SEW SMARTER: INTRODUCTION TO PROJECTOR SEWING

PROJECT PATTERN PIECES DIRECTLY ONTO FABRIC—NO PRINTING

Agenda

What is Projector Sewing

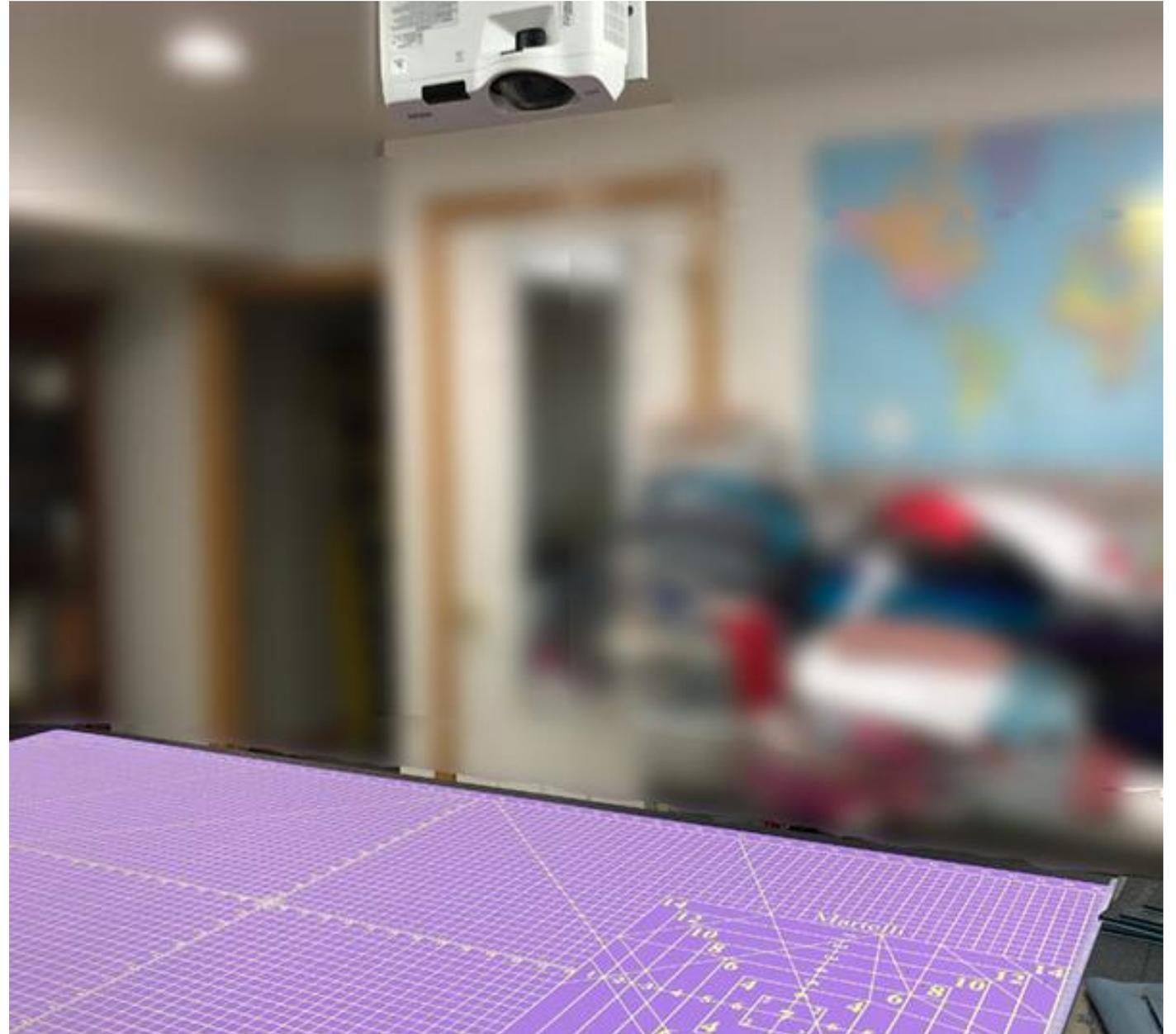How Does It Work

Why people love it (and honest tradeoffs)

Digital Pattern Alterations

Calibration

Types of Projectors

Resources

What is Projector Sewing?

