



EsaBend 3D

EsaBend is an application for the programming and the simulation of a Press Brakes machines with a CNC, used to increase productivity, decrease downtime and reduce material wastage.

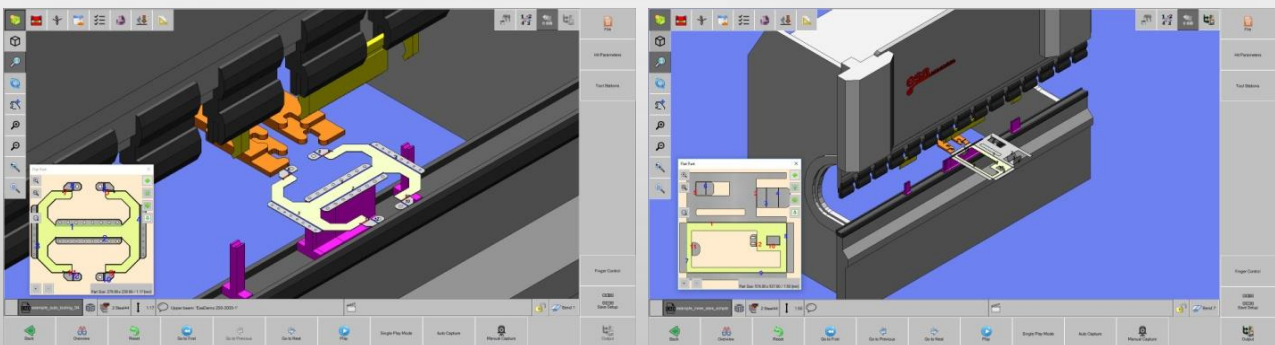
EsaBend allows offline calculate the tooling and bending sequence, through a 3D simulation environment where they are checked for collision between the part, tools feedback and machine components

General features

- Direct import from SolidWorks, Solid Edge e Inventor
- Import and unfolds IGES and STEP 3D parts
- Automatic and manual tool selection based on the type of material, machine and tools properties
- Automatic and manual bending sequence with collision control
- Automatic calculation of the back gauges backing
- Automatic and manual back gauge positioning with interactive graphic controll of all axes
- 3D simulation of the bending process with collision detection
- Detailed report of tooling stations of the machine which also includes the bending sequence, the tools used and the graphic and specific information bend by bend

Benefits

- Automatic features that speed up management time from design to finished product
- Offline programming which allows minimizing downtime
- Collision control in the bending sequence that allows a reduction of the material discarded
- Automatic and manual bending sequence with collision control
- The tools library is compatible with the availability of tools needed for the production



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Efficiency in tool selection

Based on:

- Availability of different types of tools and its fractionation
- Bend radius
- Maximum machine force
- Collisions control

Full crushed fold management

- Definition of default tools crushed fold, for automatic recognition
- Setting the pre-bending angle, with default and editable value

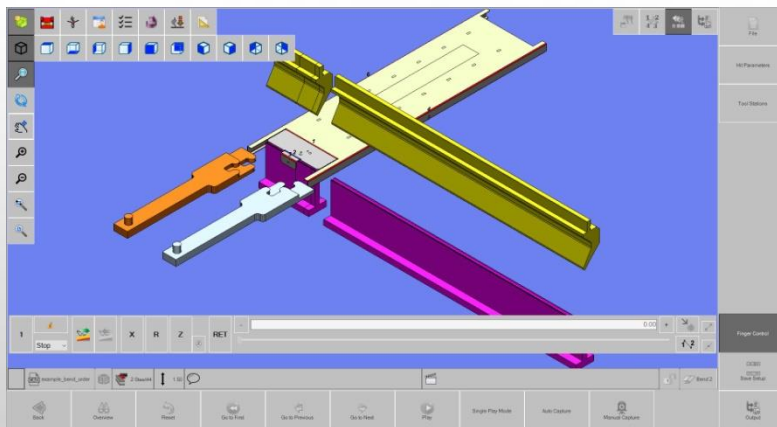
Sequence of bend calculation

EsaBend automatically calculates the sequence of bend taking into consideration the following points:

- Avoid collisions
- Availability of the fractionation of the tools

Full manual control:

- Split of complete folds into partial folds, with the angle definition of pre-fold
- Interactive editing of the order of the bending sequence



Back gauges positioning:

EsaBend provides automatic and manual control options of the back gauge:

- Automatic position back gauge supporting
- Automatic calculation tooling considering the shape of fold
- Graphic and interactive control for all of the axis
- Snap Management on all axes for precise positioning stop

3D Simulation and collision detection



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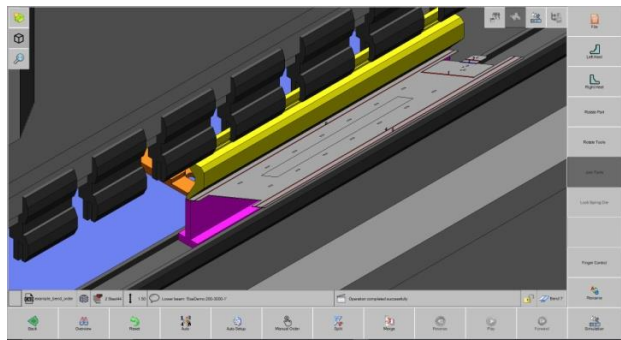
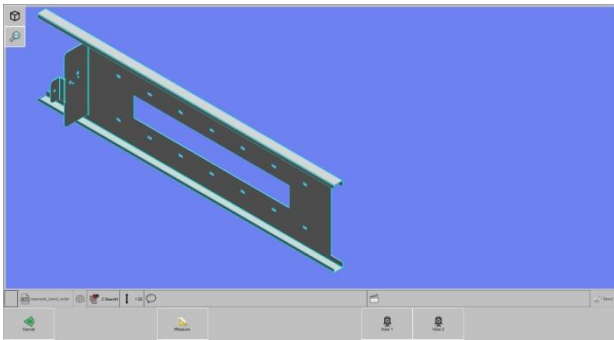
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EsaBend comes with real-time, automatic 3D simulation, presenting a realistic visualization of the bending process. The simulation helps you to create an error-free process, producing NC code or a bending report. The simulation lets you check whether the part collides with the press brake, tool setups, finger-stops, or even with itself. It also checks whether the finger-stops collide with any of the tool setups, and whether the punches collide with the dies.

- Real-time animation
- Realistic visualization of bending process
- Dynamic collision analysis (e.g. backgauge movement)
- Detection of collisions between all moving elements
- Operator part handling
- 100% correct program



Tooling report

The complete tooling report includes:

- Bend sequence instructions
- Tool information and tool setup details
- Flat view with the bend sequence
- Product handling
- Bend By bend graphics

