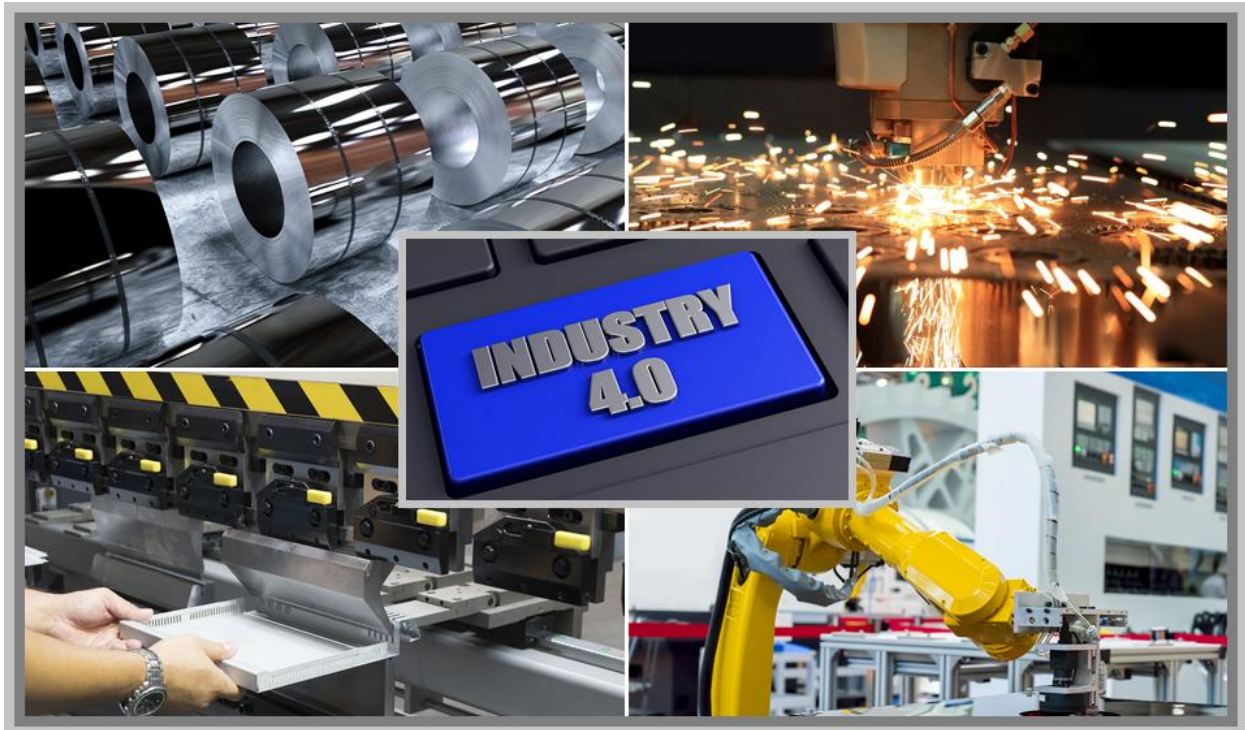




Global Edge® Engineering Assistant



Workflow #: 3 – Product Engineering **(Process Cabinet Assembly)**

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Demo Section 3: Product Engineering Workflow

Global Edge Engineering Assistant provides Product Engineering Workflow capabilities that includes **"Process Cabinet Assembly"** to illustrate the processing of a sheet metal cabinet assembly and Manufacturability Testing to identify any potential fabrication errors or issues.

- **3.1 – Automated Assembly Processing**
- **3.2 – Automated Sheet Metal Batch Unfolding**
- **3.3 – Automated CAD Part Analysis**
- **3.4 – Automated Routing Generation**
- **3.5 – Automated Manufacturability Testing**
- **3.6 – Automated Bill of Materials Generation**

Product Engineering Workflow illustrates **"Automated Design & Manufacturing Engineering"** combined capabilities that provide an automated approach for reducing and eliminating labor-intensive workflow tasks associated with the daily processing of orders.

Step 3.1: Starts with an **"Automated Assembly Processing"** that automates the processing of a 3D SolidWorks CAD Assembly to process both sheet metal and non-sheet metal parts contained in the assembly. This includes Automated Sheet Metal Batch Unfolding, CAD Part Analysis, Routing Generation, Manufacturability Testing, and Automated Bill of Materials Generation to prepare the assembly for the shop floor.

Step 3.2: Includes **"Automated Sheet Metal Batch Unfolding"** that generates DXF Flat Files from 3D SolidWorks sheet metal CAD models. This includes the incorporation of Extended Data with the necessary parameters to enable the automated generation of Nestings, CAM Bend Programs and Production Schedules.

Step 3.3: Includes **"Automated CAD Part Analysis"** of complete sheet metal part parameters to serve as a foundation for Manufacturability Testing, Automated Routing, Bend Program and Sales Quote Generation.

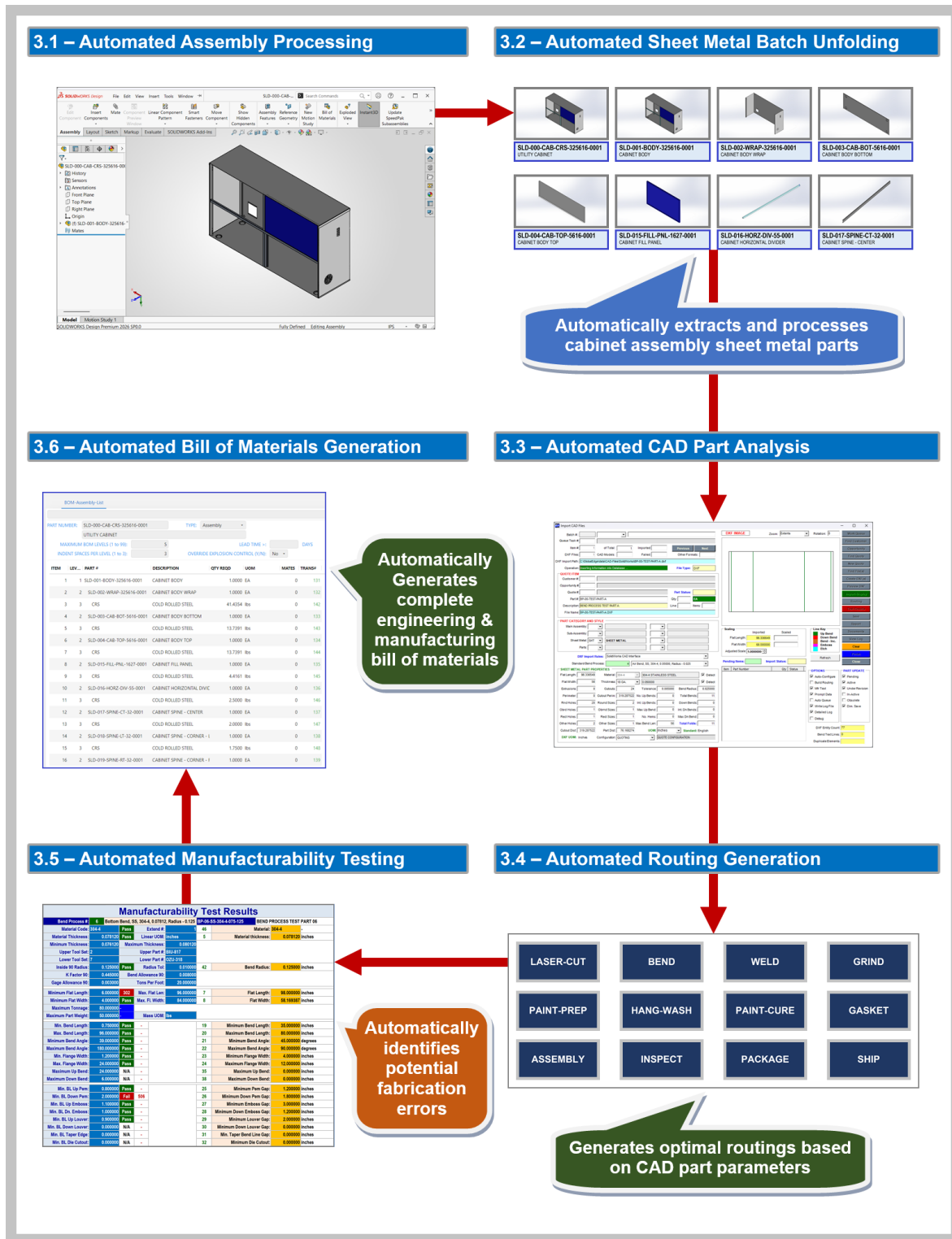
Step 3.4: Includes **"Automated Routing Generation"** that compares CAD part parameters with a matching bend process to identify any potential fabrication errors that may occur before leaving engineering.

