Instead of Traditional Punching

"When starting production, we first made the prototypes and then the pre-series, putting together all bodywork punching and assembly equipment in-house. We were dealing with small quantities when compared with traditional car making, so we opted for what we considered the right production compromise."



The Rapido Evoluzione system by Prima Power installed at CECOMP.

CECOMP preferred laser cutting flexibility to traditional punching. The sections of shaped sheet metal and dies were cut using four Prima Power lasers that consisted of one Optimo and two Rapido – one of which is the more recent Rapido Evoluzione model – and a Platino 2D system.

3D Laser Cutting is Essential

"We already owned two Prima Power laser machines for 3D cutting (Optimo and Rapido), one from 2006 and the other from the following year," says Paolo Forneris. "But the Autolib' project motivated us to purchase a new flat cutting system in 2010. We procured the Platino, used to cut sheet metal shapes, followed by the Rapido Evoluzione last July, which is a latest generation system that allowed us to organize our machinery for any production requirements at issue."

There are a total of over 300 product codes to cut, among parts in aluminum and other elements that make up the vehicle, for a total of 10 work hours per vehicle. The noteworthy savings of time and the variation of pieces once again justify laser production technology. Currently, CECOMP is one of the few companies in Italy tooled to face this type of production, thanks to its large and well-equipped fabrication and laser cutting shops, even though laser technology was initially conceived more for the manufacture of prototypes. It is important to keep in mind that CECOMP started off as a model maker, and that the first Prima Power laser – at



Nitrogen cutting of aluminum leaves the piece clean, and this is extremely important since the vehicle is not painted.

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the time known as Prima Industrie – was installed because a flexible prototype cutting method was required, “We cut from 10 to 150/200 pieces per batch in relation to each customer’s needs,” states Forneris. Today, laser tech is a fundamental plus for the production of this electric car, but also important in other scenarios. “Having both cutting-edge laser technology and a fabrication shop positions us to meet all our needs,” says Forneris. “Whether we use laser cutting or dies and presses depends on the target quantity. Our electric car is an example because 3,000 units do not justify the use of punching dies. Therefore, let’s leave room for lasers that have been extremely instrumental for this production, with emphasis on the 3D cutting plant. Without this technology, embarking on this journey would have been impossible”.

Four Complementary Lasers From Different Eras.

Though conceptually the same, in just a few years laser technology has undergone significant advancement to instill a different cutting approach to cars produced by a single manufacturer; and, at times, also affects a single series. This holds true for CECOMP, that operates three 3D laser systems – purchased over the course of several years-- and the company considers them complementary in all processes. The component positioning equipment was designed to be “universal” and can be employed in each of the three systems. This makes it possible to overcome any difficulty, even downtime due to scheduled maintenance, given the importance of production timetables.

“Even if a machine is idle, we are still able to produce the codes and quantities required to produce 15 vehicles daily, simply by optimizing the cutting parameters due to a difference of laser power rating of the systems... and not to the fact that the machines are equipped with different CNC systems,” says Antonio Bellini, Prima Power area manager, the contact for CECOMP on all laser-related issues. “This is a fundamental aspect for CECOMP in view of continuity, allowing customers to use the same programs and technology regardless of the machine model, CNC system or year of purchase.”

“Obviously a series of item dimensional checks and inspections is performed when any piece being cut is moved from one machine to the other,” points out Forneris. “The majority of elements can switch machines, while some can only be cut using Optimo for reasons of size, such as the side panels.”

CECOMP has implemented the Tebis cutting machine control module to program its laser machines, after using the specific software in its plants to eliminate burring. “There is a choice made in consideration of simplicity and continuity since they already have a good knowledge of the Tebis milling software. This is a tribute to the Prima Power machines that have proven to be extremely flexible and open to any CAM cutting control software on the market,” says Bellini. “The machines are equipped with high-power laser generators: 3,000 W for Prima Rapido and 4,000 W for Platino and Rapido Evoluzione, the latter requiring high-power concentrations, as they are mostly used to cut aluminum nitride. Aluminum cutting called for particular care and attention to cutting-parameter tuning to prevent burring usually generated by this material.”



Prima Power cutting systems are extremely flexible and reliable.

“In regards to machine hardware, a calcium-based powder metering system was mounted to spray the coating into the evacuation pipe to douse the potential flammability of aluminum powder. Furthermore, employing almost exclusively nitrogen gas used for sheet metal cutting, CECOMP also disposes of large cryogenic tanks that provide the amount of nitrogen required to cover three cutting shifts on four machines. Nitrogen cutting of aluminum leaves the piece clean (the cutting residue is in the form of a powder easily brushed away by hand), and this is extremely important since the vehicle is not painted.”

A Replicable and Repeatable Project?

Can the Autolib’ project be reproduced in other world cities and capitals? “That is what we hope,” answers company CEO Mr. Forneris. “Aside from mere profits, I personally find that this has been a fascinating experience up to this point. In addition, this is the first time we have produced a vehicle off the drawing board. Currently, CECOMP has a specific mandate to manufacture 3,000 electric cars by December 13, the date in which the contract expires.”

This is a translated and edited version of an article that appeared in Deformazione Issue # 185, May 2012.

Eliminator™ Punch Tip Lubrication Pads Help Eliminate Galling

By John Galich, Marketing Manager, Mate Precision Tooling

Many fabricators have a problem with galling, which results when the metal being punched adheres to the punch tip. Galling is caused by pressure and heat, and often occurs when punching aluminum or other ductile materials. When you combine the plasticity (softness) of the highly ductile materials with the heat caused by the punching process (friction), galling occurs.

Within a relatively short period, a galled punch starts producing inferior parts. You need to stop the press, remove the punch to clean it with a fine stone before you can resume punching. This costs time (maintenance) and materials (poorly made parts).

There are a few things you can do to minimize galling, such as ordering punches with 2° total back taper to facilitate stripping; the material is much less likely to adhere to the punch. You can also order a combination of 2° total back taper (1° per side) on the punch and 20% to 30% clearance for the die. Mate's Maxima® coating is another option. Probably the best way to prevent galling is to consistently apply lubrication to the punch tip.

Mate's Eliminator™ (patents pending) punch tip lubrication pads assist in keeping the punch tip lubricated during the punching process. Not only will they help eliminate unwanted galling during the punching process, they can also help extend tool life and keep the punch from overheating.

Made from polyether foam, Mate Eliminator lubrication pads are easy to install. For Mate UltraTEC® A and B Stations, it is very easy to "punch" the hole in the foam with the punch and stripper with the canister's length adjustment feature. After saturating the pad with 46-68 ISO viscosity hydraulic oil, place the punch into the holder and you're ready for gall-free punching. In fact, during Mate's extensive product testing, not one sign of galling was found after thousands of hits.

One customer was punching a group of 0.070" X 0.500" ovals in 0.105" stainless steel to form a speaker grill configuration. The customer was using a Mate UltraTEC® A Station punch with a fitted (but not fully guided) stripper. After fitting the punch tip with a lubrication pad and

applying oil, the customer set the tool up in the machine. They also sprayed the punching area with oil. The operator did not think it was going to work.

