What's New in MBend V10

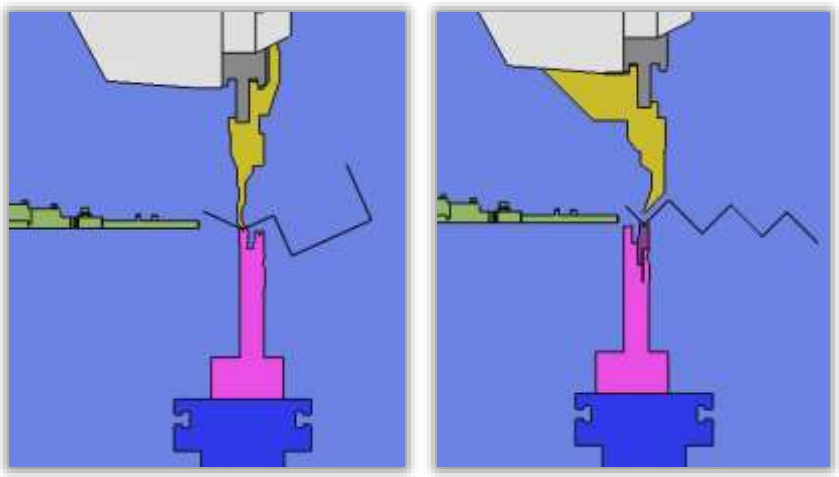
Content

1 Tooling

1.1 Yoshino ATC Support

MBend now supports Yoshino ATC (Automatic Tool Changer) machines, which can change upper and lower tooling sets in a single run.

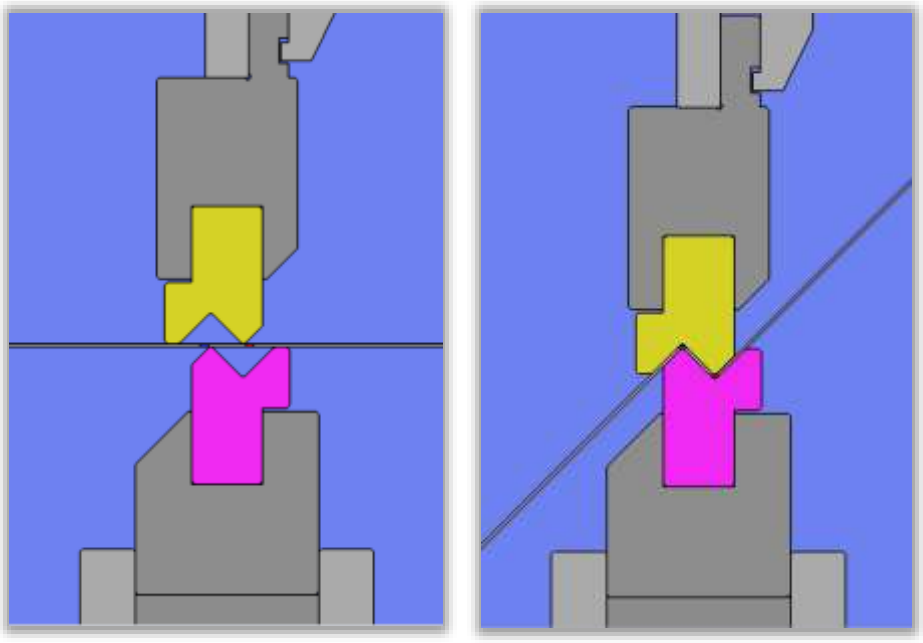
ATC reduces the non-productive time, and improves the tool carrying capacity of the machine. Multiple punches, dies, and hemming can now be programmed together in the same run.



1.2 Joggle (Z Bending) Support

MBend V10 supports Joggle bends, also known as Z or Offset bends, where two bends are made in one machine stroke.

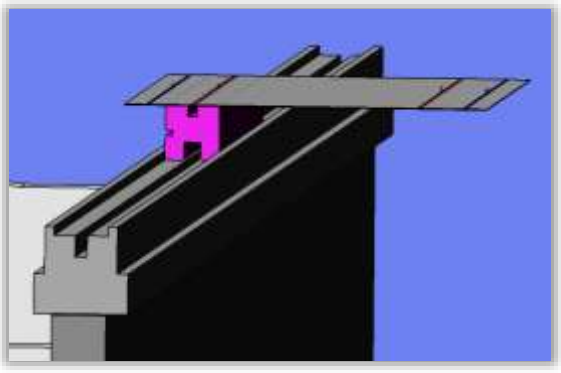
MBend recognizes joggle bends automatically when importing a 3D file, and once tools are assigned, simulates their bending:

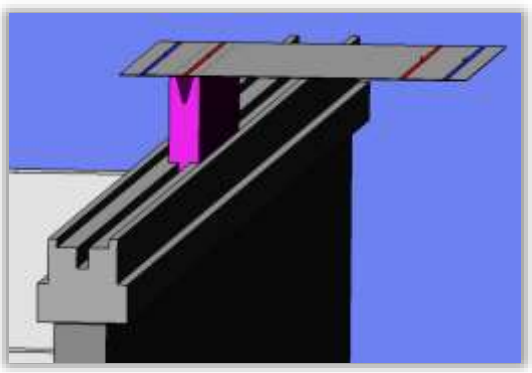


1.3 Joint Clamp Support

MBend now supports multiple joint clamp systems – the same clamp can be used for dies with differing joint types, giving a better simulation for real-life situations.

For example, on the same clamp you can mount a die with a Euro joint (shown in the left picture) and a die with a Willa joint (shown in the right picture):





2 Job Time

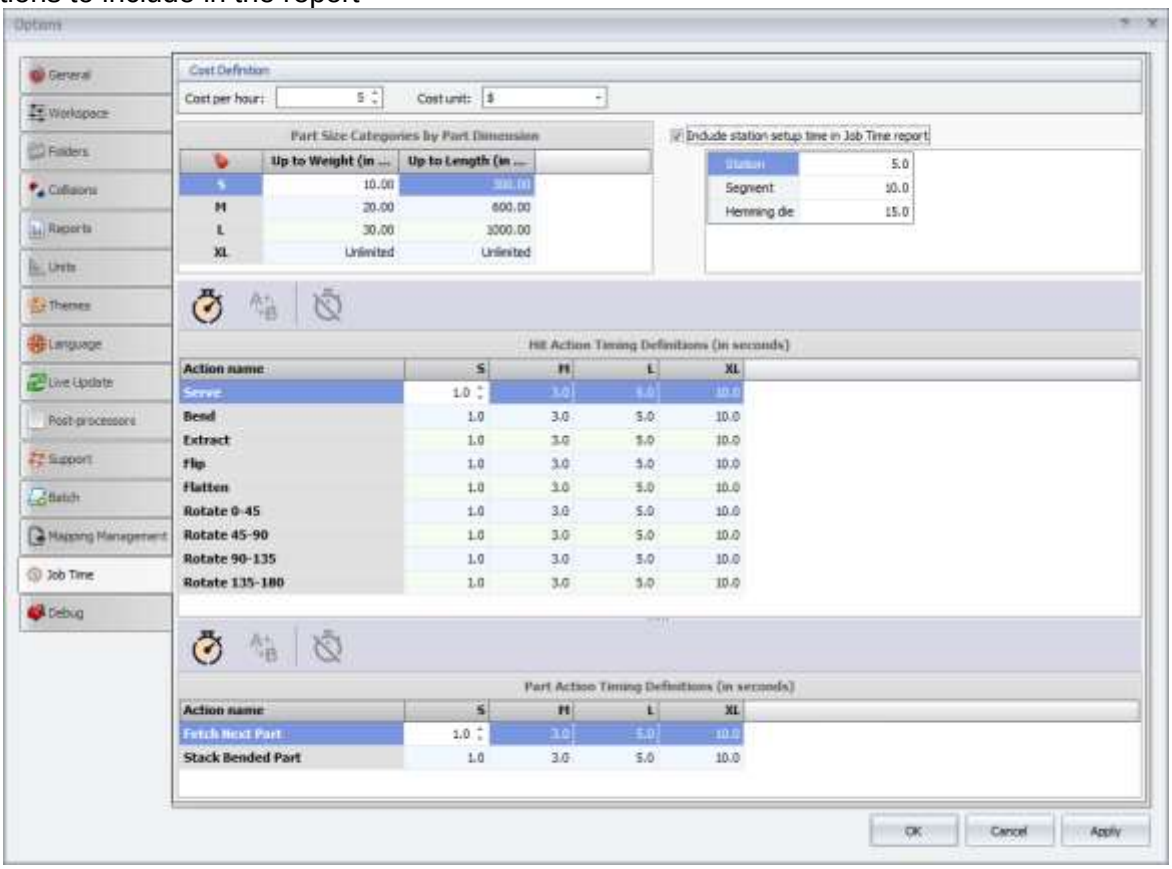
2.1 Job Time management

Job Time is a new management tool for calculating time estimation for a project.