Step 3.5: Performs **"Automated Manufacturability Testing"** that compares CAD part parameters with a matching bend process to identify any potential fabrication errors that may occur before leaving engineering.

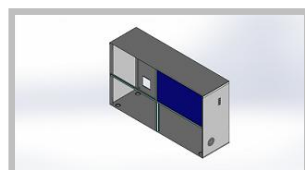
Step 3.6: Enables **"Automated Bill of Materials Generation"** by combining Automated CAD Part Analysis with Automated Routing Generation that produces a complete manufacturing bill of materials ready for your MES / Scheduling software.

Workflow #: 3 - Process Cabinet Assembly (Product Engineering Workflow Diagram)

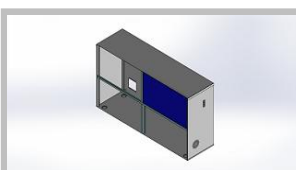
This workflow scenario illustrates the processing of a sheet metal cabinet assembly and Manufacturability Testing to identify any potential fabrication errors or issues.



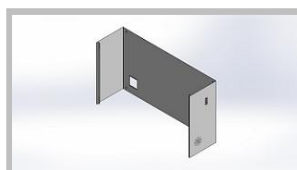
Work Queue Batch #: ?? (GlobalEdgeCAD_SLD)



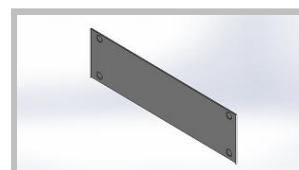
SLD-000-CAB-CRS-325616-0001
UTILITY CABINET



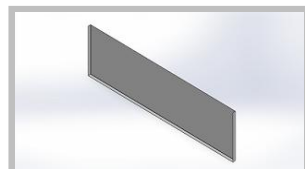
SLD-001-BODY-325616-0001
CABINET BODY



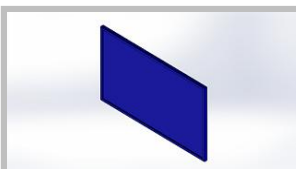
SLD-002-WRAP-325616-0001
CABINET BODY WRAP



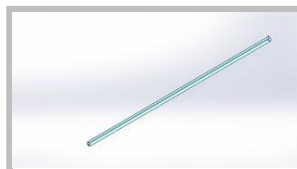
SLD-003-CAB-BOT-5616-0001
CABINET BODY BOTTOM



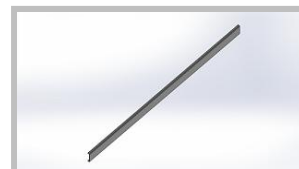
SLD-004-CAB-TOP-5616-0001
CABINET BODY TOP



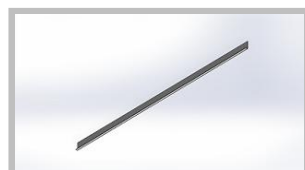
SLD-015-FILL-PNL-1627-0001
CABINET FILL PANEL



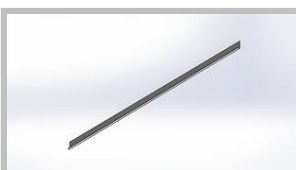
SLD-016-HORZ-DIV-55-0001
CABINET HORIZONTAL DIVIDER



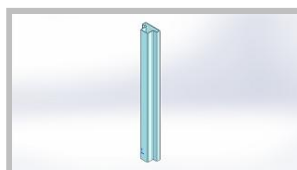
SLD-017-SPINE-CT-32-0001
CABINET SPINE - CENTER



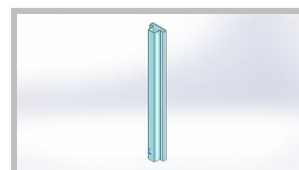
SLD-018-SPINE-LT-32-0001
CABINET SPINE - CORNER - LEFT



SLD-019-SPINE-RT-32-0001
CABINET SPINE - CORNER - RIGHT



SLD-020-VERT-DIV-BOT-15-0001
CABINET VERTICAL DIVIDER - BOTTOM



SLD-021-VERT-DIV-TOP-16-0001
CABINET VERTICAL DIVIDER - TOP

Part Numbers Associated with Processing of Utility Cabinet Assembly (Work Queue Batch #: #)