They ran the machine at 100% on the control with a very short stroke to limit the friction. Stainless breaks away at approximately 1/3 of the punch's penetration into the material; the customer punched just beyond the breaking point to increase punching speed and reduce

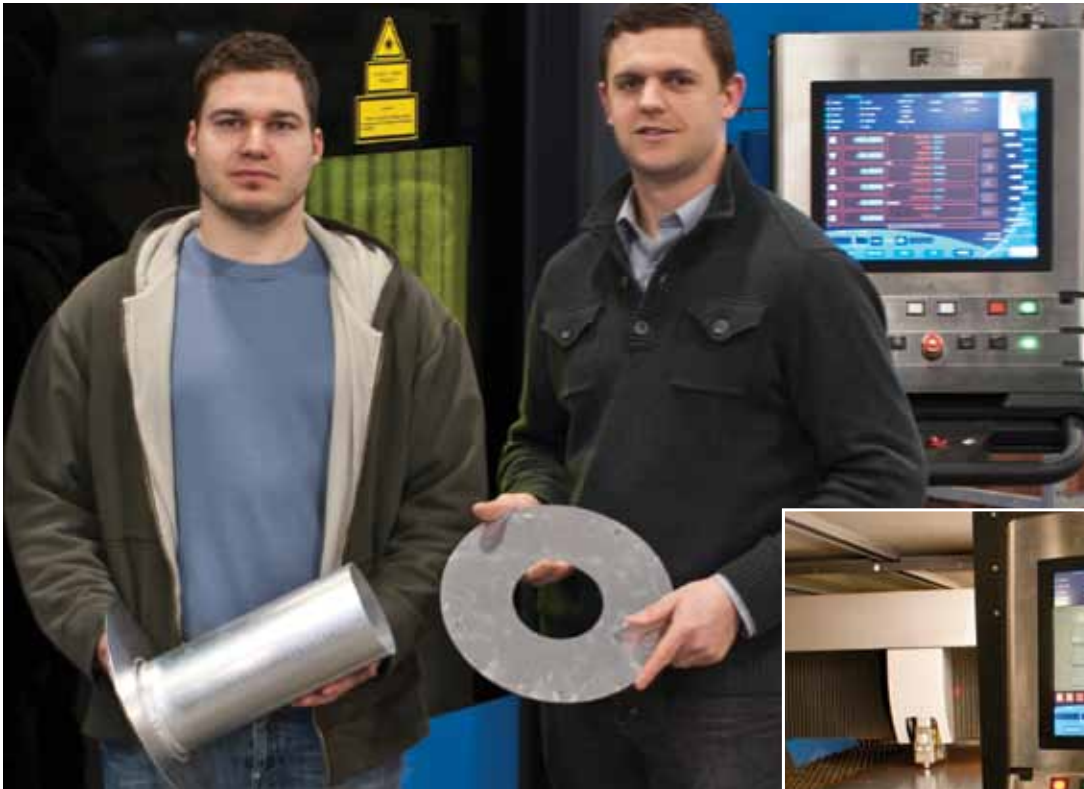


punch tip contact with the material. The lubricated punch tip worked amazingly well. The customer punched all 200 parts without doing anything to the punch. When examining the punch after all the parts were completed, the punch still looked like new! That small punch tip, which punched 11,600 holes without a trace of galling, continued to produce parts for additional orders.

For Prima Power users, Mate offers Eliminator™ punch tip lubrication pads in A through E station sizes.

To learn more about Eliminator™ and Mate's other creative solutions, visit the Solutions Gallery at mate.com. You'll see what we've created for other customers like you. Download Solutions Bulletins for more insight into forming and a lot more.

PLATINO® Fiber Laser Makes the Cut at HVAC Manufacturer



David Mackay, assistant plant manager (right) and manufacturing engineering technologist Peter Zaprzelski hold parts that were cut on the Prima Power PLATINO fiber laser. Prior to purchasing the PLATINO fiber laser, ECCO produced a majority of its contoured parts with band saw cutting.

From its humble founding in the back of a northern Alberta garage in 1960, ECCO Manufacturing has evolved into one of the largest manufacturers and suppliers of HVAC sheet metal products in North America. Today, the company has approximately 600 employees and 500,000 square feet of manufacturing and distribution facilities located in Langley, British Columbia, Calgary, Alberta, and Kent, Washington.

ECCO manufactures HVAC products, (pipe, duct, boots, elbows, and fittings) for both commercial and residential installations. ECCO has the capability of working with ferrous and non-ferrous material from 30 gauge up to 10 gauge. The company creates and produces highly-engineered products in rectangular, round, flat, oval, or any other shape required. From initial estimate to completed job, ECCO assists its customers in coordination, fabrication, and shipping everything from mass-produced quantities to custom OEM products.

In 2010, ECCO Calgary moved to a new manufacturing plant and distribution center, consisting of seven acres under one roof in

Calgary, Alberta, Canada. This facility recently purchased a PLATINO® Fiber Laser 2D cutting machine from Prima Power.

According to David Mackay, assistant plant manager, the laser purchase was the culmination of a long and thoughtful equipment decision process. "About four years ago we were quoting on a fairly large job which was very cost sensitive," says Mackay. "We did some investigating and discovered that on some high-volume items, we could save as much as five or six percent per part by doing laser cutting. This prompted serious discussions about purchasing a laser."

Mackay explains that prior to purchasing the PLATINO fiber laser, ECCO produced a majority of its contoured parts with band saw cutting, a process that is still in existence. "We have five vertical band saws, and do stack cutting of the contours after shearing the material to the blank size we need," says Mackay. "We also have punch presses, but our thin material is a challenge for the presses. On the punch press, there are clamps that hold the material and shift it side to side, front and back. This can cause the material to buckle

"We became sold on the fiber laser. We learned that the fiber optic has fewer consumables, it doesn't need gas, it's a newer but proven technology, and it's perfect for cutting thin material."

because of the very light gauge material that we use. We basically have to slow the punch press down. Where the laser has the advantage is that the material is stationary, so when you put a sheet on the laser, there is less chance of inconsistencies or the material buckling.



ECCO management looked at all the major laser builders and also attended FABTECH to talk with the various companies and see the new laser technology in operation. "During this research," says Mackay, "we became sold on the fiber laser. We learned that the fiber optic has fewer

consumables, it doesn't need gas, it's a newer but proven technology, and it's perfect for cutting thin material. We can use our shop air for cutting purposes, eliminating the need for oxygen or nitrogen. With all the consumables, power, and other operating costs, we have seen comparisons of \$15/hour for a CO2 laser, excluding labor, compared to \$5/hour with a fiber optic laser."