- ▶ Using a digital projector to display pattern piece outlines onto fabric

- ▶ You cut along the projected lines (rotary cutter or scissors)

- ▶ Works best with PDF/A0/projector files and a stable setup

- ▶ Note: Should be called projector cutting, but searching is easier when looking for projector sewing

HOW DOES IT WORK?

- A digital projector is mounted above a cutting table or surface, projecting the pattern pieces downwards onto the fabric laid out below. The pattern image is displayed from a digital file, often in PDF format optimized for projection.

- Instead of printing, taping together, and cutting out paper patterns, the sewist can simply lay out the fabric and cut directly along the projected pattern lines. This saves time, resources like paper and ink, and physical storage space for patterns.

- Different types of projectors can be used, with ultra short throw and short throw models being popular choices that don't require much distance from the surface. Mini projectors are a more affordable option but may need to be ceiling mounted.

WHY PEOPLE LOVE IT

Time-saving: No printing/taping/tracing

Cost-effective: Save money on printer ink, paper, and the cost of purchasing physical patterns over time

Storage efficiency: No need to store bulky paper patterns as the patterns are stored digitally

Versatility: You can easily switch between pattern sizes or try out new patterns without the hassle of printing and cutting

ADVANTAGES OF PROJECTOR CUTTING/SEWING CONTINUED

- **Fabric optimization:** Projecting patterns directly onto fabric allows for better pattern placement and fabric utilization, and is particularly useful for directional or border prints and fussy cutting

- **Pattern markings:** You can use the projector to mark pattern details like pocket placements directly on the fabric *(recently helped my daughter mark stitched down pleats and it was so easy!)*

- **Portability** (potential): With a portable projector setup, you can cut patterns anywhere without being limited to a dedicated sewing space

- **Help group**: There is a great support group on Facebook (Projectors for sewing)

HONEST TRADEOFFS

There are some potential drawbacks to using a projector for pattern cutting:

Cost: The cost of purchasing a projector can be prohibitive, especially for higher-end, ultra-short throw models. However, mini-projectors are coming down significantly in price (saw one on Amazon for <$60)

Mounting and calibration: The latest programs make calibration very easy. Without Pattern Projector (free!), calibration can be challenging. Determining how to mount and mounting your projector can also be tricky

Pattern adjustments: Making complex pattern adjustments like full bust adjustments can be more challenging with a projector. It can also be difficult to keep track of pattern adjustments made without a physical paper copy as reference

TRADEOFFS CONTINUED

Space and lighting: Large pattern pieces may not fit within the projected area, requiring additional maneuvering or piecing together.

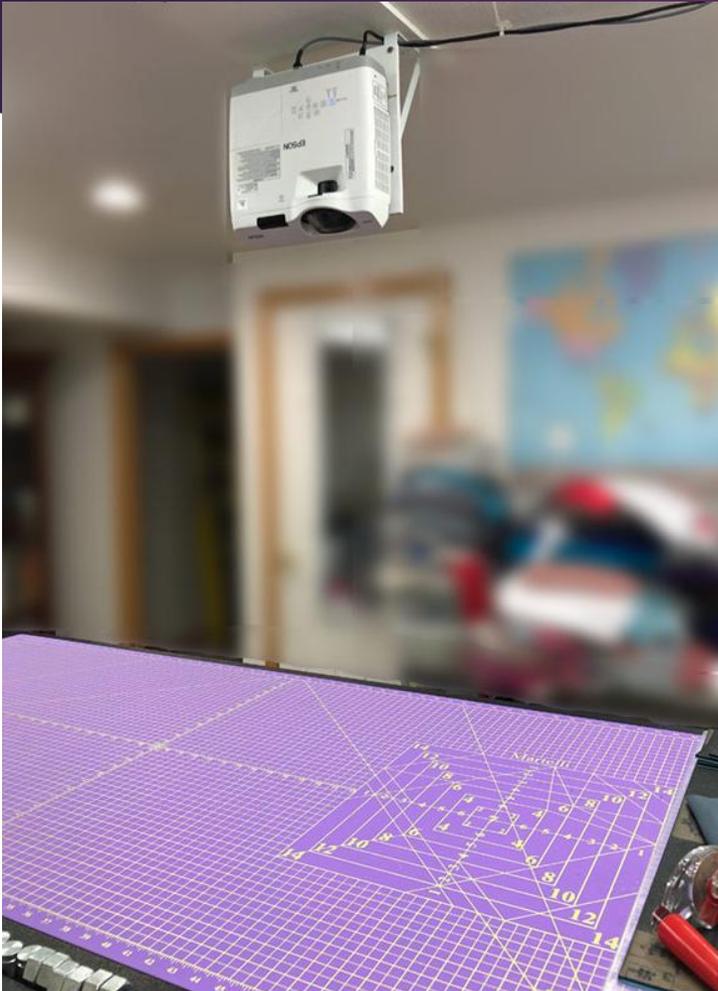Areas that are very bright may make it difficult to see the projection.