To view and edit Job Time settings click **Home** tab=> **Options** => **Job Time** tab.

Some of the available settings:

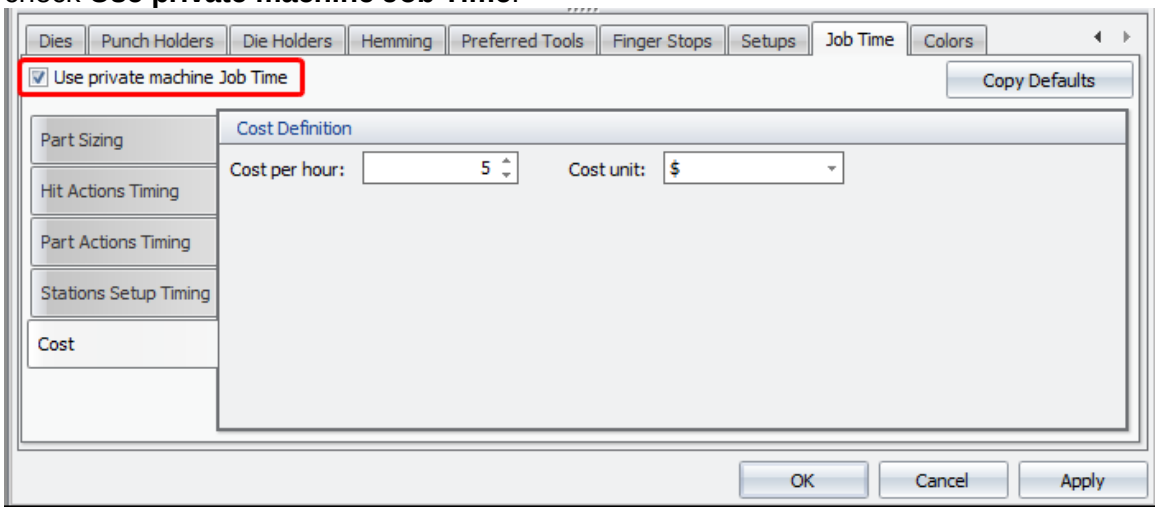
Time for any action involved in the bending process: custom processes may be added.
Currency and cost per hour
Stations to include in the report



2.2 Creating the Job Time Report

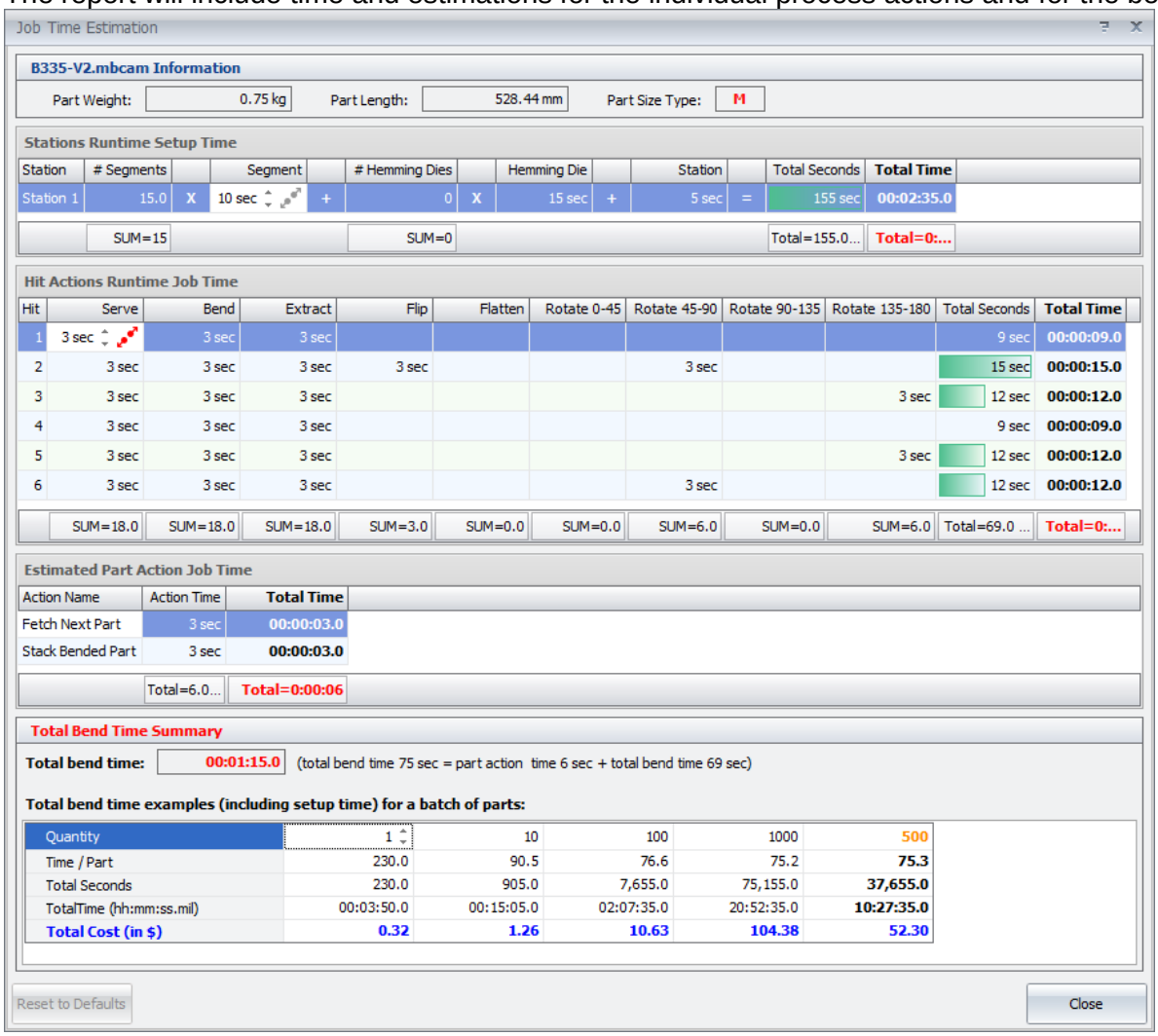
A job time report for each machine may be created. The report is generated manually and is not a part of the Setup Report.

To customize the job time settings for a machine, click **Home** => **Machines** => **Job Time** tab and check **Use private machine Job Time**.



To view the Job Time report, click **Simulation** tab => **Workflow** group => **Output** => **Job Time**.

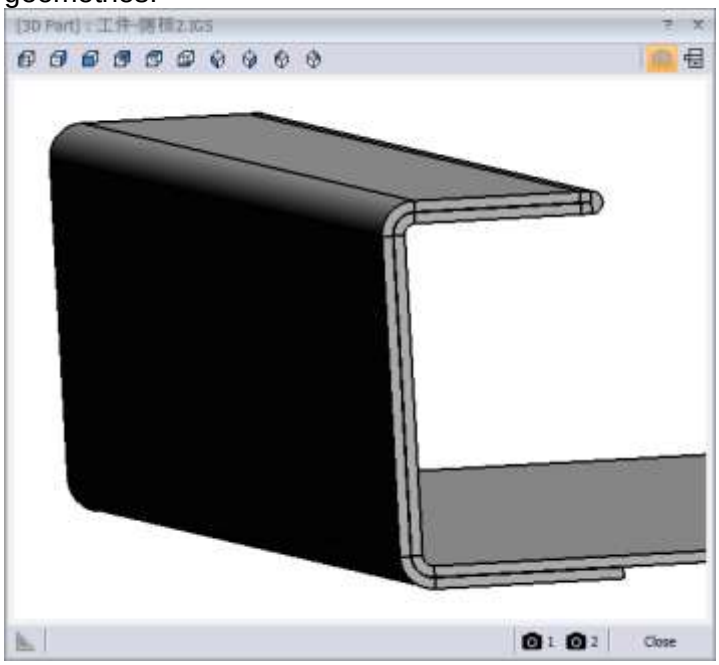
The report will include time and estimations for the individual process actions and for the bent part.