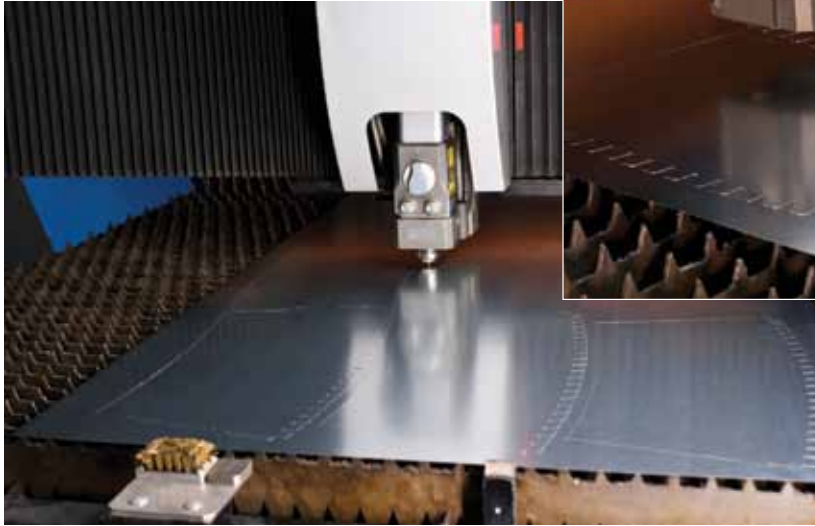
PLATINO Fiber Laser

The Prima Power PLATINO Fiber Laser was installed in August, 2011 and was fully operational in September. PLATINO by Prima Power is a highly flexible and reliable laser cutting machine designed and developed for the needs of the sheet metal processing industry. Thousands of installations around the world and continuous development are proof how experience and innovation perfectly meet in this product.

The integration of the high brilliance fiber laser with the PLATINO is a further technological advancement in the wide offering by Prima Power and shows competence in the use of all state-of-the-art laser technologies on hand to meet the needs of high-quality sheet metal manufacturing.

PLATINO Fiber is available for sheet sizes up to 1,500 x 3,000 mm, with laser power ranging from 2,000 W up to 3,000 W, and is suitable for a wide range of applications. The unique architecture of PLATINO fiber allows full accessibility to the working area from three sides. This open structure makes it easy to integrate the FMC at any time, with the wide range of modular automation solutions by Prima Power, from simple pallet changer to the FMS with automatic handling and storage of the material.

PLATINO Fiber can be used to cut a wide range of materials. The wavelength of the fiber lasers is more effective than other laser sources for cutting highly-reflective materials (e.g. aluminium alloys, copper, brass). PLATINO Fiber cuts varied thicknesses, up to 20 mm of mild steel, with efficiency and quality. Productivity increases particularly with thin and medium-gauge sheet metal.



PLATINO® Fiber features an optical setup allowing to cut all materials and thicknesses with one lens. Changes in production are made without interruptions for lens change. The high flexibility of the machine can be exploited with no additional setup time.

same day. We also spent a great deal of time talking to existing Prima Power customers. Prima Power gave us more reference checks than any other company. We were able to contact several companies within



our area that had experience with other Prima Power machines in terms of reliability and how the service team responded. We also heard a lot of good things about Prima Power's laser technology."

Performance

ECCO is happy with the performance of the PLATINO Fiber. "It has been cutting very well," says Mackay. "The cutting speeds are great – 1200" - 1500"/minute. While we are not primarily a precision manufacturer, the accuracy and the small cut width of the beam is so fine that we can be creative in how we design products, such as tabs, or when we are cutting inside features". ECCO management is convinced that the PLATINO Fiber laser was the correct choice for

"We really liked the basic drive system of the machine. Prima Power also had a service technician in the Calgary, Alberta area."

"While Prima Power had just introduced PLATINO Fiber, we knew that the PLATINO CO2 laser was a very sound machine, as nothing was changing in the way the machine was built," explains Mackay. "It was just the power source that was changed. We also liked the price. As a result, we made the decision to purchase the Prima Power PLATINO Fiber."

PLATINO® Fiber features an optical setup allowing the cutting of all materials and thicknesses with one lens. Changes in production are made without interruptions for lens change. The high flexibility of the machine can be exploited with no additional setup time.

Easy to Use and Modular

For off-line programming, PLATINO® Fiber takes advantage of the user-friendly and fast Prima Power software systems, which provides all the features required for better programming of laser machines: CAD, CAM, PostProcessor, Database Utilities, Reports, Order Management.

"Prima Power impressed us with a few other things," continues Mackay. "We really liked the basic drive system of the machine. Prima Power also had a service technician in the Calgary, Alberta area. No other company had local service in this area, and it was comforting to know that we could make a call and the service tech could be here the



The unique architecture of PLATINO fiber allows full accessibility to the working area from three sides. PLATINO Fiber is available for sheet size up to 1,500 x 3,000 mm and with laser power ranging from 2,000 W up to 3,000 W, and is suitable for a wide range of applications.

their company. "As we continued our research into lasers, we decided that this definitely was the machine for our company," explains Mackay. "We make so many different products here, from large lots of 3,000 to as little as 20 at a time. Many of our products had to run through circle shears and drill presses. We had a lot of inefficiencies when we were setting up on all those machines. On some of these products that we are now cutting on the laser, we are actually eliminating 3-4 operations. There are also other hidden costs incurred during the assembly process using the band sawed parts which the laser has eliminated.

Continued on page 14

Continued from page 13

Because the band saw process is a manual process, inconsistencies can occur between stacks of band-sawed blanks. As a result, we had to make minor changes to our setups when we assembled the product. All this time adds up when you go through this with 2000 products... and on every 50 you are consistently having to make adjustments to your assembly operations. The PLATINO Fiber laser eliminates these inconsistencies completely, thereby maximizing productivity.

“While the laser isn’t always as fast as band-saw cutting a stack of 50 blanks, the benefits realized through improved material utilization, faster assembly of the product, and superior part quality add up to a far superior product with the laser. The ability to add value-added features, like rounding the corners on tabs, means that the installers have less chance of cutting themselves.” Advantage Laser.

“As we are a production manufacturer, we run through many sheets per production run, so when you have a 20 or 30 second material swap time from beam-on to beam-on versus 50 seconds to a minute for other laser systems evaluated...that’s a big deal. Prima Power had a better swap time than other manufacturers we evaluated.”



ECCO manufactures many different products from large lots of 3,000 to as little as 20 at a time. Prior to the fiber laser, many of these products had to run through circle shears and drill presses. On some of these products that are now cut on the fiber laser, ECCO has eliminated 3-4 operations.



PLATINO Fiber can be used to cut a wide range of materials. The wavelength of the fiber lasers are more effective than other laser sources for cutting highly-reflective materials (e.g. aluminium alloys, copper, brass). PLATINO Fiber cuts varied thicknesses, up to 20 mm of mild steel, with efficiency and quality. Productivity increases particularly with thin and medium-gauge sheet metal.