No projector file: Lack of a dedicated projector file from the pattern company can make it more difficult to use the pattern with a projector

Fabric layout optimization: It can be harder to optimize fabric layout without having all pattern pieces visible at once

Basic Equipment List

- Projector (short-throw often preferred, but not required)
- Mount (ceiling mount, shelf, tripod, or custom stand)
- Cutting surface (mat, table, or floor setup)
- Device to run patterns (laptop/tablet)
- Software/app to display patterns
  - Optional but highly recommended: Pattern Projector (free software)
- Optional: remote/mouse, HDMI adapter, extension cord

Pattern file types you might encounter

- Tiled PDF (least ideal for projection)

- Copyshop/A0 PDF

- "Projector file" (often includes thicker lines, layers, full-size patterns - i.e. not cut on fold - and no overlap)

  - These are becoming much more common, even in the Big 4

Layers *are your friend (turn off sizes you don't need)*

Projector Types

Ultra Short Throw (UST)

- Designed to be placed very close to the projection surface; they are more portable and can sit directly on the cutting table/surface.

- Ideal for ceilings 8' or less

Ceiling Mounted (exactly as they sound – mounted to the ceiling and project down onto the cutting surface)

Short Throw (ST)

- While not optimized for sewing, regular projectors intended for home theater or presentations can also be adapted for projecting sewing patterns. These may require more space and mounting considerations compared to mini or UST projectors specifically designed for close-range use.

Mini/Portable

- Very compact and lightweight
- May need to be ceiling mounted for pattern projection (if not specifically a portable model)

Short Throw Projector

Mini projector

Ultra-short Throw Projector

© ProjectorSewing.com
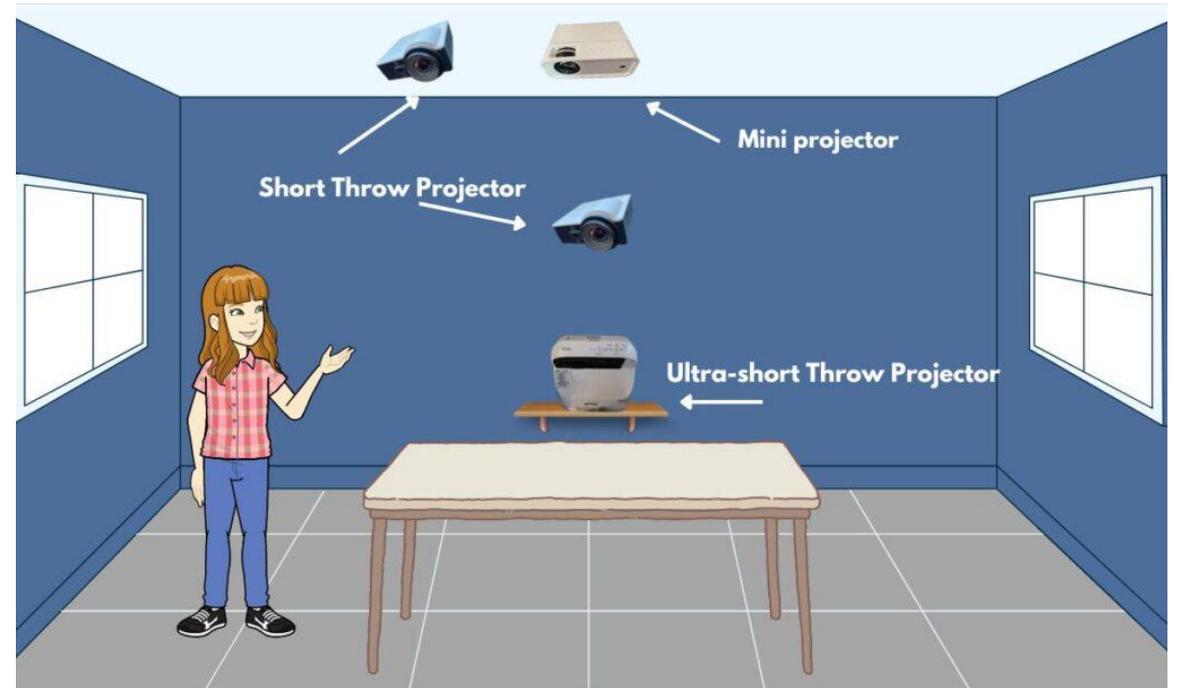
The workflow overview