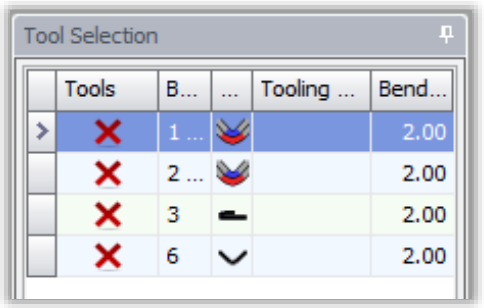
3 Double Thickness Bending

This feature is available for machines, i.e. controls, that support double thickness.

MBend can now simulate and generate NC file for bending parts with double thickness geometries.



A double thickness bend is marked with a unique bend icon  .

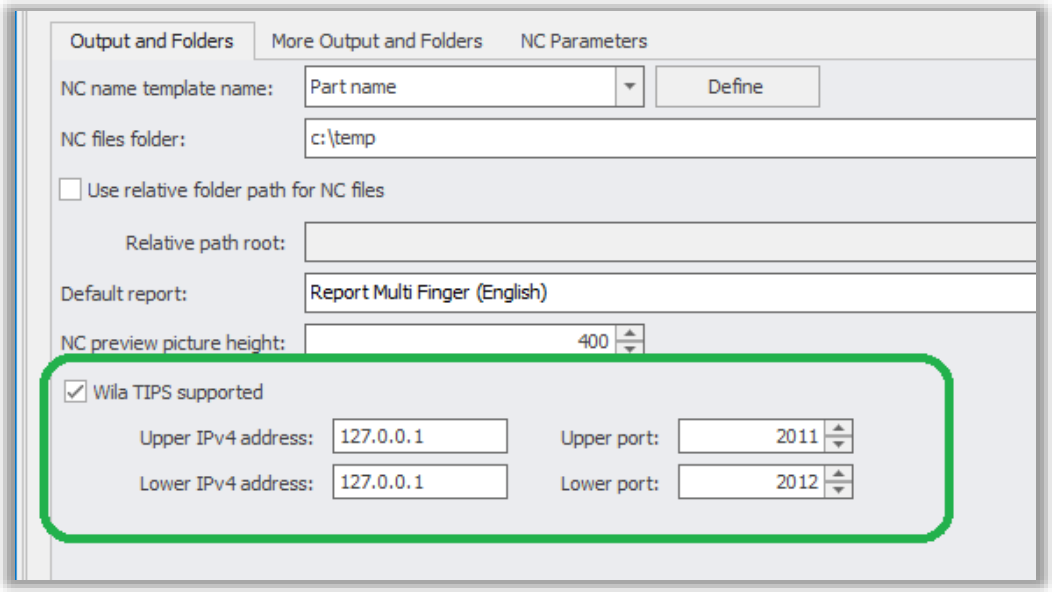


Note that the automatic tooling feature is not available with **Double Thickness**.

4 Wila TIPS

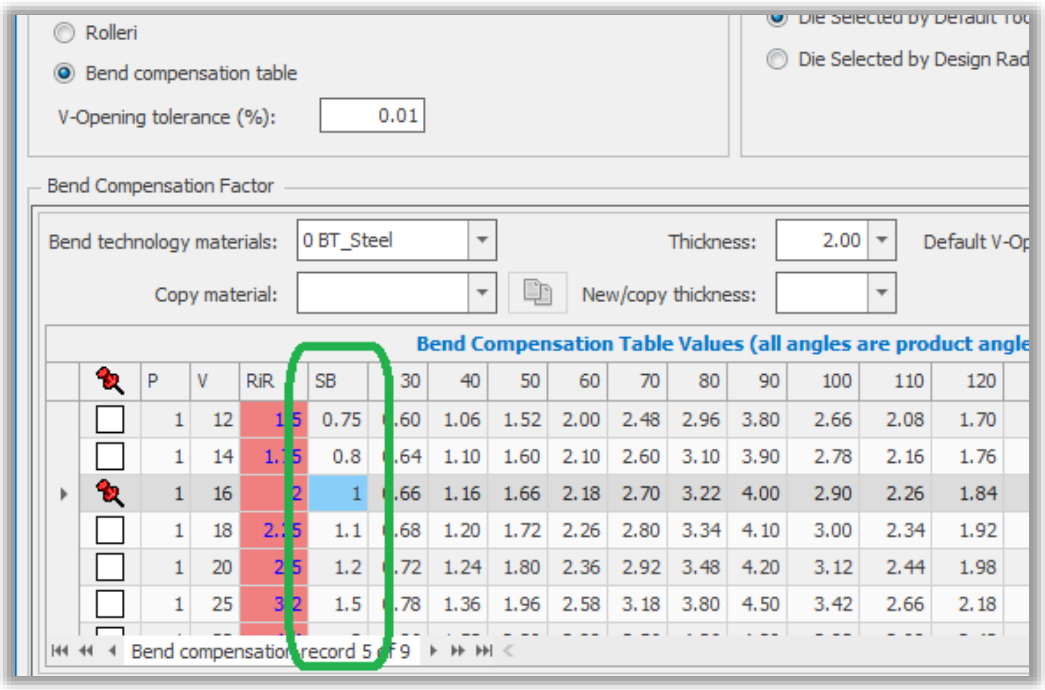
MBend V10 supports Wila TIPS (Tooling Identification, and Positioning System), outputting a definitions file that can be used to initiate this system.

To activate this feature, click **Home** tab => **Machines** and select the machine to enable Wila TIPS. For the selected machine click **Output** tab => **Output and Folders** tab => check **Wila TIPS supported** and set the correct parameters:



5 Better Support for Springback

MBend now allows you to set the **Springback Angle** for each entry in the **Bend Comensation Table**:



For each material, thickness, and V opening, you can set the precise overbend angle required and **MBend** will simulate the part accordingly.

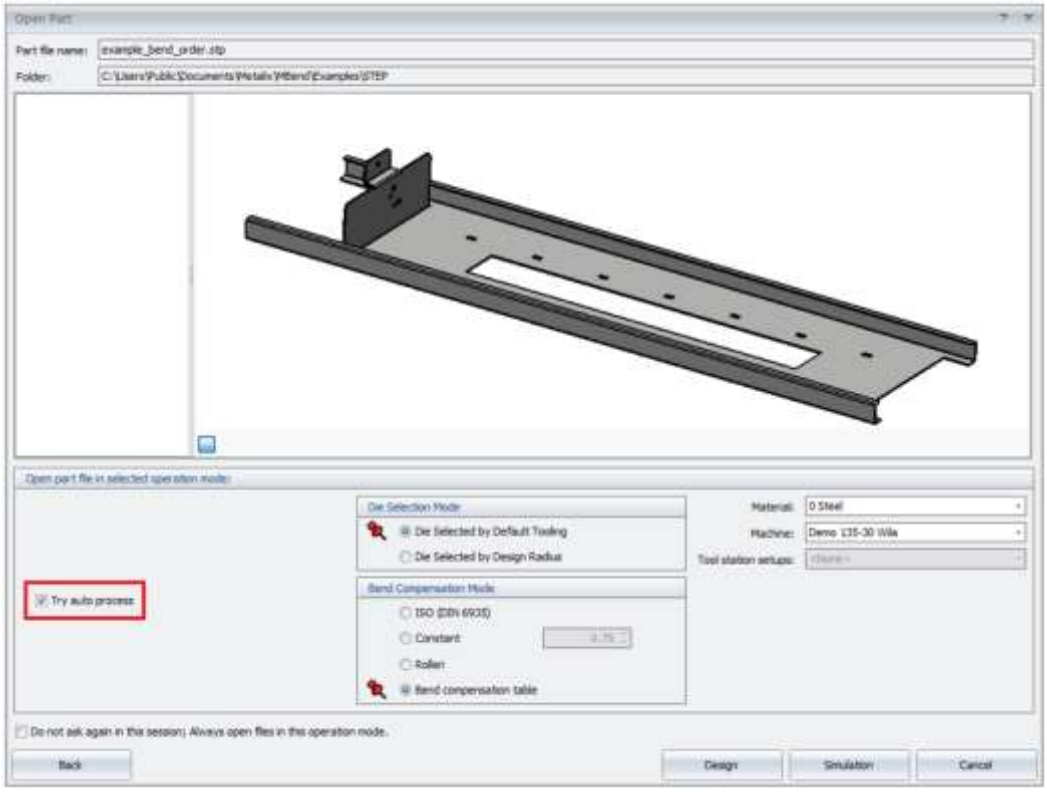
To obtain the correct overbend angle value, test each material on the machine.