A wide and modular range of solutions for the automation of sheet metal handling is available from Prima Power for all production types and sizes:

- Pallet changer, featuring automatic adjustment of speed according to sheet weight and drawers for an efficient scrap collection
- Sheet loading arm to automate sheet feeding
- CompactServer: two-story automatic loading/ unloading system with very small space requirement
- Compact Tower: raw material storage and change system with highly reduced footprint
- Extendable with additional towers in a modular way
- Night Train® FMS for the most demanding production flows

“While we are not primarily a precision manufacturer, the accuracy and the small cut width of the beam is so fine that we can be creative in how we design products, such as tabs, or when we are cutting inside features.”

“Another advantage that impressed us is the pallet swap time. As we are a production manufacturer, we run through many sheets per production run, so when you have a 20 or 30 second material swap time from beam-on to beam-on versus 50 seconds to a minute for other laser systems evaluated...that’s a big deal. That’s half a minute per sheet. That is idle time when the machine is not cutting, and that makes a big difference when you are trying to make product as fast as you can. Prima Power had a better swap time than other manufacturers we evaluated.”

“We are happy with the PLATINO Fiber Laser,” concludes Mackay. “We have had a good experience with Prima Power installers, programmers, and service personnel. We would consider purchasing a second PLATINO Fiber Laser.”

Wila New Standard® Tooling... Engineering Excellence From the Top Down!

By David Bishop, Business Development Manager, WILA USA

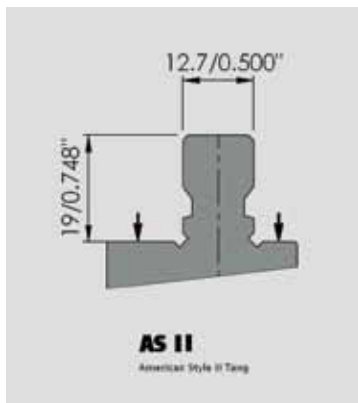
At Wila®, when we set out to develop the world's most advanced press brake tooling system, we started right at the top, literally, with the tang of our punches. We recognized that to improve upon the world's two most commonly used press brake tooling systems, American Style Tooling and European Style Tooling, we had to develop a totally new tang design that maximized press brake productivity with absolutely no compromises. That's exactly what we did and with that, the Wila New Standard® Tooling System was born.

To start with, we made the tang 1.575" (40 mm) tall to make it more rigid and more stable. This provides 2.5 times the vertical clamping surface found on a typical American style punch with a .625" (15.9 mm) tall tang. The added stability makes it possible for us to precision grind standard punches that are up to 7.874" (200 mm) tall. It also makes small sections of tooling much more stable when used in set-ups involving sectionalized tooling.

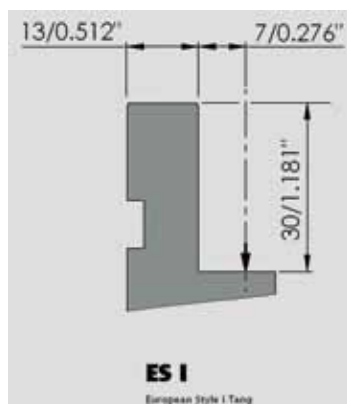
In addition, we added two V-shaped grooves that align with mating pins in our New Standard clamping systems. When activated, these pins are driven into the grooves, resulting in the clamping, seating, centering, and aligning of the punches. All of this is accomplished with the push of a single button on our hydraulic clamping systems.

Possibly the most noteworthy feature on the tang of our New Standard Punches is our patented Safety-Clicks. They make it possible to vertically load and unload punches weighing 28 pounds (12.5 kgs.) or less in a matter of seconds. They also prevent punches from falling out regardless of whether they are loaded with the relief area facing forward or toward the rear of the machine.

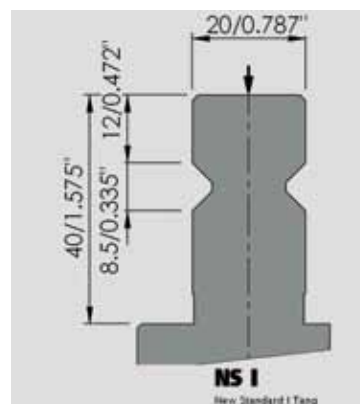
We also precision grind the centerline of all of our New Standard punches to a tolerance of ± 0.0004 " (.01 mm). This results in all punches sharing a common back gauge origin, which eliminates the need to recalibrate the back gauge to the punch every time you make a tooling change. This saves a tremendous amount of time and eliminates a lot of the scrap material that was formerly required to make test bends in order to get flange lengths correct. It also makes it possible to install punches with relief areas facing toward the front and/or rear of the machine to provide maximum flexibility in bending parts with complicated bend sequences.



Drawing shows Wila New Standard Punch Tang. Note centerline, load bearing surface on the top, and seating grooves.



Drawing shows Wila American Style Punch Tang, which is actually taller than a traditional American Style Tang. Note two load bearing surfaces.



Drawing shows traditional European Style Punch Tang. Note how tang is offset from load bearing surface.

All Wila New Standard Punches feature a single load bearing surface on the head or top of the tang. This makes it much easier to maintain a constant horizontal plane during the manufacturing process versus trying to hold two horizontal load bearing surfaces on the same plane when machining a typical American style punch. It also results in a substantial increase in accuracy. The load bearing surface on the tang of a Wila New Standard Punch is .787" (20 mm) wide as opposed to the .551" (14 mm) wide load bearing surface found on a typical European style punch. That's an increase of over 40%!



For applications involving high tonnage levels and/or high concentrated loads, we produce our New Standard punches with two load bearing shoulders that mate with the two outside load bearing surfaces provided with our New Standard Clamping Systems. This strengthens the punch, dissipates the force over a broader area, and helps to protect the clamping system from damage caused by excessive force.

Another key feature of the Wila New Standard Tang is that it is wholly contained within the clamping system. This reduces the possibility of interference with parts with return flanges.

Extreme accuracy, vertical loading and unloading, ultra-fast setups, maximum flexibility, reduced interference, increased stability, and larger load bearing surfaces...all of these things are made possible by the innovative tang design provided with Wila New Standard Punches. And if you think that's impressive, just wait until you experience the full range of technology that is included with our complete line of New Standard Tooling, Clamping, and Crowning Systems.

E Series Excellence - New Servo Electric Turret Punch Press

An early and major step towards sustainable fabrication was taken with the introduction of the servo electric E series turret punch press in 1998. Recently, Prima Power has introduced its third generation of this series.

The inherent benefits of servo electric include energy efficiency, versatility, and accuracy and low maintenance cost.

The new series comes in two sizes, maximum sheet size of the new E5 is 1,250 mm x 2,500 mm and 1,500 mm x 3,000 mm (E6) without repositioning. Performance values are truly impressive, with hit speed up to 1,000 hpm, positioning speed up to 150 m/min (125 for E5) and index speed 250 rpm. 300 kN ram force is available for all machine functions and for all tools.



“A major innovation is the ability to choose between the customary turret and a new all-auto index capable station turret, which can be customized to be optimal for any requirement,” says Antti Kuusisaari, Prima Power Product Manager of punching technology and systems. “This allows a record breaking number of up to 384 tools available in the turret; thus reducing frequent setups.”