PART #	DESCRIPTION	DESCRIPTION 2	TYPE	CAT	MTL.	UOM
SLD-000-CAB-CRS-325616-0001	UTILITY CABINET		ASM	SHT	CRS	lbs
SLD-001-BODY-325616-0001	CABINET BODY		ASM	SHT	CRS	EA
SLD-002-WRAP-325616-0001	CABINET BODY WRAP	18 GA - Thick: 0.04780 - Bend Rad: 0.050	CMP	SHT	CRS	EA
SLD-003-CAB-BOT-5616-0001	CABINET BODY BOTTOM	18 GA - Thick: 0.04780 - Bend Rad: 0.050	CMP	SHT	CRS	EA
SLD-004-CAB-TOP-5616-0001	CABINET BODY TOP	18 GA - Thick: 0.04780 - Bend Rad: 0.050	CMP	SHT	CRS	EA
SLD-015-FILL-PNL-1627-0001	CABINET FILL PANEL	18 GA - Thick: 0.04780 - Bend Rad: 0.050	CMP	SHT	CRS	EA
SLD-016-HORZ-DIV-55-0001	CABINET HORIZONTAL DIVIDER		CMP	SHT	5052-H32	EA
SLD-017-SPINE-CT-32-0001	CABINET SPINE - CENTER	18 GA - Thick: 0.04780 - Bend Rad: 0.050	CMP	SHT	CRS	EA
SLD-018-SPINE-LT-32-0001	CABINET SPINE - CORNER - LEFT	18 GA - Thick: 0.04780 - Bend Rad: 0.050	CMP	SHT	CRS	EA
SLD-019-SPINE-RT-32-0001	CABINET SPINE - CORNER - RIGHT	18 GA - Thick: 0.04780 - Bend Rad: 0.050	CMP	SHT	CRS	EA
SLD-020-VERT-DIV-BOT-15-0001	CABINET VERTICAL DIVIDER - BOTTOM		CMP	SHT	5052-H32	EA
SLD-021-VERT-DIV-TOP-16-0001	CABINET VERTICAL DIVIDER - TOP		CMP	SHT	5052-H32	EA

Work Queue Batch #: 12 (GlobalEdgeCAD_SLD)

Workflow #: 4	SLD-000-CAB-CRS-325616-0001		SLD-000-CAB-CRS-325616-0001.sldasm	A	CRS
Workflow #: 4	SLD-001-BODY-325616-0001		SLD-001-BODY-325616-0001.sldasm	A	CRS
Workflow #: 4	SLD-002-WRAP-325616-0001	18 GA - Thick: 0.04780 - Bend Rad: 0.050	SLD-002-WRAP-325616-0001.sldprt	C	CRS
Workflow #: 4	SLD-003-CAB-BOT-5616-0001	18 GA - Thick: 0.04780 - Bend Rad: 0.050	SLD-003-CAB-BOT-5616-0001.sldprt	C	CRS
Workflow #: 4	SLD-004-CAB-TOP-5616-0001	18 GA - Thick: 0.04780 - Bend Rad: 0.050	SLD-004-CAB-TOP-5616-0001.sldprt	C	CRS
Workflow #: 4	SLD-015-FILL-PNL-1627-0001	18 GA - Thick: 0.04780 - Bend Rad: 0.050	SLD-015-FILL-PNL-1627-0001.sldprt	C	CRS
Workflow #: 4	SLD-016-HORZ-DIV-55-0001		SLD-016-HORZ-DIV-55-0001.sldprt	C	5052-H32
Workflow #: 4	SLD-017-SPINE-CT-32-0001	18 GA - Thick: 0.04780 - Bend Rad: 0.050	SLD-017-SPINE-CT-32-0001.sldprt	C	CRS
Workflow #: 4	SLD-018-SPINE-LT-32-0001	18 GA - Thick: 0.04780 - Bend Rad: 0.050	SLD-018-SPINE-LT-32-0001.sldprt	C	CRS
Workflow #: 4	SLD-019-SPINE-RT-32-0001	18 GA - Thick: 0.04780 - Bend Rad: 0.050	SLD-019-SPINE-RT-32-0001.sldprt	C	CRS
Workflow #: 4	SLD-020-VERT-DIV-BOT-15-0001		SLD-020-VERT-DIV-BOT-15-0001.sldprt	C	5052-H32
Workflow #: 4	SLD-021-VERT-DIV-TOP-16-0001		SLD-021-VERT-DIV-TOP-16-0001.sldprt	C	5052-H32

Work Queue Batch #1 (Batch to Process Utility Cabinet Order):

TASK #	BATCH #	JOB #	ROW #	TASK DATE	TYPE	TASK NOTE	FROM	PROG.	SRC.
1001	1		1	TODAY	C	Create DXF Files for PART #: SLD-002-WRAP-325616-0001	ERP	SLD	
1002	1		1	TODAY	C	Create DXF Files for PART #: SLD-003-CAB-BOT-5616-0001	ERP	SLD	
1003	1		1	TODAY	C	Create DXF Files for PART #: SLD-004-CAB-TOP-5616-0001	ERP	SLD	
1004	1		1	TODAY	C	Create DXF Files for PART #: SLD-015-FILL-PNL-1627-0001	ERP	SLD	
1005	1		1	TODAY	C	Create DXF Files for PART #: SLD-017-SPINE-CT-32-0001	ERP	SLD	
1006	1		1	TODAY	C	Create DXF Files for PART #: SLD-018-SPINE-LT-32-0001	ERP	SLD	
1007	1		1	TODAY	C	Create DXF Files for PART #: SLD-019-SPINE-RT-32-0001	ERP	SLD	
1008	1	1004	1	TODAY	C	Build Job for PART #: SLD-001-BODY-325616-0001	ERP	MRP	1001

3.1 – Automated Assembly Processing

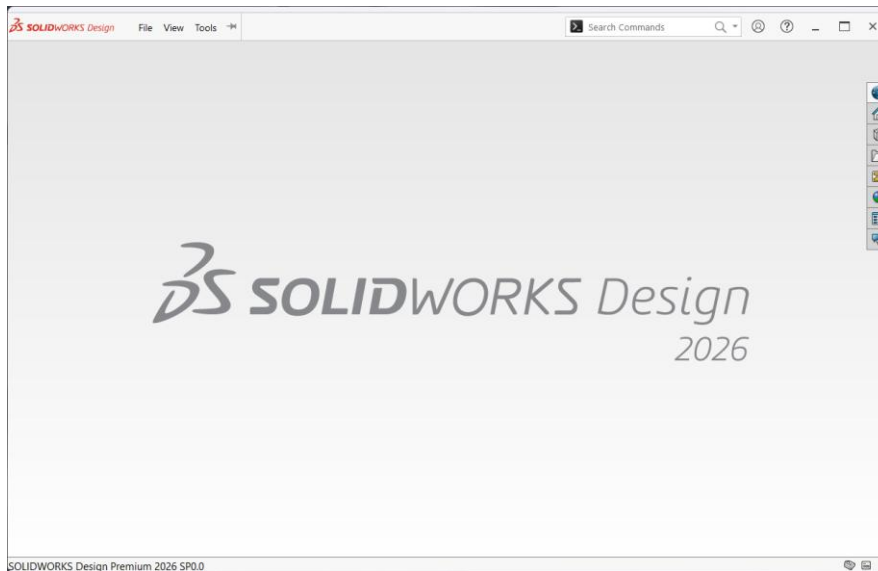
These steps illustrate the processing of a SolidWorks sheet metal assembly.

