

# Sheet-metal setup and press-brake analyzer

CAD-051 / REV A / 2026.09.01

Prepare consistent sheet-metal data, then compare the part to a defined brake and tooling setup. Work on a copy first. Record application version, units and active document/configuration. Names below identify the catalogued workflow; they do not claim a particular button layout or verified implementation.

|                |                             |
|----------------|-----------------------------|
| STATUS         | Starting Point              |
| CLASSIFICATION | CAD                         |
| MATERIAL       | CAD / AUTOMATION            |
| DISPOSITION    | PUBLIC / STARTING POINT     |
| CATEGORY       | CAD / Scanning / Automation |
| RECORD TYPE    | how-to                      |

## TECHNICAL NOTES

Prepare consistent sheet-metal data, then compare the part to a defined brake and tooling setup.

## GOAL

Run the first test described in this guide and record the result for sheet-metal setup and press-brake analyzer.

## SOURCE STATE

Operational reference/specification; original rule or add-in source not inspected

## PREPARATION / NOTES

Work on a copy first. Record application version, units and active document/configuration. Names below identify the catalogued workflow; they do not claim a particular button layout or verified implementation.

## EQUIPMENT

- CAD / automation tool
- Representative test model
- Measurement or inspection method

---

## METHOD / STEPS

1. Read actual material, thickness, bend radii, angles and flange lengths from the model.
2. Select the intended machine/tooling set and its documented limits.
3. Check unfolding, minimum flange support, interference and estimated force using a validated process method.
4. Report assumptions and unknown checks alongside results, then review the forming sequence with the shop.

---

## THINGS TO WATCH FOR

A geometric pass does not establish a safe setup. Force estimates depend on process and bend length, and machine limits do not certify a printed tool.

---

## FIRST TEST / WHAT TO RECORD

The report explains why each bend passes, fails or remains unverified.

---

## RESULT / WHERE THIS STANDS

The report explains why each bend passes, fails or remains unverified.

---

## TROUBLESHOOTING

- A geometric pass does not establish a safe setup. Force estimates depend on process and bend length, and machine limits do not certify a printed tool.

---

## SAFETY / LIMITATIONS

- Use qualified judgment and current manufacturer or code guidance for safety-critical work.

---

## SPECIFICATION

|             |                                        |
|-------------|----------------------------------------|
| TOOL PATH   | CAD / automation tool                  |
| DELIVERABLE | HOW-TO                                 |
| VALIDATION  | Representative model / known dimension |
| STATUS      | Starting Point                         |

---

## DEVELOPMENT HISTORY

2026.09.01 / Rev A

Imported as an independent manifest record; public copy keeps uncertainty visible.

## REFERENCE NOTES

### SOLIDWORKS API reference

(<https://help.solidworks.com/2025/English/api/sldworksapiproguide/Welcome.htm>).

---

## HOW-TO SOURCES

### SOLIDWORKS API reference

<https://help.solidworks.com/2025/English/api/sldworksapiproguide/Welcome.htm>

---

## RELEASED MATERIAL / SOURCE LINKS

### cad-051-public-summary.txt

#### PUBLIC SUMMARY / RECOVERED NOTES

<https://u225x.com/downloads/manifest-records/cad-051-public-summary.txt>

---

## RETURN TO THE LIVING RECORD

### Sheet-metal setup and press-brake analyzer

This PDF preserves the public notes at this revision. Visit the record for updates and attached images.

<https://u225x.com/record/CAD-051>