The maximum number of index tools has also been increased to a possible 128, which



facilitates setups and programming, shortens tool change times and increases productivity.

The machine control and user interface are totally new and developed for shorter cycle times, easier operation and availability of more information. The overall result is a major

reduction in total manufacturing time.

Special attention has been given to the ease of setups and the programming needed for special tooling applications. The benefits include the use of all major tooling innovations currently available.



Flexible Automation With Compact Express

Prima Power E5 and E6 can be equipped with Compact Express automation for loading and unloading. Sheets are loaded and unloaded by equipment which, true to its name, is highly compact, adding practically nothing to the floor space requirement of the basic machine. Compact Express is fast and easy to install and can also be retrofitted as an upgrade.



“Most fabricators know only too well that modern fabrication means changes in material, batch size and the nature of the manufacturing tasks. These have to be coped with, and, accordingly, flexibility is a must”, Antti Kuusisaari explains. “With the Compact Express, depending on the fabrication task at hand, the most suitable one of four different ways of operating can be chosen: 1) automatic loading and unloading, 2) automatic loading and manual unloading, 3) manual loading and automatic unloading, or 4) manual loading and unloading.”

The equipment is integrated close to the machine, but still manual operations are easy as they can be performed on

the free side of the machine. Material flow is practical, and pallets can be loaded and components removed from them while the machine operates. The machine can be installed against the wall or in a corner.

E6 with Compact Express can also be connected to Combo or Night Train automation systems.

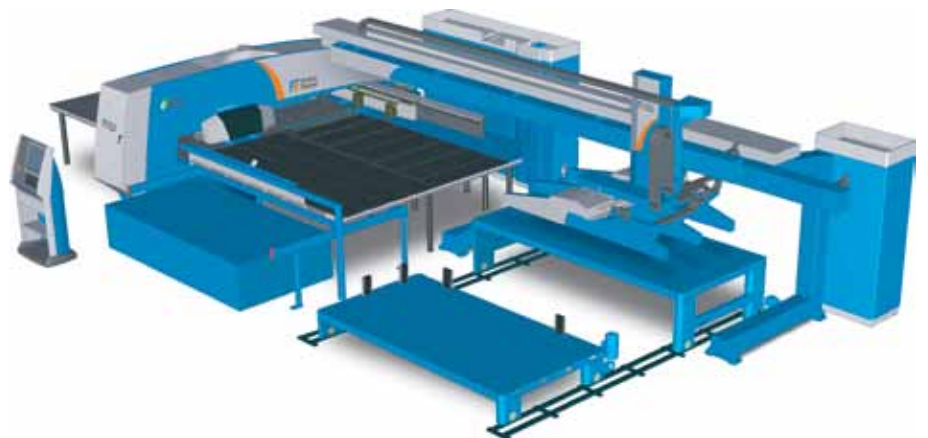


Automatic Part Handling

For both machine sizes, component handling can be automated with the LST system which picks components from the machine and stacks them into programmed positions in the palletizing area. Further, the LST features an automatic skeleton removal function, and the entire working cycle of the machine becomes automatic. The LST can be equipped with additional tables and integrated with the Combo and Night Train automation systems.

Material handling capacity is available for sheet thickness range 0.5 to 8 mm and a maximum sheet weight of 200 kg. The gripper of the standard LST construction has 1,200 mm sideways movement for easy utilization of the whole stacking area.

The equipment is easy to program with the NC Express™ programming system by Prima Power and fast stacking management is achieved by using the Tulus® user interface.



Office Software: Bridging The Gap

By Kyle Plass, Applications Engineer



Year after year advancements are made to help improve the manufacturing processes through the use of new software technologies. Softwares can be useful in helping minimize the amount of non-value added functions. Before a software package is developed there must be a need for particular functions to be specified. Within the manufacturing industry there is a strong need to bridge the gap between the front office and shop floor production. Prima Power has realized this need.

Customer feedback, both large and small, have helped Prima Power understand what this need truly is. Specialized software products have been developed to help improve daily tasks for anyone from top management down to the machine operators.

The following products listed offer different levels of connectivity to your production machinery:

- Tulus Office
- Web Monitoring
- Tulus Mobile
- Run Time Collector

Tulus Office

Tulus Office offers many features to enhance day-to-day functions. Without Tulus Office the current day-to-day functions can be very laboring. Features of Tulus Office include: Scheduling & Planning, Production Reporting, and Performance Reporting. The following features are available for all Tulus machines*.

***Note:** Tulus Mobile may not be available in all territories, based on mobile phone type of service.

Scheduling & Planning

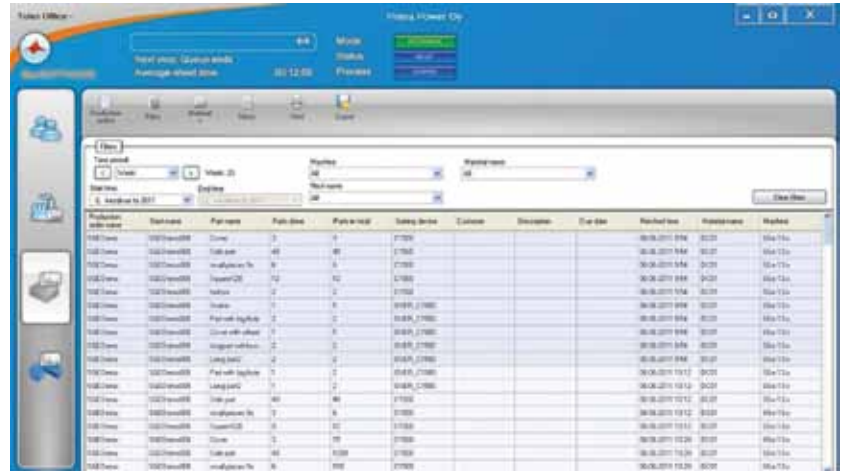
Scheduling of machines has never been easier with the active task list right at your finger tips. Jobs can be added on the fly, or if preferred the entire day, week, or month could be planned with the use of the Factory Load calendar.



Color representation used within calendar helps recognize "hot jobs" or orders that are overdue. Tool changes or the need to change material are also identified to help plan the setup accordingly.

Production Reporting

Real-time machine production data is available. Production data includes: programs, components, and material completed. Reports generated can be printed, shared, or used to report back to ERP.



Performance Reporting

Performance Reporting takes the production reporting a step further by reporting all machine time, including processing, idle, and fault time. Processing time is recorded when the machine is actively running. Idle time is defined by the machine in idle state. Faults are automatically recorded and timed by machine status.



Idle times can be defined by the user to describe the reason why the machine was sitting idle (Example: lunch break, tooling change, etc.) Fault error messages are recorded to identify what alarms occurred during this time.

Graphical reporting is available for all processing time and alarm history data. Alarm history can be reviewed to help maintenance departments be proactive in fixing spikes in specific alarms. Alarm analysis reports help to quickly identify where the problem area is occurring and can be tracked per date and time stamp.