Workflow Steps

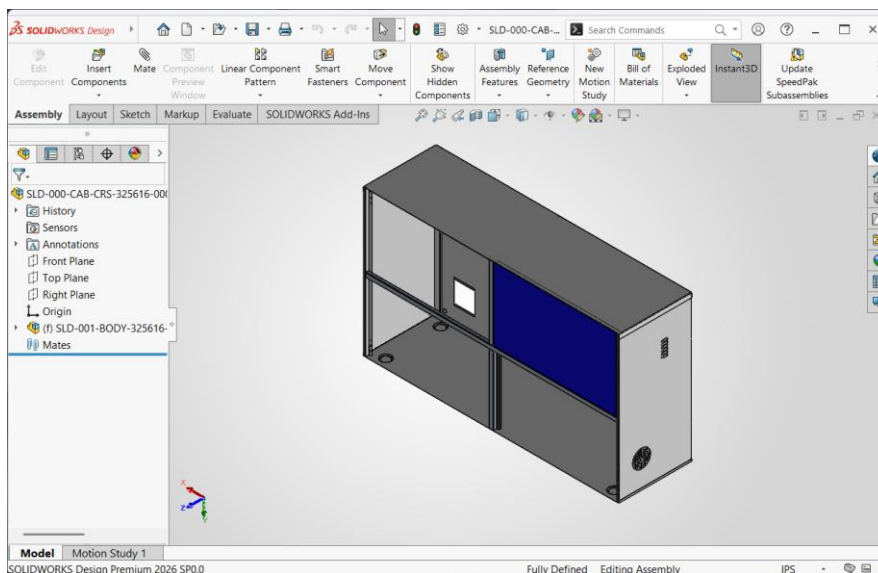
GE-03.1-Avatar-A.mp4

Automated Assembly Processing starts with launching SolidWorks and selecting a sheet metal cabinet model assembly.

1. The first step is to launch SolidWorks:



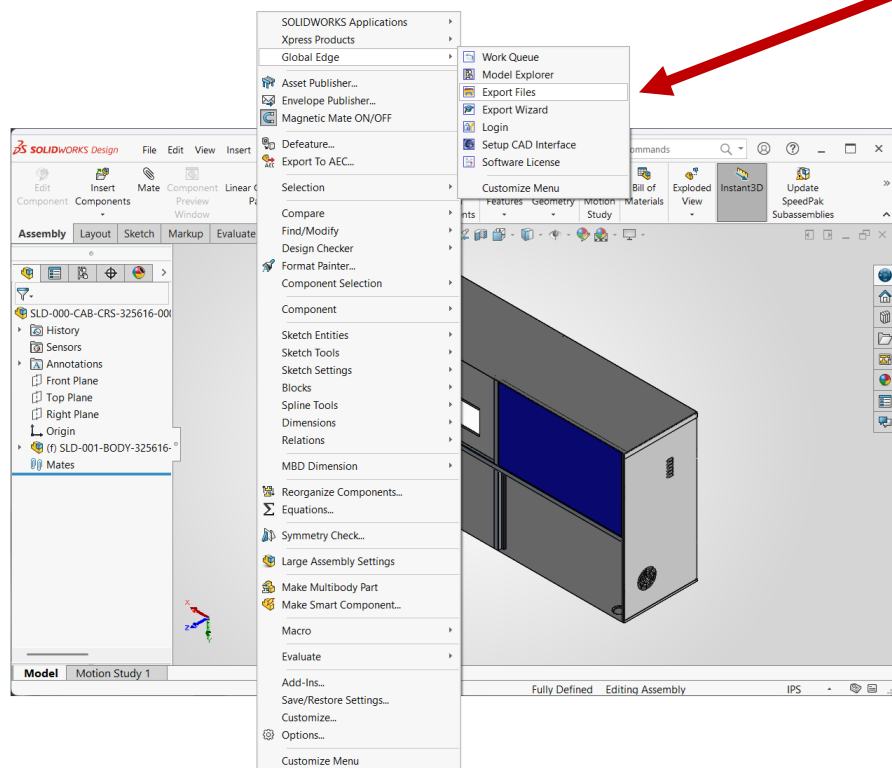
2. Select **"File > Open"** and select **"SLD-000-CAB-CRS-325616-0001.sldasm"** SolidWorks assembly file:



GE-03.1-Avatar-B.mp4

This is followed by selecting the Tools, Global Edge, Export Files option which will display the following File Export screen and menu options.

3. Select **“Tools > Global Edge > Export Files”** option:



GE-03.1-Avatar-C.mp4

Check the **“Sheet Metal”** option followed by the **“Filter”** option to filter out the sheet metal parts contained in the assembly.

4. Check **“Sheet Metal”** option followed by **“Filter”** option to filter out sheet metal parts contained in the assembly:

Global Edge Engineering Assistant - Version: 2026.01 - Build: 2 - File Export

Batch #: Type: Date/Time: Status:

Processing Part #: Processing Task: Ot: Thickness:

Part Type: Material:

Bend Process:

File Path:

Operation: Ready to Export Total Tasks:

Task#	Doc #	File	Material	Thickne...	Bend Ra...	Mlt Test Res...	Status
☐		C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-002-WRAP-325616-0001.sldprt	-	-	-	Pending	Pending
☐		C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-004-CAB-TOP-5616-0001.sldprt	-	-	-	Pending	Pending
☐		C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-003-CAB-BOT-5616-0001.sldprt	-	-	-	Pending	Pending
☐		C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-018-SPINE-LT-32-0001.sldprt	-	-	-	Pending	Pending
☐		C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-019-SPINE-RT-32-0001.sldprt	-	-	-	Pending	Pending
☐		C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-017-SPINE-CT-32-0001.sldprt	-	-	-	Pending	Pending
☐		C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-015-FILL-PNL-1627-0001.sldprt	-	-	-	Pending	Pending

EXPORT OPTIONS

☒ DXF Files - Version: R2013 ☐ Rewrite ☐ STEP File - Version: AP203 ☐ STL Files ☐ Additive Manufacturing ☐ 3D Manufacturing ☐ JPEG File ☐ Extended Data DXF ☒ Document Link ☒ Data Import ☒ Silent Mode ☐ Save Model Changes ☒ Manufacturability Test ☐ Debug Mode

Default Sheet Metal Category: SHT SHEET METAL

Default Sheet Metal Style:

Bend Resize: None

Output Directory ☐ Save Location C:\GlobalEdge\data\Output\DXF

DXF Import Rules: SolidWorks CAD Interface

7 Total Files 12 Open Files

Output Location %

Database: Worksheet Username: informix

GE-03.1-Avatar-D.mp4

At this point you can either select the **“Select All”** option or choose individual files to process.