6 Try Auto-Process

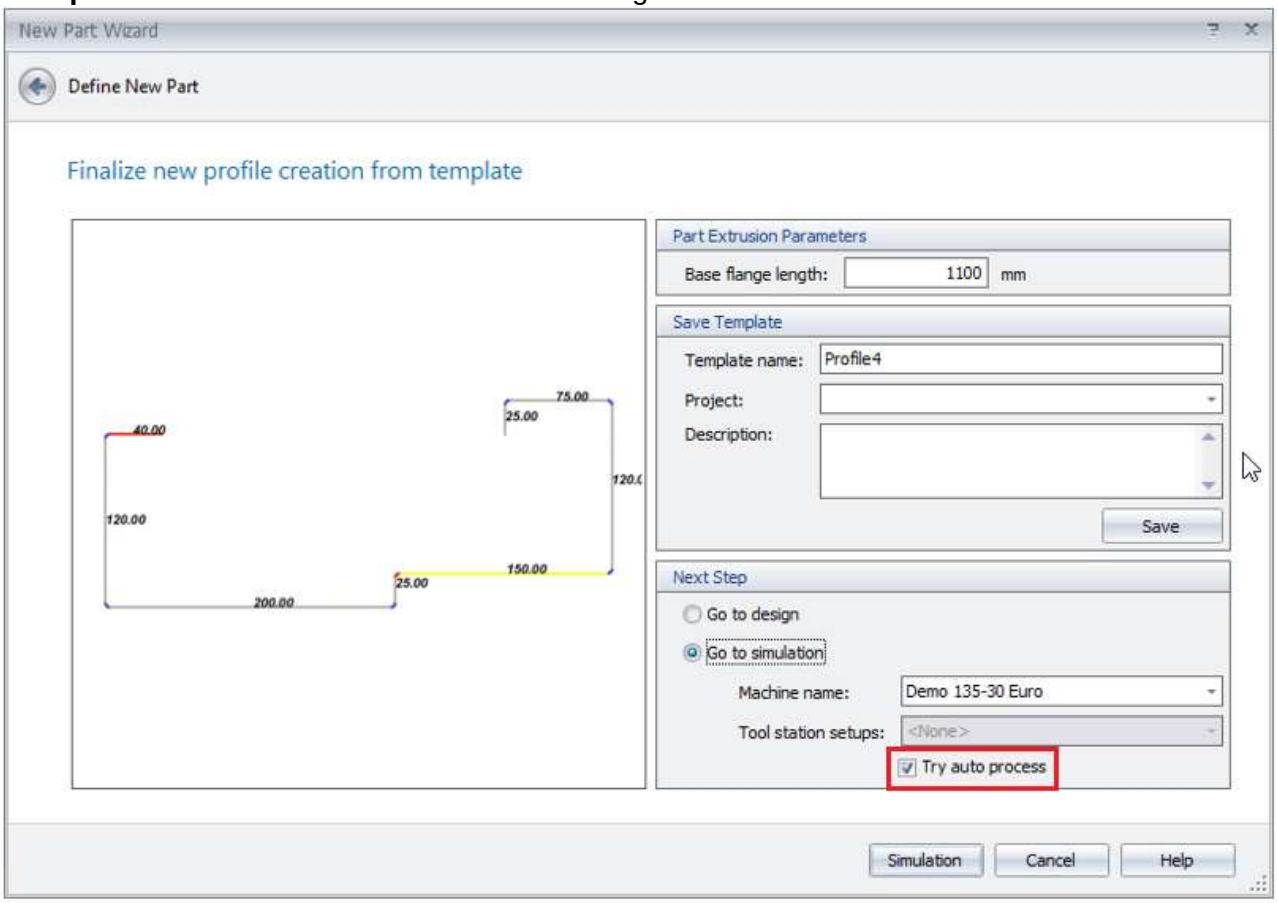
MBend can now automatically process new parts: 3D, flat, or from the **New Part Wizard**.
When a new part is opened:

1. **MBend** looks for **Preferred Tools** for the part (by machine + material + thickness).
2. If there are **Preferred Tools, MBend** applies them and searches for bend sequences.
3. If a valid bend sequence is found, **MBend** calculates a tool setup.
4. If a valid tool setup is found, **MBend** opens the part in the Simulation stage.

To enable this option when opening a 3D, in the **Open Part** dialog box, check **Try auto process**:



To enable this option when designing a new part, in the **New Part Wizard** dialog box, check **Try auto process** in the final **New Part Wizard** dialog box:

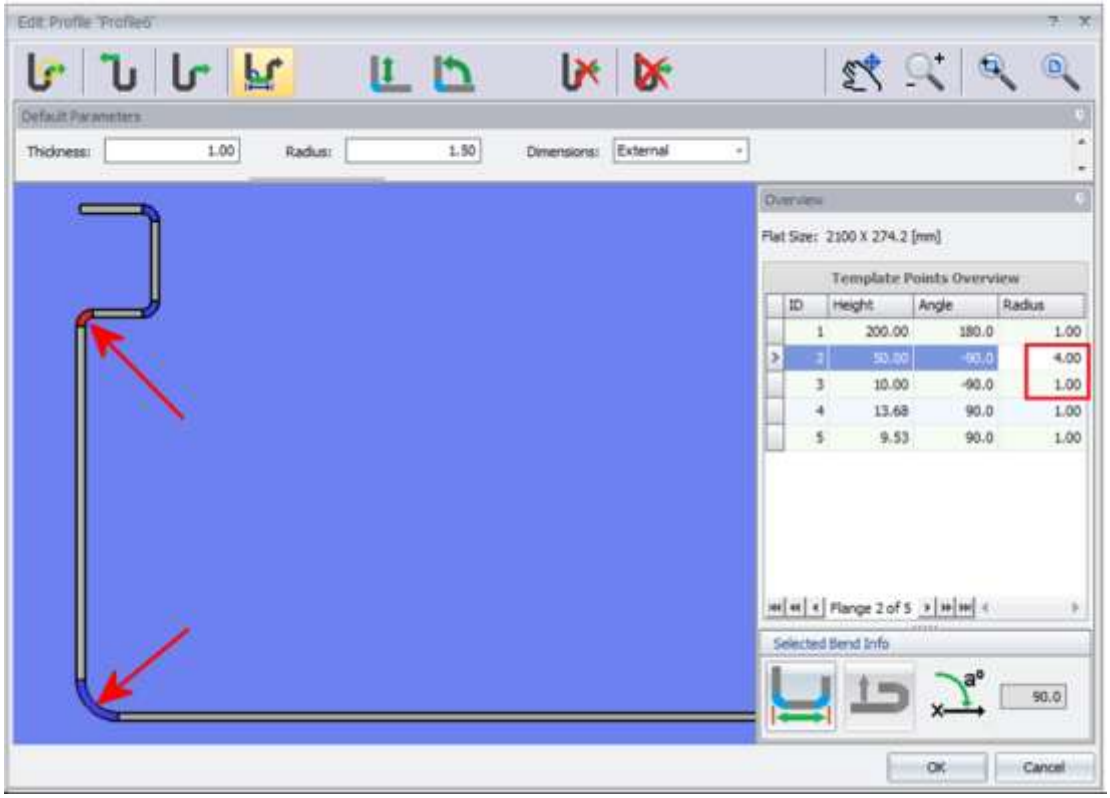


7 Multiple Setup Support

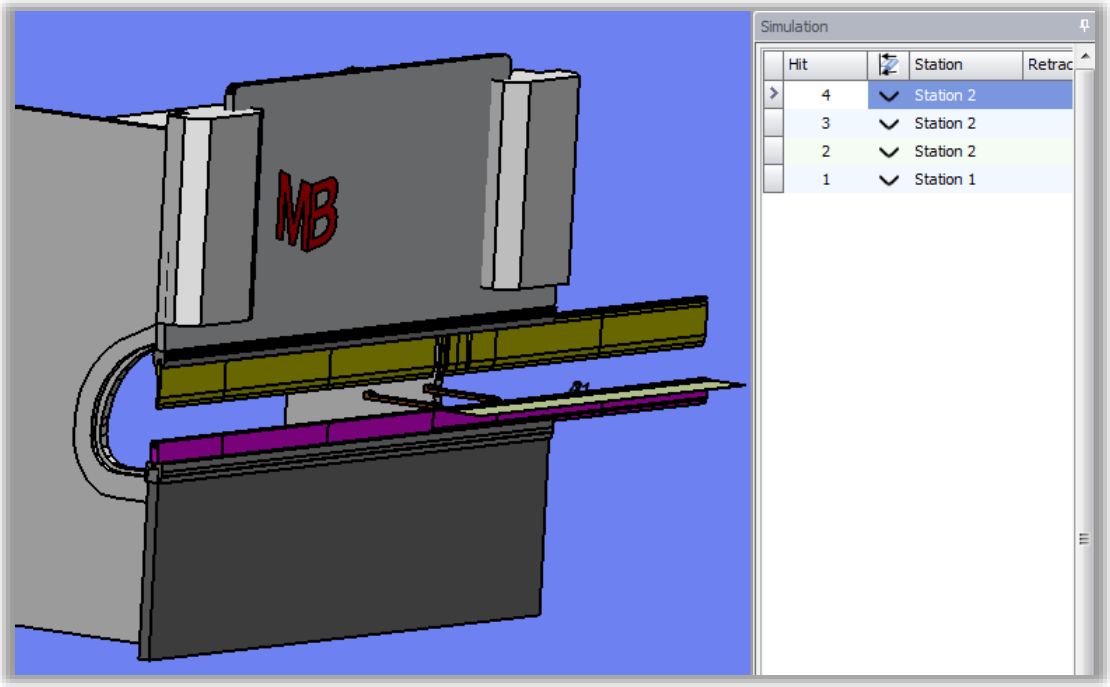
A part may require a setup that is not valid for the machine. For example, the setup may have station overhang, or there may not be enough segments to create the setup.

MBend can now split such a setup into valid sub-setups and generate individual NC file and setup report file for each sub-setup.

The following example shows splitting a setup. This part has bends with two different radii: 1mm and 4mm:



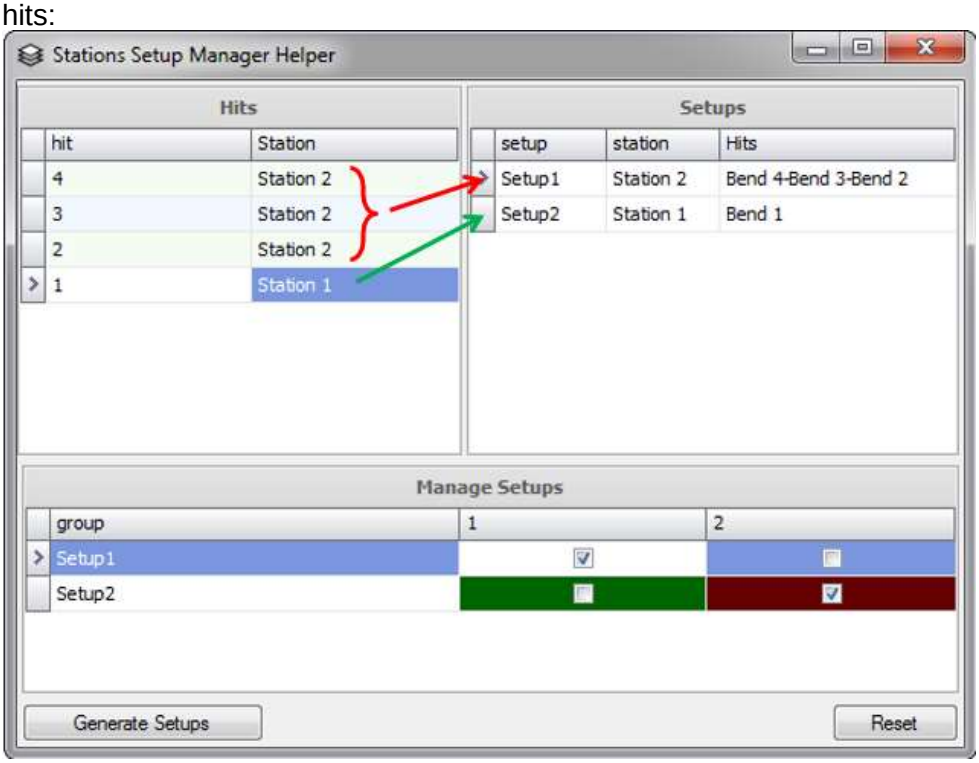
It is not possible to use two different dies because there is not enough room on the machine to accommodate the two stations required:



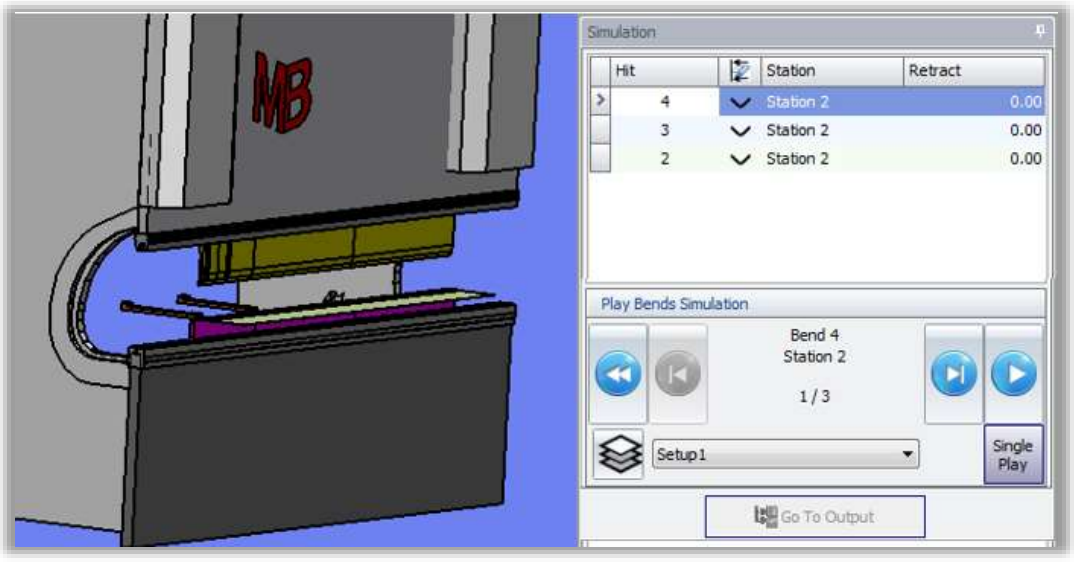
The solution is to use the **Multiple Setup** feature to split the setup into two.

In the Simulation stage, click **Setup Management** .