Tulus Office is available to be installed on an offline Windows PC.

Users can access multiple machines within one software package retrieving the aforementioned data.

Tulus Web Monitoring

Web monitoring is a scaled version of Tulus Office that offers a portal to connected machines. There are three functions that can be used:

- Review Active Task List
- Machine Current Status
- Machine Alarm Info



The purpose of web monitoring is to have an active web service that anyone can access through the company network and review current status.

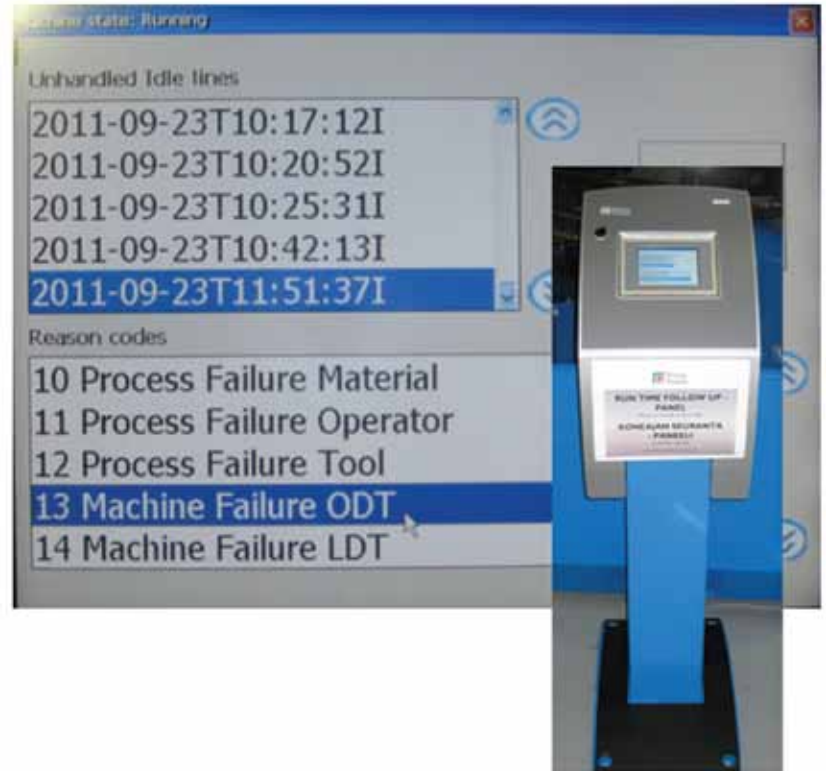
Tulus Mobile Monitoring

The future of unmanned production lies within your hands with this software. Configuration & setup of Tulus Mobile can identify availability of the GSM number based on respective shift time. Data sent to and from a GSM phone includes: active alarm info, status inquiry, and upcoming machine tasks (e.g. tool change, etc.)

A mobile user can send an inquiry to a machine and retrieve current status. Connected machines can send information to an active GSM informing of an upcoming task to help decrease idle times. Active



alarms are sent to an active GSM informing that the machine is down. Active alarm info can be useful in case of unmanned production or real-time maintenance crew awareness.



Run Time Collector

The Run Time Collector is a third-party performance reporting tool. This product can collect run, idle, and fault times for reporting. Reason codes can be defined for idle or fault times for a more detailed reporting.

This software package can be used on any non-Tulus or non-PowerLink machine. Run Time Collector allows third party equipment to be connected within Tulus Office to gather production data.

Upgrade Brings Energy Costs Down

Except for the punching and shearing units of the Shear Brilliance cell, hydraulics are not used in the current Prima Power technology range. However, the thousands of hydraulic machines operating in more than 70 countries have not become a thing of the past. On the contrary, their performance can not only be maintained, but improved through upgrades.

One of the reasons why servo-electric technology is becoming the paradigm in machine tool construction is its advanced energy efficiency. In addition, the evolution of hydraulics has led to solutions that consume considerably less energy than older systems while achieving major cost savings in production.

In many machine series, the hydraulic system used in turret punch presses and combination machines (SG/LP) can be upgraded by replacing it with the F3 evolution model. This upgrade, available since last summer, has already been installed in numerous machines throughout Finland.

“The biggest benefit is the noise level. There is no more continuous, loud noise. Further, there are no more oil leaks, and oil temperatures are much lower than they used to be.”



Established in 1988, Lapuan Piristee Oy has over 30 years of experience in the metal industry. Currently, the company is among the leading suppliers of rainwater systems and roof safety equipment in Finland under the Pisko brand. Their main products are system parts, wall and roof ladders, roof bridges, and snow barriers.

In addition to Finland, Piristee markets its products throughout Europe, with Romania and Poland being the two most rapidly developing markets. The company has 60 employees and its revenue approaches 14 million euro. Future growth prospects are very promising. Piristee



depends upon the general trend in house building, and efforts are being made to start exporting globally, according to CEO Jaakko Piri.

Piristee operates three manufacturing plants, two of them with a Shear Genius® cell in their machine base. The first installation of the F3 evolution hydraulics was made on a 12 series Shear Genius® and due to highly-positive experiences, this was repeated for the series 10 cell as well.

Machine operators Pasi Korri and Mika Nahkala both describe this upgrade as excellent. “The biggest benefit is the noise level,” says Nahkala. “There is no more continuous, loud noise. Further, there are no more oil leaks, and oil temperatures are much lower than they used to be.”



"If there's something negative to say...well, the machine no longer warms the factory facilities!" jokes Nahkala.

Operator Janne Halmesmäki, located in the second plant, concurs that the machine generates hardly any heat and noise levels have been greatly reduced. "The change is huge from the past," explains Halmesmäki. "Annually, we process a total of 1.5 million kilos of steel. From one sheet, some 60 - 70 ready components are fabricated, so the parts are mainly small and the batches very long."

F3 Evolution supports the company's upcoming environmental certification project since the machines consume 50% less energy after the upgrade.

Less Energy for Powerful Tractors

AGCO Suomi Oy is a tractor manufacturer, with headquarters in Central Finland. The Valtra range is the market leader in the Nordic countries and also is very well known in South America. For many years, AGCO Suomi has cooperated with Maaseudun Kone Oy in the production of tractor cabins through a strategic partnership. Six truckloads of complete cabins are delivered daily from Maaseudun Kone's facility in Kauhava.

Maaseudun Kone operates machine tools seven days a week in two shifts. Continuous capacity has been ensured in many ways. For example, during the weekends the personnel on duty receives a GSM message if there should be a malfunction in the turret punch presses. A maintenance agreement ensures that the machines are properly maintained and the PC Care agreement ensures that the computers work faultlessly and the latest programs are available.

According to Antti Keskikangas, production manager, Prima Power punching technology has provided solid performance. "Ultimately, productivity depends on the quality of the material processed, some 45 tons every week," says Keskikangas. Two F6 turret punch presses were



installed in 2001, so they are into their second decade of service. They operate within a Night Train FMS®.