3.2 – Automated Sheet Metal Batch Unfolding

GE-03.2-Avatar-A.mp4

At the lower portion of the File Export screen there are check boxes to select the following export options. These options include the ability to perform an importation of complete CAD part parameters which serve as a foundation for Manufacturability Testing, Automated Routing Generation, and Automated Bend Program Generation. This includes the automated incorporation of extended data into the DXF flat files that can be directly imported into CAM bending software. This process eliminates the manual programming of sheet metal part files for Press Brakes, Robotic Folders, and Panel Benders.

GE-03.2-Avatar-B.mp4

Select the **“Export”** button to start the processing of the selected sheet metal part with the output options that were selected below.

5. Select **“Select All”** option followed by the **“Export”** option:

Global Edge Engineering Assistant - Version: 2026.01 - Build: 2 - File Export

Batch #: Type: Date/Time: Status:

Processing Part #: Processing Task: Of: Thickness:

Part Type: Material:

Bend Process:

File Path:

Operation: 8 Open/Pending Files Selected Total Tasks:

Task#	Doc #	File	Material	Thickne...	Bend Ra...	Mfr Test Res...	Status
✓		C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-002-WRAP-325616-0001.sldprt	-	-	-	Pending	Pending
✓		C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-004-CAB-TOP-5616-0001.sldprt	-	-	-	Pending	Pending
✓		C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-003-CAB-BOT-5616-0001.sldprt	-	-	-	Pending	Pending
✓		C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-018-SPINE-LT-32-0001.sldprt	-	-	-	Pending	Pending
✓		C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-019-SPINE-RT-32-0001.sldprt	-	-	-	Pending	Pending
✓		C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-017-SPINE-CT-32-0001.sldprt	-	-	-	Pending	Pending
✓		C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-015-FILL-PNL-1627-0001.sldprt	-	-	-	Pending	Pending

EXPORT OPTIONS

☒ DXF Files - Version: R2013 ☐ Rewrite ☐ STEP File - Version: AP203 ☐ Rewrite ☐ STL Files ☐ Additive Manufacturing ☐ Document Link ☒ Data Import ☒ Save Model Changes ☒ Manufacturability Test ☐ Extended Data DXF ☐ Silent Mode ☐ Debug Mode

Default Sheet Metal Category: SHT SHEET METAL

Default Sheet Metal Style:

Bend Resize: None

Output Directory ☐ Save Location C:\GlobalEdge\data\Output\DXF

DXF Import Rules: SolidWorks CAD Interface

7 Total Files
12 Open Files
Output Location %

Batch File Selected Work Queue Select All Uncheck Export Test Run Clear Close

Username: informix

6. When the conversion process is completed, select “OK” and Export Screen will be updated:

Global Edge Engineering Assistant - Version: 2026.01 - Build: 2 - File Export

Batch #: Type: Date/Time: Status:

Processing Part #: SLD-015-FILL-PNL-1627-0001 CABINET FILL PANEL

Part Type: Sheet Metal Material: CRS COLD ROLLED STEEL

Bend Process: 13 Air Bend, CRS, 0.04780, Radius - 0.050 Processing Task: 7 Of: 8 Thickness: 0.048 in

File Path: C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-015-FILL-PNL-1627-0001.sldprt

Operation: Ready Total Tasks: 8

Task#	Doc #	File	Material	Thickne...	Bend Ra...	Mfr Test Res...	Status
1064	1047	C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-002-WRAP-325616-0001.sldprt	CRS	0.0480	0.0500	Pass	Pending
1065	1049	C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-004-CAB-TOP-5616-0001.sldprt	CRS	0.0480	0.0500	Pass	Pending
1066	1048	C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-003-CAB-BOT-5616-0001.sldprt	CRS	0.0480	0.0500	Pass	Pending
1067	1053	C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-018-SPINE-LT-32-0001.sldprt	CRS	0.0480	0.0500	Pass	Pending
1068	1054	C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-019-SPINE-RT-32-0001.sldprt	CRS	0.0480	0.0500	Pass	Pending
1069	1052	C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-017-SPINE-CT-32-0001.sldprt	CRS	0.0480	0.0500	Pass	Pending
1070	1050	C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-015-FILL-PNL-1627-0001.sldprt	CRS	0.0480	0.0500	Pass	Pending

EXPORT OPTIONS

☒ DXF Files - Version: R2013 ☐ Rewrite ☐ STEP File - Version: AP203 ☐ STL Files

☐ DWG Files - Version: R2013 ☐ Rewrite ☐ Additive Manufacturing

☐ ACIS(SAT) Files ☐ IGES Files ☐ 3D PDFs ☐ 2D PDFs ☐ JPEG File

☐ Save Location ☒ Document Link ☒ Data Import ☒ Save Model Changes ☒ Manufacturability Test ☐ Debug Mode

Default Sheet Metal Category: SHT SHEET METAL

Default Sheet Metal Style:

Bend Resize: None ☒ Silent Mode

Extended Data DXF ☐

Output Directory: ☐ Save Location C:\GlobalEdge\data\Output\DXF

DXF Import Rules: SolidWorks CAD Interface

7 Total Files 12 Open Files

Output Location: 100 %

Username: informix

3.3 – Automated CAD Part Analysis

GE-03.3-Avatar-A.mp4

As the sheet metal is processed with Automated CAD Part Analysis functionality, the part is fully analyzed, and complete CAD part parameters are inserted into the Global Edge database. The software then utilizes these CAD part parameters to perform a Manufacturability Test which compares these parameters with matching shop floor machine tools. This process provides Design For Manufacturing functionality that identifies potential fabrication errors at the design stage to help ensure sheet metal parts can be successfully fabricated before reaching the shop floor.

7. Xxxx ...

a. **DXF File Export**

i. **Select “Export” Option**

ii. **Software Performs Following Tasks:**

1. **Flat Pattern DXF File Generated**

2. **DXF Analysis Performed**

a. **Material / Thickness / Bend Radius**

b. **Blank / Flat (Length & Width)**

c. **Cutouts / Holes (Count & Size)**

d. **Minimum / Maximum Bend Length**

e. **Minimum / Maximum Bend Angle**

f. **Minimum / Maximum Flange Width**

g. **Minimum Pem Hole to Bend Line Gap**

h. **Minimum Embossment to Bend Line Gap**

i. **Minimum Louver to Bend Line Gap**

j. **Maximum Up / Maximum Down Bend**

k. **Fold / Hem / Extrude Counts**

l. **Minimum Taper / Die Cut to Bend Line Gap**

3. **Manufacturability Test Performed**

a. **Compares DXF Analysis with Matching Bend Process**

b. **Test Results Stored in Database (manufacture_test, mfr_test_det) Tables**

4. **Message “Conversion Complete!” Displayed**

3.4 – Automated Routing Generation

GE-03.4-Avatar-A.mp4

The Automated CAD Part Analysis process culminates with the Automated Generation of optimal routing steps based on the CAD part parameters and matching machine tool capabilities. This includes the generation of DXF flat files that incorporate the necessary extended data to facilitate CAM bend program generation.

