



MetaMech MDAT

Mechanical Design Automation Tool

User Manual

Version 2026

MetaMech Solutions | Ireland

metamechsolutions.com

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1. Getting Started

MetaMech MDAT is a professional SolidWorks automation suite that eliminates repetitive tasks mechanical engineers deal with every day.

System Requirements

- OS: Windows 10 or 11 (64-bit)
- .NET Framework: 4.0 or later
- SolidWorks: 2018 or later (for Design Tools)
- Internet: Required for first-time activation only

What's Included

| File | Purpose |
|-------------------------|-----------------------------|
| MDAT.exe | Main application |
| PdfMergeTool.exe | PDF merge engine |
| PdfSharp-gdi.dll | PDF processing library |
| Config.txt | Server & tool configuration |
| MetaMech_RSA_PUBLIC.xml | License verification key |

2. Installation

Step 1: Download

Download MetaMech-Trial.zip from metamechsolutions.com/download

Step 2: Extract

- Right-click the ZIP > Extract All
- Choose a location (e.g. C:\MetaMech\ or Desktop)

Important: Do NOT extract into Program Files.

Step 3: Launch

Double-click MDAT.exe. Your 3-day free trial activates automatically.

Step 4: Connect SolidWorks

- Open SolidWorks and load an assembly
- MetaMech detects it automatically

3. Licensing

Free Trial

- Duration: 3 days from first launch
- All tools unlocked
- One trial per machine - cannot be reset
- Activates automatically

License Tiers

| Tier | Name | Access |
|------|--------------|-------------------------------|
| 1 | Standard | Core design automation |
| 2 | Premium | All tools + calculators |
| 3 | Premium Plus | Everything + priority support |

Activating a Paid License

- After purchase, you receive a license.key file
- Place it next to MDAT.exe
- Launch MetaMech - detected automatically

Seat Management

Simultaneous users allowed per license. Inactive seats auto-release after 6 hours.

Offline Use

Trial: 1 day | Standard: 3 days | Premium: 7 days | Premium Plus: 14 days offline.

4. Interface Overview

Left Panel

Design Tools (SolidWorks macros) and Engineering Tools (calculators).

Right Panel

Activity Log with real-time progress and timing.

License Bar

Tier, expiry, days remaining, and seats at the top.

5. Design Tools

SolidWorks must be running with an assembly open.

SMART BOM

Purpose: Generate Bill of Materials from any assembly.

Output: Excel file with part numbers, descriptions, quantities.

SMART PDF

Purpose: Batch-export all drawings to PDF.

Output: Individual PDF files for each drawing.

SMART STEP

Purpose: Batch-export parts to STEP format.

Output: .stp files for each component.

SMART DXF

Purpose: Batch-export flat patterns to DXF.

Output: .dxf files for laser/CNC/waterjet.

SMART TEMPLATE CHANGE

Purpose: Push standardised templates and properties.

Output: Updated title blocks and properties.

MDAT ONE-CLICK

Purpose: Run BOM + PDF + STEP in one click.

Output: Complete release package.

6. Engineering Tools

Standalone calculators - no SolidWorks needed.

Conveyor Calculator

Belt speed, capacity, motor power, tension.

Motor Power Calculator

Power from torque, speed, efficiency.

Torque Calculator

Torque from force and radius.

Pneumatic Cylinder Calculator

Bore size, rod diameter, air consumption.

Air Consumption Calculator

Compressed air usage in l/min and CFM.

Unit Converter

Length, force, pressure, torque conversions.

Engineering Notepad

Notes, calculations, documentation.

7. PDF Merge Tool

Merge multiple PDFs with auto-generated index.

How to Use

- Click PDF Merge in MetaMech
- Add files or folder
- Reorder with Move Up/Down
- Merge with Index or without
- Choose output - done!

Index Features

- Hierarchical numbering
- Clickable links
- Auto page numbering

8. Settings & Themes

Dark/light theme toggle. Saved between sessions.

Do not share Config.txt - contains credentials.

9. Troubleshooting

"Activate your licence"

- Ensure internet on first launch
- Buy at metamechsolutions.com/pricing
- Place license.key next to MDAT.exe

"No seats available"

- Close MetaMech on another PC
- Wait 6h for auto-release

"SolidWorks not available"

- Start SolidWorks first
- Open an assembly

"Trial already used"

- One trial per machine
- Purchase to continue

PDF Merge fails

- Ensure PdfMergeTool.exe + DLL present
- Check PDFs are valid

10. Support & Contact

Website: metamechsolutions.com

Contact: metamechsolutions.com/contact

Pricing: metamechsolutions.com/pricing

Download: metamechsolutions.com/download

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