The machines have been retrofitted with the F3 Evolution. "There has been no need to use the oil cooler after the upgrade," explains Keskikangas. "Alarms due to excessive temperature used to be quite common...now they are a thing of the past."

According to Keskikangas, opinions about the F3 Evolution are favourable. "Energy efficiency is a reality, proven by 50 % savings in energy consumption.



The Art of Bending: Press Brake Tooling Solutions for Every Challenge

By Jeff Paulson, Marketing Manager, Wilson Tool International

Bending metal can be a complex endeavor. Add to the task itself the pressures of finding new ways to minimize downtime, reducing tooling costs and simplifying complex bends, and press brake fabricators are faced with a real challenge. This is when you need a partner that can offer a broad range of solutions.

Beyond a complete selection of press brake tooling and clamping solutions, Wilson Tool International® offers a depth and breadth of knowledge that is virtually unmatched in the industry. Wilson's tooling engineers understand the challenges faced by press brake fabricators better than most and are continually developing creative solutions designed to improve performance and reduce costs.

Replaceable Large Radius Tips

One such solution designed to reduce setup time is Wilson Tool's new radius tool holder with replaceable tips. This new fastening system makes it easy to remove the tip from the holder simply by loosening the hardware one turn, then inserting a new tip and retightening. The hardware will automatically seat the tips into the holder when tightened.

The punch holders and replaceable radius tips are built for long-lasting durability. Each radius punch holder is hardened to 52-60 HRC at the V-contact points and given a black oxide finish to protect against rust. And all of the replaceable radius tips are hardened with our Nitrex® surface enhancement to 70 HRC for maximum strength.



All holders are 19.68 in. (500 mm) in length. Radius tips are interchangeable with Wilson's American, European and WT style holders. A wide variety of sizes are kept in stock and available for quick delivery.

V-Series™ Press Brake Dies

Wilson V-Series™ press brake dies with rolling inserts decrease friction and improve performance on certain tough-to-bend applications, such as small flanges, small-bend radii and bends closer to holes.

These uniquely versatile dies also help reduce setup time and minimize the amount of tooling required by making it possible to bend a wide range of materials using the same die.



V-Series dies include built-in blades that rotate to minimize lateral movement between the sheet and the die. This decreases the friction between the die and the sheet to minimize sheet marking.

The rotating blades are available in either metal or composite material. Metal blades are the most durable, while composite blades are ideal for minimizing sheet marking. Both blade types are interchangeable within the same die base.

Wilson V-Series dies are available for virtually all styles of press brake tooling.

One Source. Total Solutions.

In a competitive industry in which every advantage counts, having a partner who understands your challenges and provides total solutions is invaluable. Whether you're looking to shrink setup times, solve a complex application or simply reduce costs, Wilson Tool will work with you to find the right solution.

Wilson Tool offers a complete selection of precision, staged and conventional press brake tooling and manual and hydraulic clamping solutions, as well as custom tooling for challenging applications.

Wilson Tool can help you spend less and bend more with new radius tool holders with replaceable tips. Or make hard-to-bend applications easier to produce with Wilson V-Series press brake dies.

Whatever you need, Wilson Tool can provide a solution. Call **800.445.4518** or visit www.wilsontool.com/bending.

Pioneering a New Way of Doing Electronics

Through its brands DOTS®, OSAI® and CONVERGENT™ Prima Electro is a leading specialist in electronics, numerical controls, and laser sources.

Formed in 1978, Prima Electro gradually developed its own identity, consolidated by conquering new markets and making some important external acquisitions.

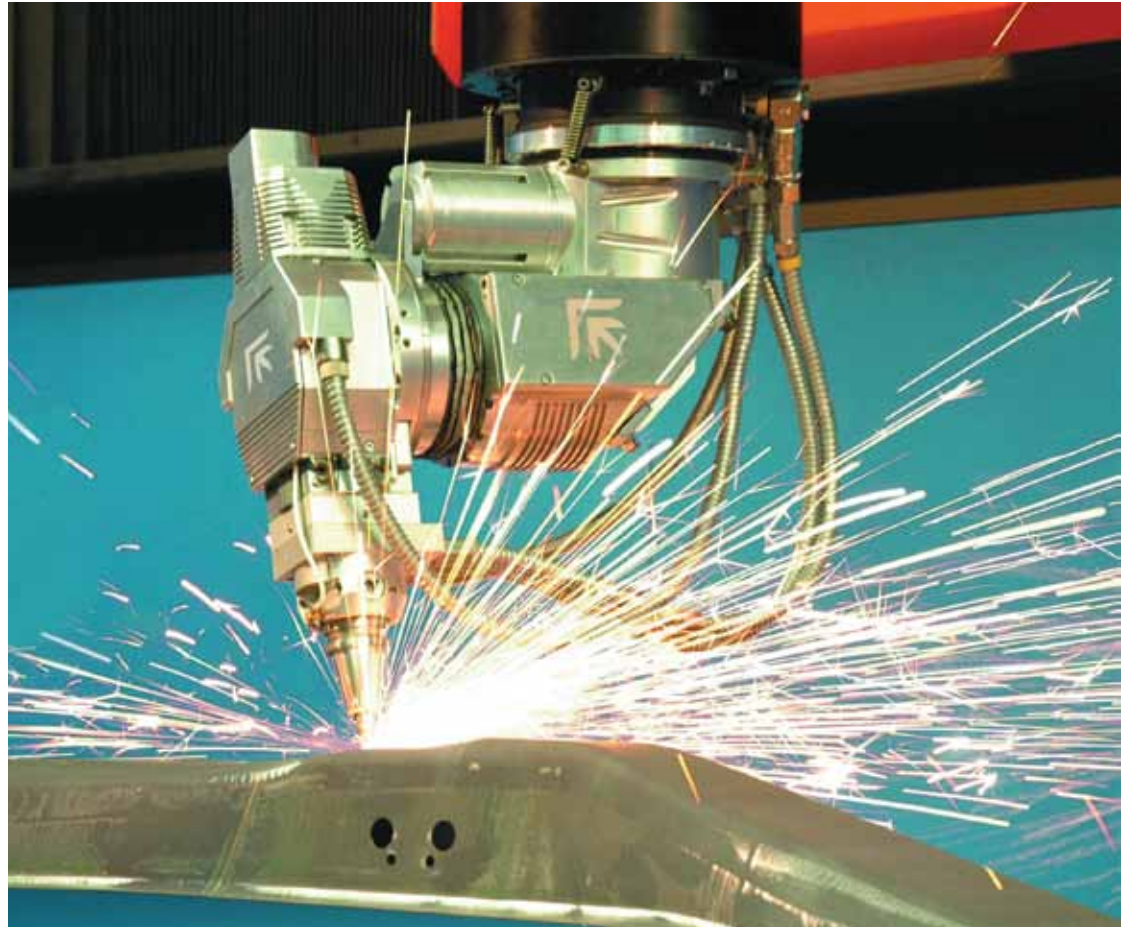
With the acquisition of OSAI, the worldwide pioneer in CNCs, Prima Electro became the Italian leader in the numerical control market and the international reference leader for applications in glass, wood, stone, and special machinery.