8. Xxxx ...

GE-03.4-Avatar-B.mp4

Select the **“Routing”** button to display the routing steps that were generated during the processing of the sheet metal part.

9. Xxxx ...

The screenshot displays the 'BILL OF MATERIALS: Global Edge Windows Demo Server' application. The 'Routing' tab is active, showing a form for 'UTILITY CABINET' with fields for PART #, ROUTE #, TYPE, LOCATION LEVEL, DEPT #, W.C. #, and ASSET #. A table lists routing steps with columns: SEQ #, ROUTING, ROUTING DESCRIPTION, TYPE, SET UP COST, PROC. COST, MACH. #, MACH. REF, and TRANS #. A sidebar on the right contains buttons: Add, Copy, Update, View, Delete, Header, Alternate, Reorder, Print, Qty, Mfr-Test, and Quit.

GE-03.4-Avatar-C.mp4

Select the **“Close”** button to return to the Import screen and select the **“Test Results”** button to access the results of the Manufacturability Test that was performed during the processing of the sheet metal part.

Sample Utility Cabinet Routings

SLD-001-BODY-325616-0001			CABINET BODY					
Seq. #	Process	Description	WC #	Asset #	UOM	Setup Time	Load Time	Process Time
1	WELD-MD	Medium Seam-Tack Welding Operation	9	1020	hours	0.250000	0.000000	0.000000
2	STUD-CD-MD	Med. Capacitive Discharge Studding Oper.	9	1043	hours	0.250000	0.000000	0.030000
3	SAND-PAINT-PREP	Sand / Paint / Preparation Operation	10	1086	hours	0.000000	0.000000	0.020977
4	HANGING	Hanging Operation	10	1077	hours	0.000000	0.000000	0.010000
5	WASHING	Washing Operation	10	1082	hours	0.000000	0.000000	0.010000
6	PAINTING	Painting Operation	10	1084	hours	0.000000	0.000000	0.030000
7	CURING	Curing Operation	10	1089	hours	0.000000	0.000000	0.100000
8	GASKETING	Gasketing Operation	11	1092	hours	0.250000	0.000000	0.050000

3.5 – Automated Manufacturability Testing

GE-03.5-Avatar-C.mp4

When selecting the **“Manufacturability Test”** option in the lower right-hand corner of the screen, the DXF flat file image will highlight an error in red. In our example, the following PEM holes appear in red because they were identified as being too close to a bend line.

10. Highlight the following Workflow Task:

The screenshot displays the 'Global Edge Engineering Assistant - Version: 2026.01 - Build: 2 - File Export' window. The interface includes a top section for job details, a central table of tasks, and a bottom section for export options.

Job Details:

- Batch #: [Empty] Type: [Empty]
- Processing Part #: SLD-015-FILL-PNL-1627-0001 CABINET FILL PANEL
- Part Type: Sheet Metal Material: CRS COLD ROLLED STEEL
- Bend Process: 13 Air Bend, CRS, 0.04780, Radius - 0.050
- File Path: C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-015-FILL-PNL-1627-0001.sldprt
- Operation: Ready
- Date/Time: [Empty] Status: [Empty]
- Processing Task: 7 Of 8
- Thickness: 0.048 in

Task List Table:

Task#	Doc #	File	Material	Thickne...	Bend Ra...	Mt Test Res...	Status
1064	1047	C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-002-WRAP-325016-0001.sldprt	CRS	0.0480	0.0500	Pass	Pending
1065	1049	C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-004-CAB-TOP-5616-0001.sldprt	CRS	0.0480	0.0500	Pass	Pending
1066	1048	C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-003-CAB-BOT-5616-0001.sldprt	CRS	0.0480	0.0500	Pass	Pending
1067	1053	C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-018-SPINE-LT-32-0001.sldprt	CRS	0.0480	0.0500	Pass	Pending
1068	1054	C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-019-SPINE-RT-32-0001.sldprt	CRS	0.0480	0.0500	Pass	Pending
1069	1052	C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-017-SPINE-CT-32-0001.sldprt	CRS	0.0480	0.0500	Pass	Pending
1070	1050	C:\GlobalEdge\data\CAD-Files\SolidWorks\CABINET\SLD-015-FILL-PNL-1627-0001.sldprt	CRS	0.0480	0.0500	Pass	Pending

EXPORT OPTIONS:

- ☒ DXF Files - Version: R2013 ☐ Rewrite ☐ STEP File - Version: AP203 ☐ STL Files
- ☐ DWG Files - Version: R2013 ☐ Rewrite ☐ Additive Manufacturing
- ☐ ACIS(SAT) Files ☐ 3D Manufacturing
- ☐ IGES Files ☒ Document Link ☒ Date Import ☒ Manufacturability Test
- ☐ 2D PDFs ☐ 3D PDFs ☐ JPEG File ☐ Extended Data DXF ☒ Silent Mode ☐ Debug Mode

Default Sheet Metal Category: SHT SHEET METAL
Bend Resize: None
Save Model Changes: ☒
Default Sheet Metal Style: [Empty]
DXF Import Rules: SolidWorks CAD Interface

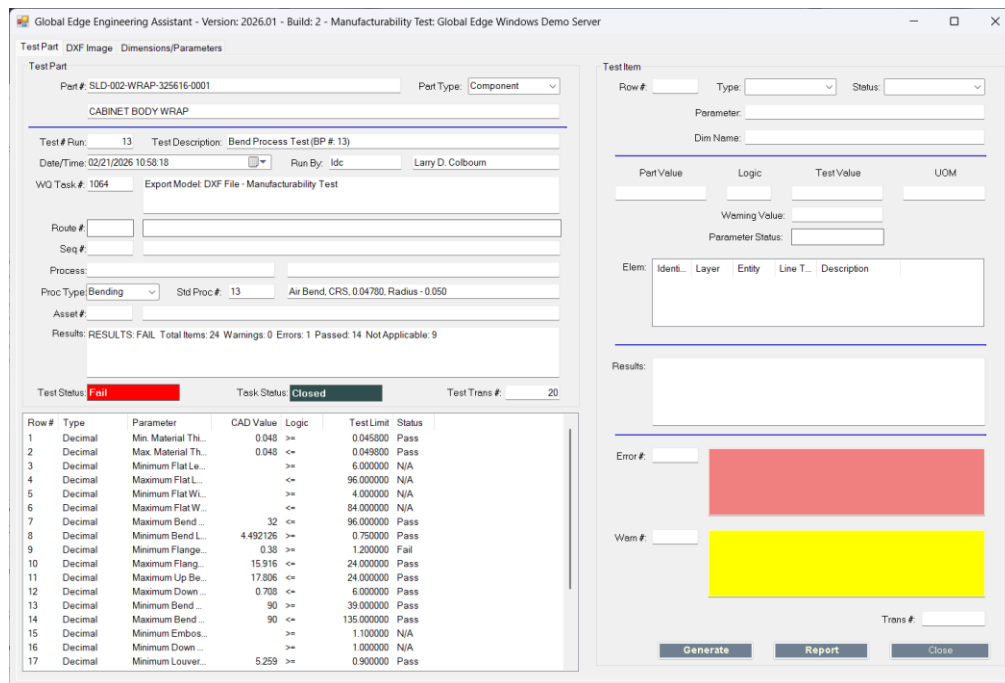
Output Directory: [Empty] Save Location: [Empty]
C:\GlobalEdge\data\Output\DXF