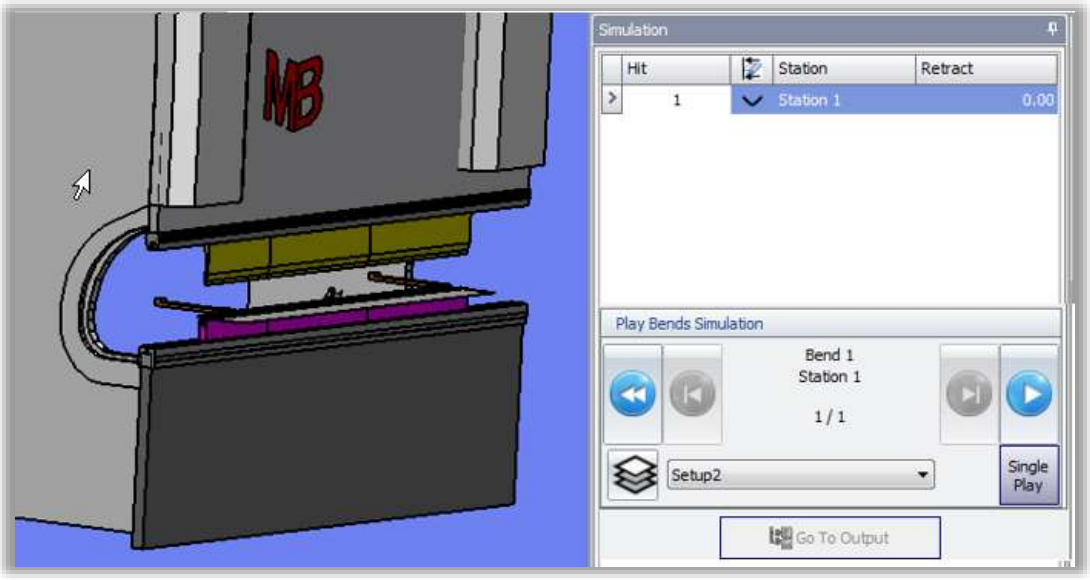
MBend analyzes the setup and checks if it can be split.
In this case, **MBend** found two sub-setups: one for the **Station 2** hits, and the other for **Station 1** hits:



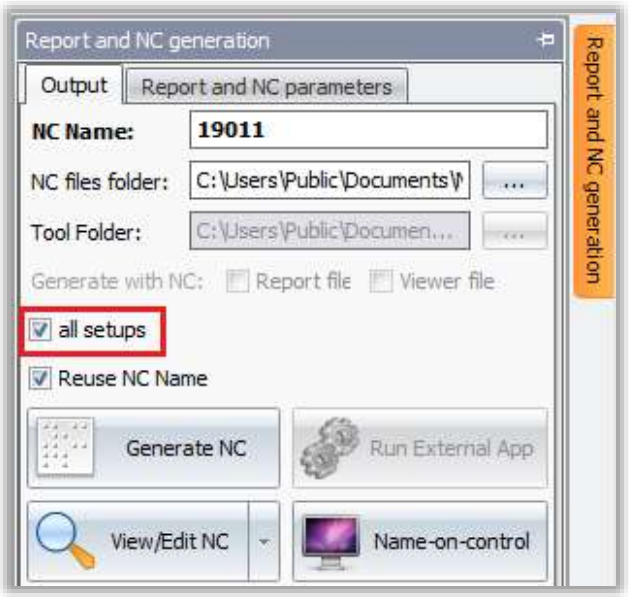
Setup 1 looks like this:



Setup 2 looks like this:



In the **Output** stage, check **All setups** and **MBend** will generate individual NC files for each setup:



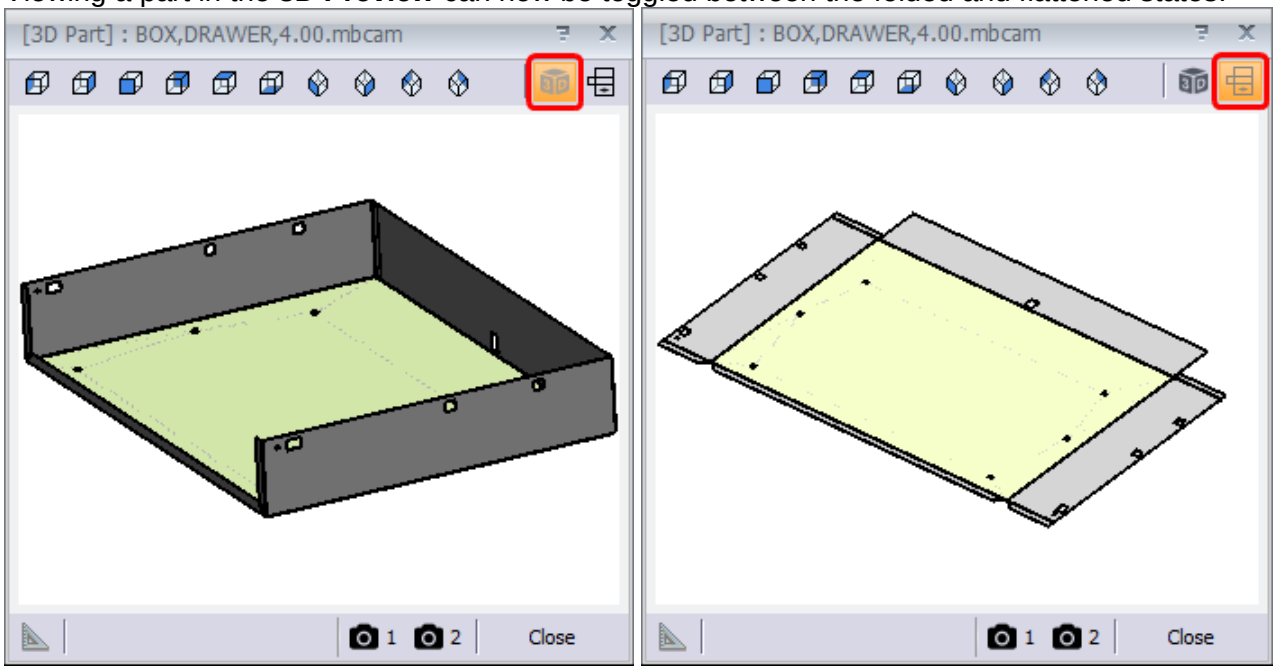
8 Safan Viewer

MBend now supports a viewer for the Safan controller, allowing machine operators to view 3D simulations generated by **MBend**.

Safan Viewer on Safan Controller:

9 Toggle Between Flat and 3D Views

Viewing a part in the **3D Preview** can now be toggled between the folded and flattened states:



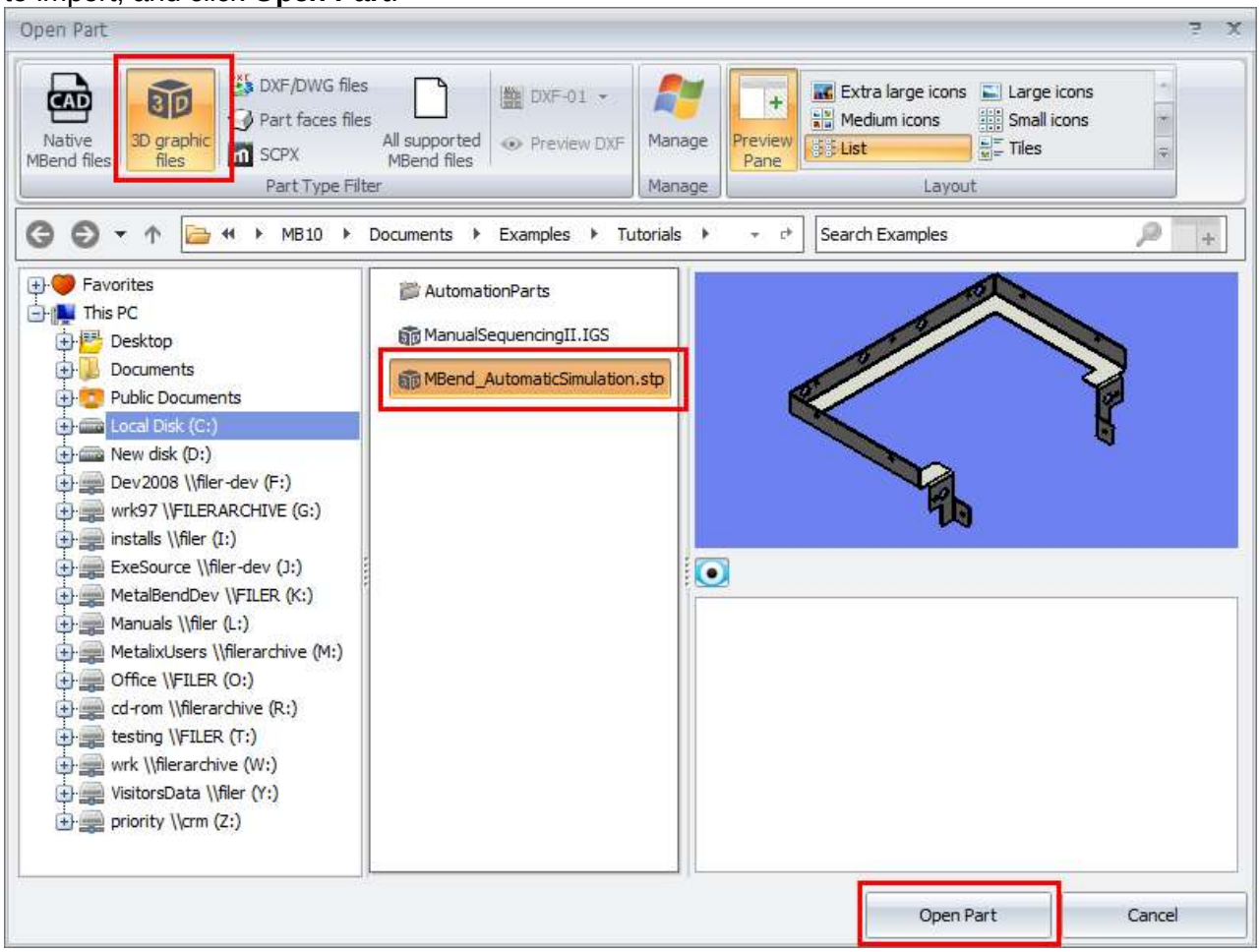
10 Import Additional 3D CAD Formats

MBend can now directly import additional 3D CAD formats: SLDPRT, X_T, and 3D SAT files.

Importing SolidWorks is only available for 64-bit systems.

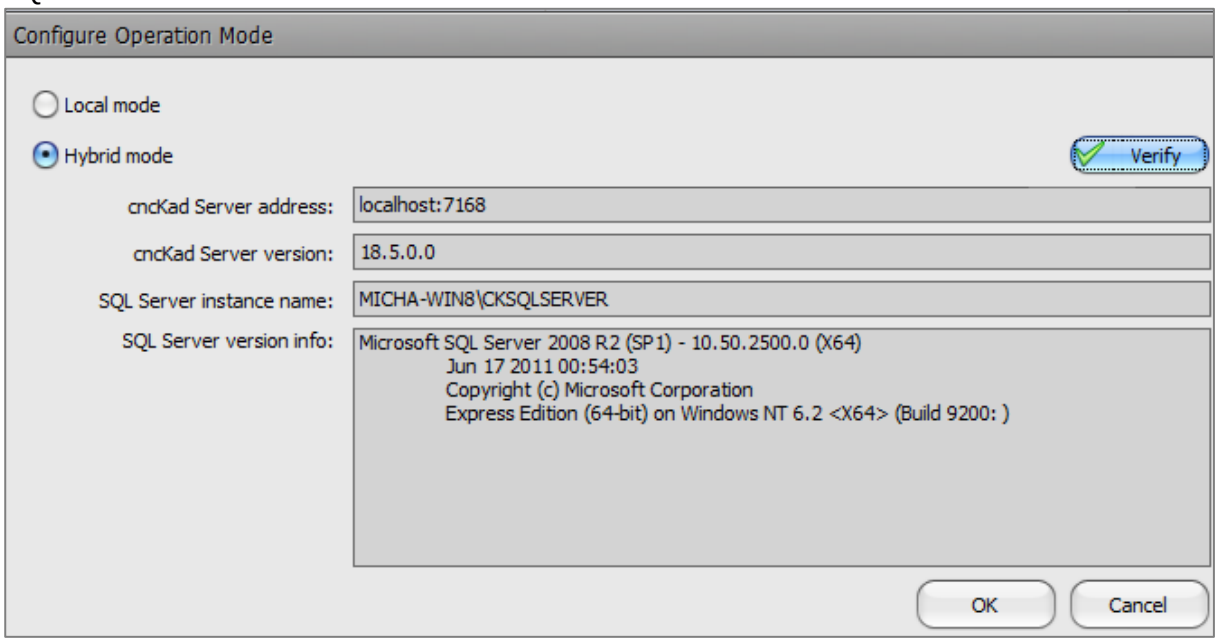
To open a 3D graphic file:

Click **Home** tab **=> File** group **=> Open => Part Type Filter** group **=>** , select the desired file to import, and click **Open Part**.

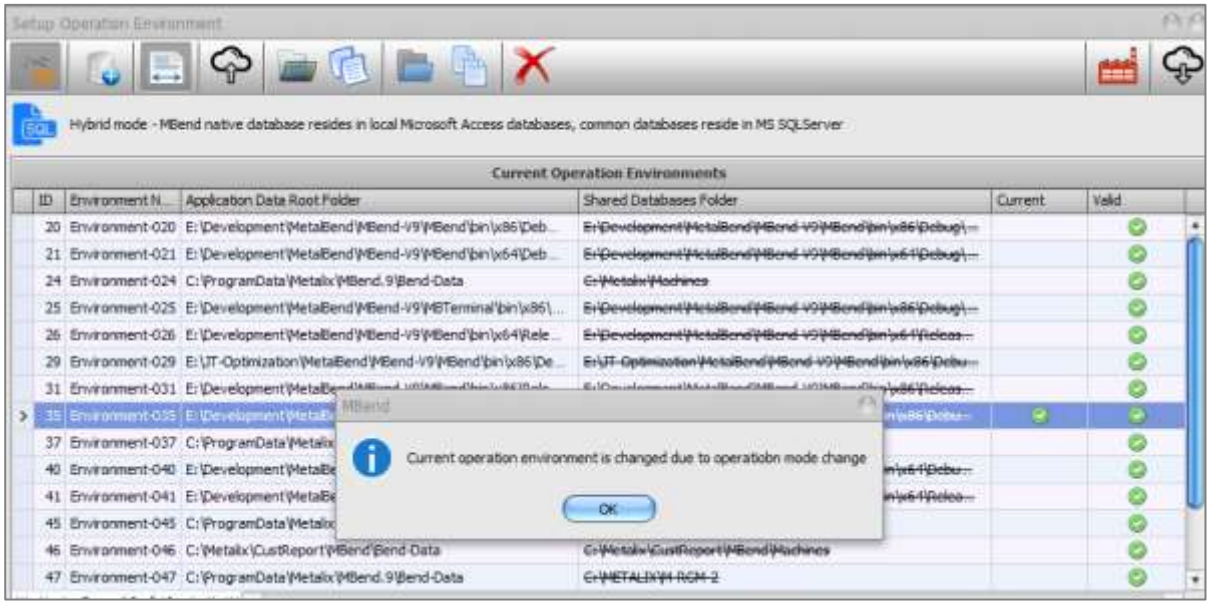


11 Hybrid Database Mode Support

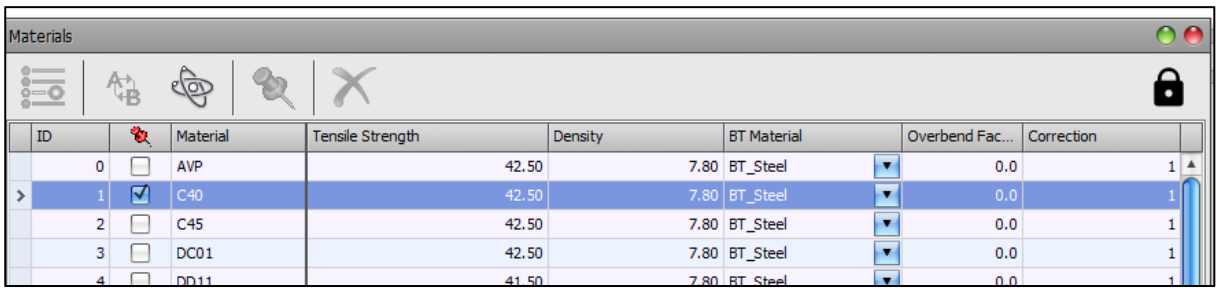
SQL server-based tables for material and bend compensation is now supported and called **Hybrid** mode. This mode is designed to connect **MBend**, **cncKad**, and **CAD Link**, when **cncKad** is in SQL mode.



With SQL connection, the **Setup Operation** dialog box displays the **Hybrid mode** icon and the local database folder paths are crossed out, indicating that these databases are not used any more.



MBend access rights to SQL server-based material and bend compensation tables, are configured in **cncKad**.