More recently, the acquisition of Convergent lasers made Prima Electro one of the key players in the industrial laser market.



Prima Electro has manufacturing facilities in Italy (Moncalieri and Barone Canavese) and in the USA (Chicopee, MA).

Prima Electro is a company that grows together with its customers. It shares the risks, successes, and business strategies. It has extensive technological expertise and shares it with clients' technical entities. It manages all the development and manufacturing stages of a project, taking on the associated responsibilities. Prima Electro shows integrity, willpower, and



passion in its long-lasting relationships with its customers while upgrading its products and delivering long-term support.

With DOTS, Prima Electro is pioneering a new way of approaching electronics. DOTS is proposing technologically-advanced solutions,

designed and tailored to clients' specifications and applications, but with the same level of industrialization as any standard commercial product. It is a business model suitable in several industrial sectors, combining the ability to offer dedicated solutions with a fast time-to-market and competitive prices.



Continued from page 2

Editing of the Precision

It allows insertion or modification of instructions related to the precision on the trajectory execution.

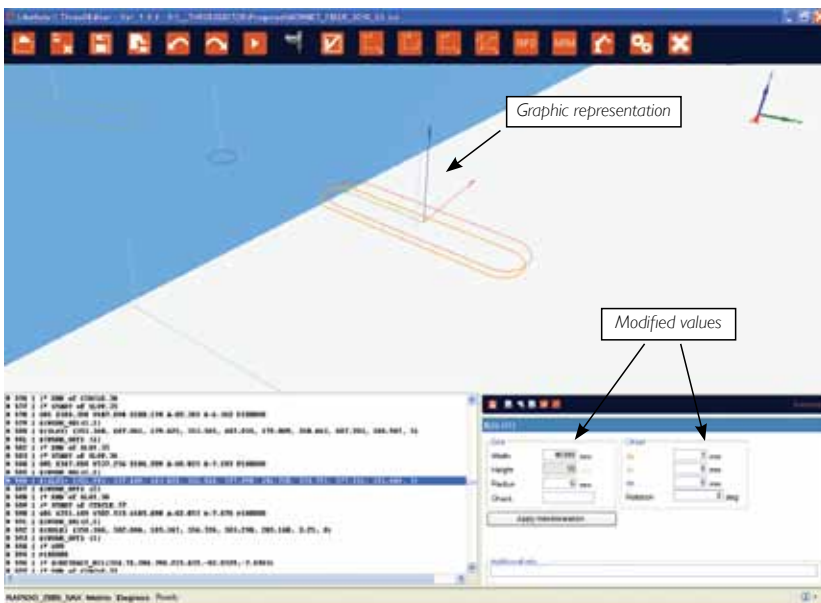
Furthermore, the precision data for look-ahead can be selected and defined.

Trajectory Precision: Editing of the Geometric Figures



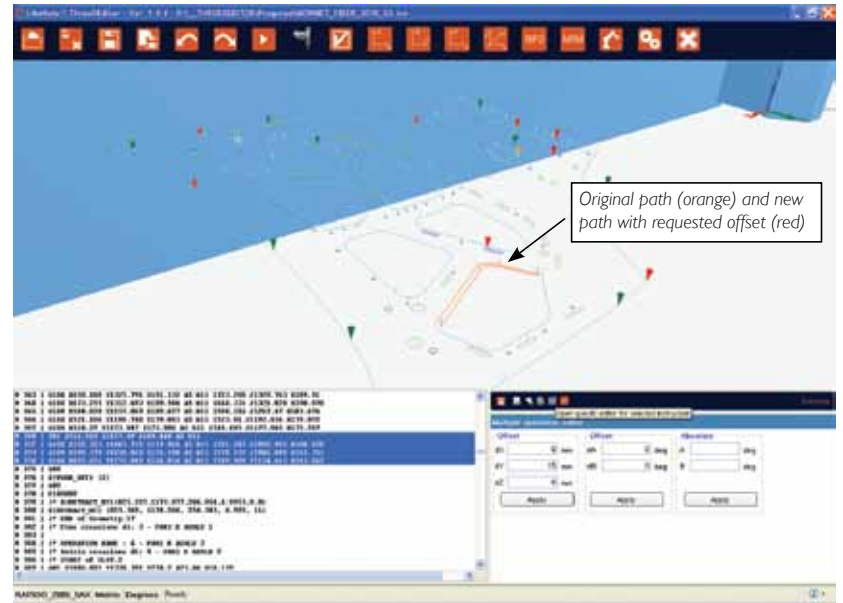
For each geometric macro, a panel is displayed in order to modify the typical parameters of the figure (Example: radius of a hole, sides of a polygon, etc.)

The image is updated at each modification: the original shape and the modified one are displayed at the same time.



Editing of a Working Path

Each change is displayed together with the current values.

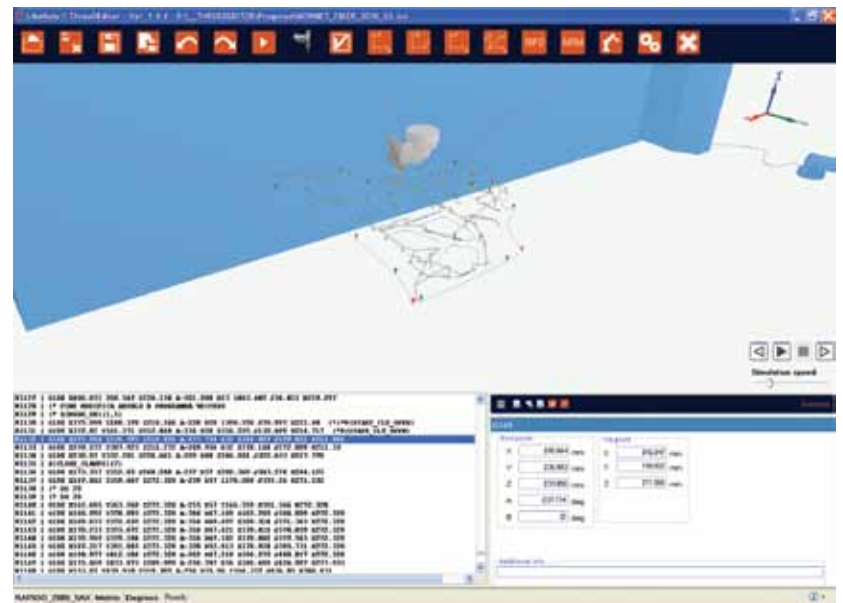


The changes are automatically applied and stored in the part program only after the operator's confirmation.

Path Simulation

A command allows simulation of the part program.

During the simulation, the model of the machine head is displayed along the trajectories.



The system is able to make changes even on a running program, with consequent advantages for the productivity.

Simple, fast, low cost.

This is what you need in intensive production.

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