7 Total Files
12 Open Files
Output Location: [Empty]
100 %
Username: informix

GE-03.5-Avatar-A.mp4

The **“Test Part”** tab displays the individual tests that were performed on the selected sheet metal part. The **“CAD Value”** column displays each of the CAD Part Parameters that are contained in the sheet metal CAD model. The **“Test Limit”** column displays the test limit values that are defined in the matching bend process. The **“Status”** column displays whether the CAD Part Parameter value falls within the bend process limit by indicating either **“Pass”**, **“Fail”**, or **“Warning”** which indicates it could be a potential issue.

11. Select **“Test Results”** to display the Manufacturability Test screen:



Global Edge Engineering Assistant - Version: 2026.01 - Build: 2 - Manufacturability Test: Global Edge Windows Demo Server

Test Part: DXF Image Dimensions/Parameters

Part #: SLD-002-WRAP-325616-0001 Part Type: Component

CABINET BODY WRAP

Test # Run: 13 Test Description: Bend Process Test (BP # 13)

Date/Time: 02/21/2026 10:58:18 Run By: ldc Larry D. Colbourn

WO Task #: 1064 Export Model DXF File - Manufacturability Test

Route #: Seq #: Process: Proc Type: Bending Std Proc #: 13 Air Bend, CRS, 0.04780, Radius - 0.050

Asset #: Results: RESULTS: FAIL Total Items: 24 Warnings: 0 Errors: 1 Passed: 14 Not Applicable: 9

Test Status: **Fail** Task Status: **Closed** Test Trans #: 20

Row #	Type	Parameter	CAD Value	Logic	Test Limit	Status
1	Decimal	Min. Material Thi...	0.048	>=	0.045800	Pass
2	Decimal	Max. Material Th...	0.048	<=	0.049800	Pass
3	Decimal	Minimum Flat Le...		>=	6.000000	N/A
4	Decimal	Maximum Flat L...		<=	96.000000	N/A
5	Decimal	Minimum Flat W...		>=	4.000000	N/A
6	Decimal	Maximum Flat W...		<=	84.000000	N/A
7	Decimal	Maximum Bend ...	32	<=	96.000000	Pass
8	Decimal	Minimum Bend L...	4.492126	>=	0.750000	Pass
9	Decimal	Minimum Flange...	0.38	>=	1.200000	Fail
10	Decimal	Maximum Flange...	15.916	<=	24.000000	Pass
11	Decimal	Maximum Up Be...	17.806	<=	24.000000	Pass
12	Decimal	Maximum Down ...	0.708	<=	6.000000	Pass
13	Decimal	Minimum Bend ...	90	>=	39.000000	Pass
14	Decimal	Maximum Bend ...	90	<=	135.000000	Pass
15	Decimal	Minimum Embos...		>=	1.100000	N/A
16	Decimal	Minimum Down ...		>=	1.000000	N/A
17	Decimal	Minimum Louver...	5.259	>=	0.900000	Pass

Test Item: Row #: Type: Status: Parameter: Dim Name:

Part Value Logic Test Value UOM

Warning Value: Parameter Status:

Elem: Ident. Layer Entity Line T. Description

Results:

Error #: Warn #:

Trans #:

Generate Report Close

GE-03.5-Avatar-B.mp4

The **“DXF Image”** tab displays an image of the DXF flat file. This screen provides the ability to scroll **“Next”** and **“Previous”** through each of the CAD part test parameters and the test results.

12. Select **“DXF Image”** tab to display the following DXF Flat File image:

The screenshot displays the 'Global Edge Engineering Assistant' software window. The 'DXF Image' tab is selected, showing a large empty area for the DXF flat file image. The interface includes various settings and data tables.

Test Part: DXF Image Dimensions/Parameters

DXF Import Rules: SolidWorks CAD Interface

Material: CRS COLD ROLLED STEEL

Thickness: 0.0480 **Bend Radius:** 0.0500 in

Layers: 3 **Selected:** 3

Number	Description	Count
0	BEND-UP	1
0	BEND-DOWN	1
0	DEFPPOINTS	1

Colors: 3 **Selected:** 3

Number	Description	Count
3	Green	10
1	Red	2
5	Blue	226

MinX: 0.366698 **MaxX:** 1.790902 **# of Elements:** 238

MinY: 0.209678 **MaxY:** 2.98015

Warnings: 0 **Errors:** 1 **Next** **Previous**

Test Row: 9 **Status:** Fail

Test Param: Minimum Flange Width

Results: Part Flange Less Than Minimum Flange Width

Operation: Ready

Line Key: Up Bend, Down Bend, Bend - Inc., Emboss, Etch

Color Select: Bend, Native, Mfr Test

Buttons: Reload, Refresh, Close

GE-03.5-Avatar-D.mp4

The **“Dimensions / Parameters”** tab provides a complete listing of each of the imported CAD part parameters. These CAD part parameters provide the foundation throughout the **Global Edge** system for Automated CAM Bend Program Generation, Automated Routing Generation, Automated Production Job Generation, and Automated Sales Quote Generation.

13. Select **“Dimensions/Parameters”** tab to display the following list of Dimension Parameters that were imported into the **Global Edge** database:

Global Edge Engineering Assistant - Version: 2026.01 - Build: 2 - Manufacturability Test: Global Edge Windows Demo Server

Test Part: DXF Image: Dimensions/Parameters

Part Information

Part #: SLD-002-WRAP-325616-0001 CABINET BODY WRAP

Revision: Active MTL TYPE: CRS - Plain Carbon Steel

Part Type: Component Master: No 18 GA - Thick: 0.04780 - Bend Rad: 0.050

Part UOM: EA Rebuilt: No

List Price: \$0.00

Aliases: ROUTING

Origin: Manufactured LDC Manufacturing

Mfr Part #:

Category: SHT SHEET METAL Serial: None

Style: Ship Wt: 39.07523 lbs

CAD Material: Plain Carbon Steel Linked To:

Material: CRS

Dim #	DIMENSION / PARAMETER	VALUE
1	Sheet_Length	0.000000 inches
2	Sheet_Width	0.000000 inches
3	Blank_Length	0.000000 inches
4	Blank_Width	0.000000 inches
5	Material_Thickness	0.046000 inches
6	Perimeter	246.058000 inches
7	Flat_Length	
8	Flat_Width	
9	Round_Holes	8
10	Round_Sizes	2
11	Obround_Holes	0
12	Obround_Sizes	0
13	Rectang_Holes	0
14	Rectang_Sizes	0
15	Other_Holes	93
16	Other_Sizes	54
17	Num_Cutouts	102
18	Cutout_Perimeter	56.058792 inches
19	Min_Bend_Length	4.492126 inches
20	Max_Bend_Length	32.000000 inches
21	Min_Bend_Angle	90.000000 inches
22	Max_Bend_Angle	90.000000 inches
23	Min_Flange_Width	0.380000 inches
24	Max_Flange_Width	15.916000 inches
25	Min_Pem_Gap	
26	Min_Dn_Pem_Gap	
27	Min_Emboss_Gap	
28	Min_Dn_Emboss_Gap	
29	Min_Louwer_Gap	5.259000 inches
30	Min_Dn_Louwer_Gap	5.259000 inches

Dimension / Parameter Detail

Dim #: of

Dim Type: Display Width:

UOM: Display Precision:

Unit String:

Constraint: Config Description:

Option List: UOM Relationship:

Quote Display: Factor:

Dimension Description:

Config Param:

CAD Attribute:

CAD Param: Active:

Close

3.6 – Automated Bill of Materials Generation

GE-03.6-Avatar-A.mp4

As the cabinet assembly was processed with the **Global Edge** software, a complete manufacturing bill of materials was generated which includes routing steps for each component. Select the **“BOM”** option to display the following screen form and menu options.

14. Select ...

The screenshot displays the 'BILL OF MATERIALS: Global Edge Windows Demo Server' application. The main window is titled 'Part Master' and shows the following data:

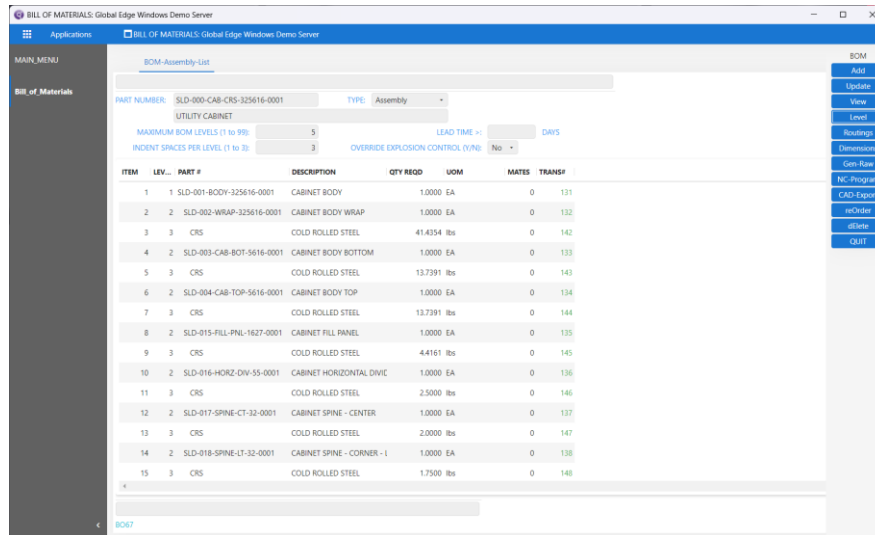
Field	Value
PART #:	SLD-000-CAB-CRS-325616-0001
REV #:	
TYPE:	Assembly
PART UOM:	Ibs
LIST:	\$0.00
ALIAS OF:	ROUTING
ORIGIN:	Manufactured
MFR PART #:	
CATEGORY:	CAB
STYLE:	UTILITY
MATERIAL:	CRS
SHIP WEIGHT:	78.29
STATUS:	Active
RESULT:	No
PROCESS COST:	\$0.0000
COMPONENT COST:	\$0.0000
MFR SET-UP COST:	
ONE TIME CHARGE:	\$0.00
STANDARD PART COST:	\$0.0000
QUOTE PART COST:	\$0.0000
ROLL-UP COST:	\$0.0000
ROLL-UP DATE:	

The CAD PART FILE NAME is SLD-000-CAB-CRS-325616-0001.sldasm. A 3D model of the cabinet is shown at the bottom left. The right sidebar contains a menu with options: Add, Find, Next, Previous, Go to, Update, BOM, WhereUsed, Relations, Mfr Test, Assembly, Configuration, Workpiece, Options, Long, Rollup, category, print, Delete, and EXIT.

GE-03.6-Avatar-B.mp4

Select the **“Level”** option and enter three followed by **“OK”**. Select the **“View”** option to scroll through the bill of materials.

15. Select ...



ITEM	LEV...	PART #	DESCRIPTION	QTY REQD	UOM	MATES	TRANSF
1	1	SLD-001-BODY-325616-0001	CABINET BODY	1.0000	EA	0	131
2	2	SLD-002-WRAP-325616-0001	CABINET BODY WRAP	1.0000	EA	0	132
3	3	CRS	COLD ROLLED STEEL	41.4354	Rls	0	142
4	2	SLD-003-CAB-BOT-5616-0001	CABINET BODY BOTTOM	1.0000	EA	0	133
5	3	CRS	COLD ROLLED STEEL	13.7391	Rls	0	143
6	2	SLD-004-CAB-TOP-5616-0001	CABINET BODY TOP	1.0000	EA	0	134
7	3	CRS	COLD ROLLED STEEL	13.7391	Rls	0	144
8	2	SLD-015-FILL-PNL-1627-0001	CABINET FILL PANNEL	1.0000	EA	0	135
9	3	CRS	COLD ROLLED STEEL	4.4161	Rls	0	145
10	2	SLD-016-HORZ-DIV-55-0001	CABINET HORIZONTAL DIVIC	1.0000	EA	0	136
11	3	CRS	COLD ROLLED STEEL	2.5000	Rls	0	146
12	2	SLD-017-SPINE-CT-32-0001	CABINET SPINE - CENTER	1.0000	EA	0	137
13	3	CRS	COLD ROLLED STEEL	2.0000	Rls	0	147
14	2	SLD-018-SPINE-LT-32-0001	CABINET SPINE - CORNER - L	1.0000	EA	0	138
15	3	CRS	COLD ROLLED STEEL	1.7500	Rls	0	148

GE-03.6-Avatar-C.mp4

Select **“CANCEL”** followed by **“QUIT”** to return to the main PART menu. Select **“Find”** followed by **“BOM”** option to navigate one level down the bill of materials structure of the cabinet assembly. Repeat this process one more time to navigate one more level down the bill of materials structure to arrive at the component level.

16. Select ...

GE-03.6-Avatar-D.mp4

Select **“BOM”** followed by the **“Routings”** option to display the routing steps that were generated for the displayed cabinet assembly component. Each routing step includes the set up and process cost including the matching machine tool.

17. Select ...