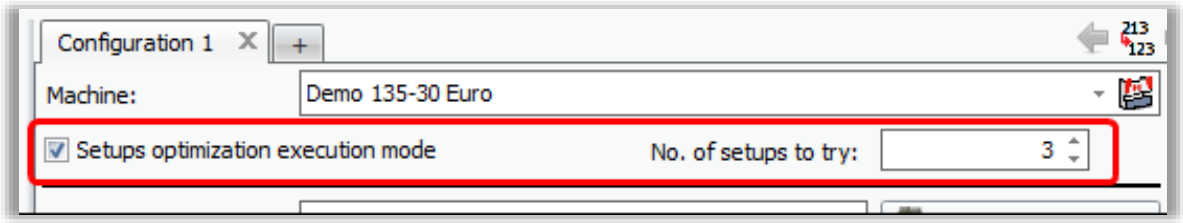
12 Setup Optimization in Batch Processing

MBend can now optimize the total number of setups used in a batch.

When running the batch configuration, **MBend** saves the setups that successfully processed the parts in the batch, then attempts to re-use the setups for subsequent parts.

The fewer setups per batch, the faster and easier it is for the machine operator to bend the parts.

To enable this option, in the **Batch Editor Wizard**, check **Setups Optimization Execution mode** and set the **Number of setups to try:** this will be the number of tries to reuse saved setups for parts in the batch:



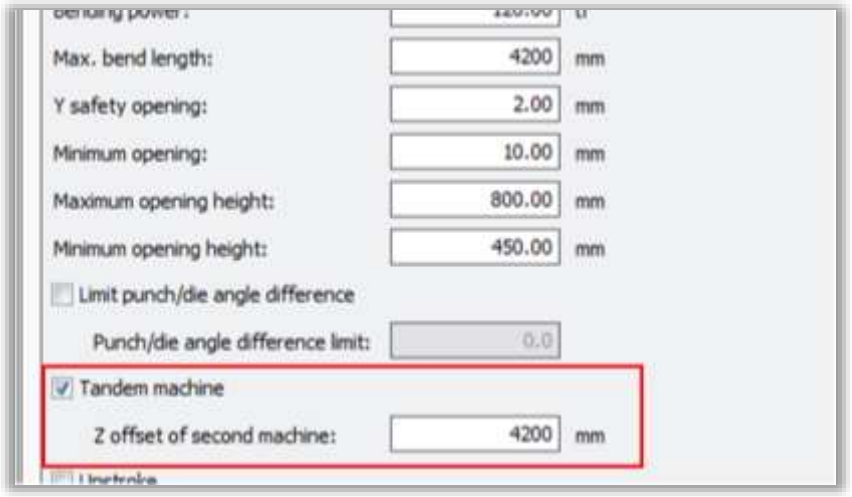
13 Improved Support for Tandem Machines

MBend now supports joining two (or more) existing machines to create a tandem machine.

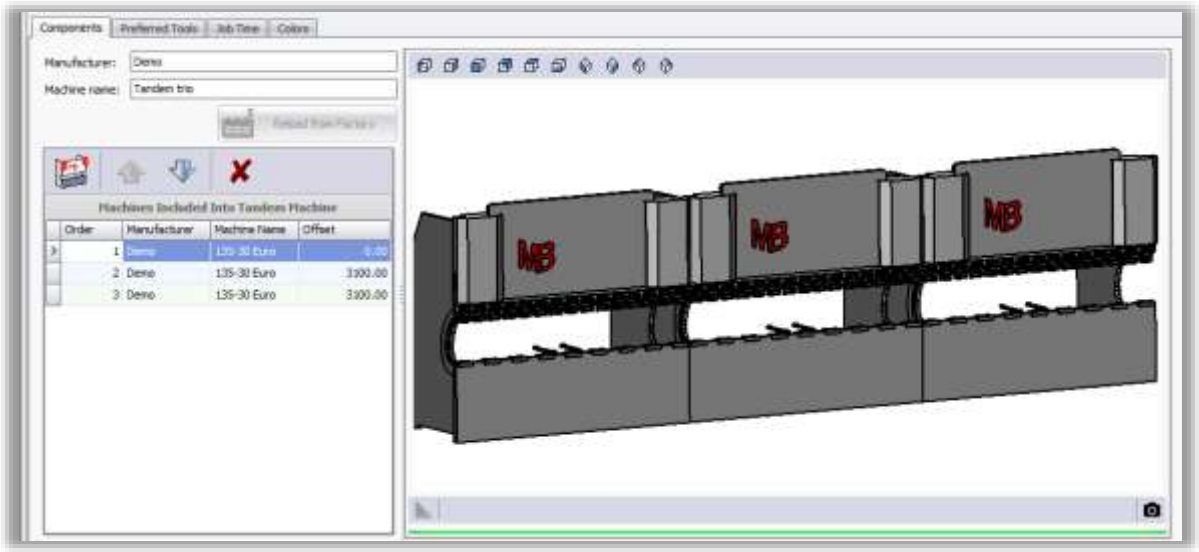
To create a tandem machine, click **Home** tab => **Configuration** group => **Machines** => **Add New Machine** down arrow => **Define New Tandem (Composite) Machine**:

Important settings for machines used in the tandem machine:

- Both machines must have the same controller (Cybelec, Delem, etc.).
- In the **Machines** dialog box => **Model** tab => check **Tandem machine** and set the **Z offset of second machine** value: this will usually be the working length of the machine.



Click  and select the machines to include in the new tandem machine:



14 Post-Processing

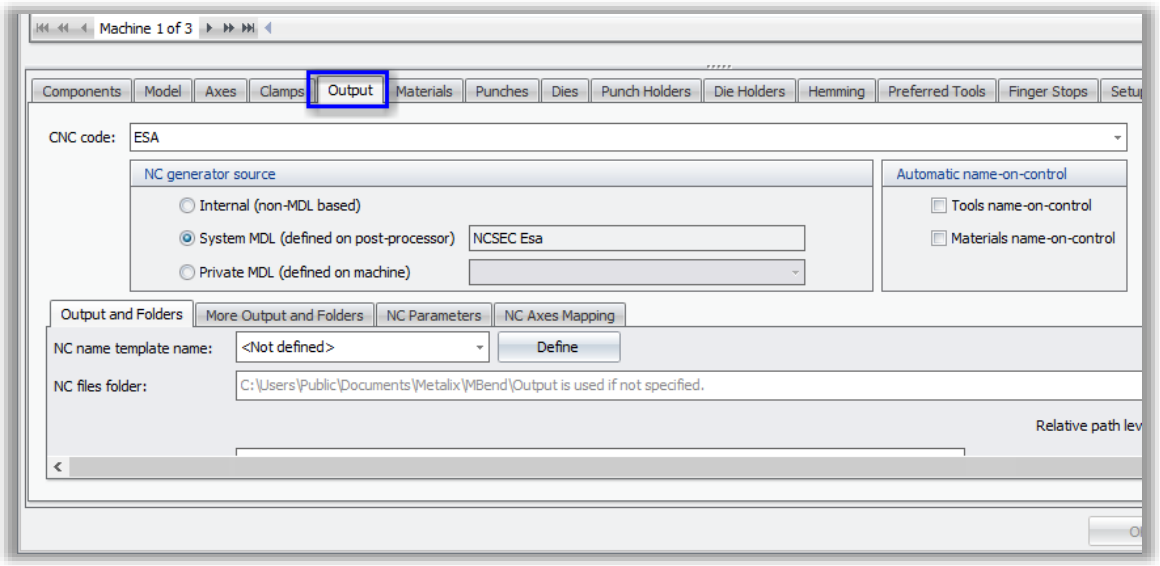
14.1 MDL Post-Processing

MBend now supports NC file generation using an **MDL** file as a template\instructions file that determines the format and data content of the NC file.

This allows integrators and even end-users to make changes to the NC file output, without the need to edit the NC file in **MBend**. In the past, any change in the NC file required a Service Pack; now, most changes can be achieved by editing the MDL file.

To enable this mode, select the **CNC code** for the machine and the **NC generator source**, in one of the following formats:

- **Internal non-MDL source:** The NC file is generated using the internal logic and format.
- **System MDL (defined on the post-processor):** The NC file is generated using the generic MDL file.
- **Private MDL (defined on the machine):** The NC file generated is specific for that machine and cannot be used on another even if the other machine has the same post-processor.



14.2 Salvagnini Post-Processor Support

MBend now supports with Salvagnini post-processors.