- Get the pattern file
- Open in software with layers/zoom controls
- Set scale to 100%
- Align the image to your cutting area
- Confirm scale with a test square
- Lay fabric flat, on grain
- Project, pin/weight if needed
- Cut
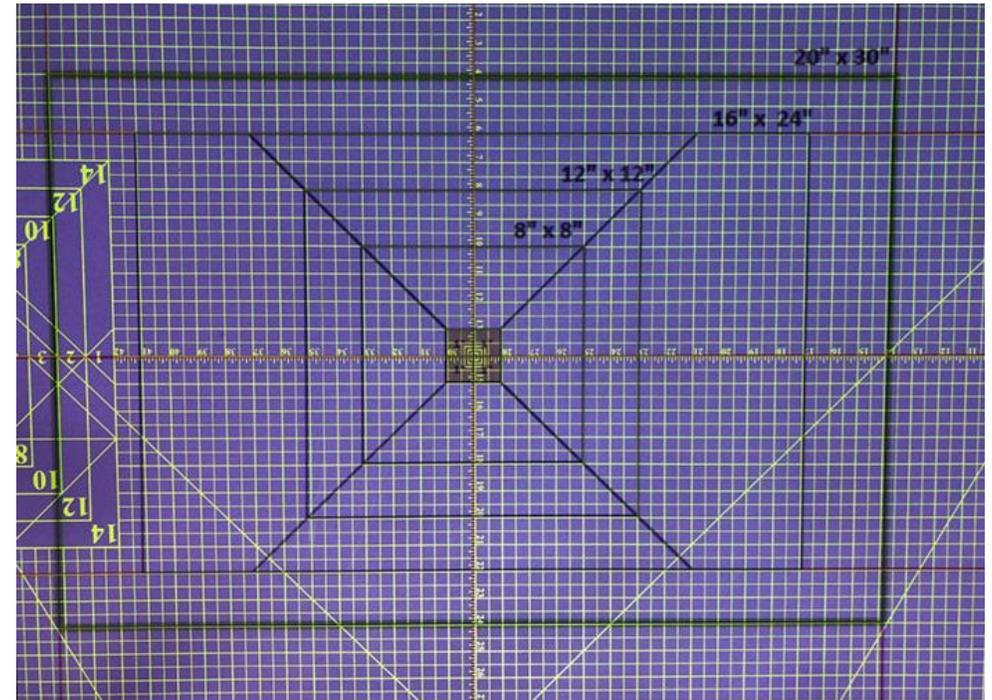
CALIBRATION 101
(WHAT WE'RE SOLVING)

▶ **Scale**: projected pattern must be true size (100%)

▶ **Distortion**: image can skew if the projector isn't square to the surface

▶ **Consistency**: once calibrated, you want it to stay put

Recommended tool (free)

Pattern Projector

- Free, open-source web app
    - Use it to calibrate your projector to your cutting surface so your projected pattern is accurate.
- Set up the projector in its "normal" position (don't move it mid-process)
- Open **Pattern Projector** and follow the on-screen calibration steps
- Adjust until the projection matches your grid
    - *Tip: Measure your cutting surface with a rigid (not a sewing) tape measure (not all cutting mats grids are totally accurate)*
- Re-check with a pattern **test square** before cutting your first real project

Best practices / common gotchas

- Dim lights if needed so lines are crisp

- Avoid using digital keystone correction if you can (physical alignment is better, and shouldn't be needed if using Pattern Projector)

- Recalibrate if anything changes: projector bumped, table moved, zoom setting changed, different projection distance

Fabric handling tips

- Press fabric first (wrinkles distort the projected lines)
- Keep fabric flat and stable (weights, painter's tape on mat edges, etc.)
  - Many people are moving to magnetic mats/weights
- Pay attention to grainline and fold placement
- Use higher contrast if possible (can change the colors in Pattern Projector)
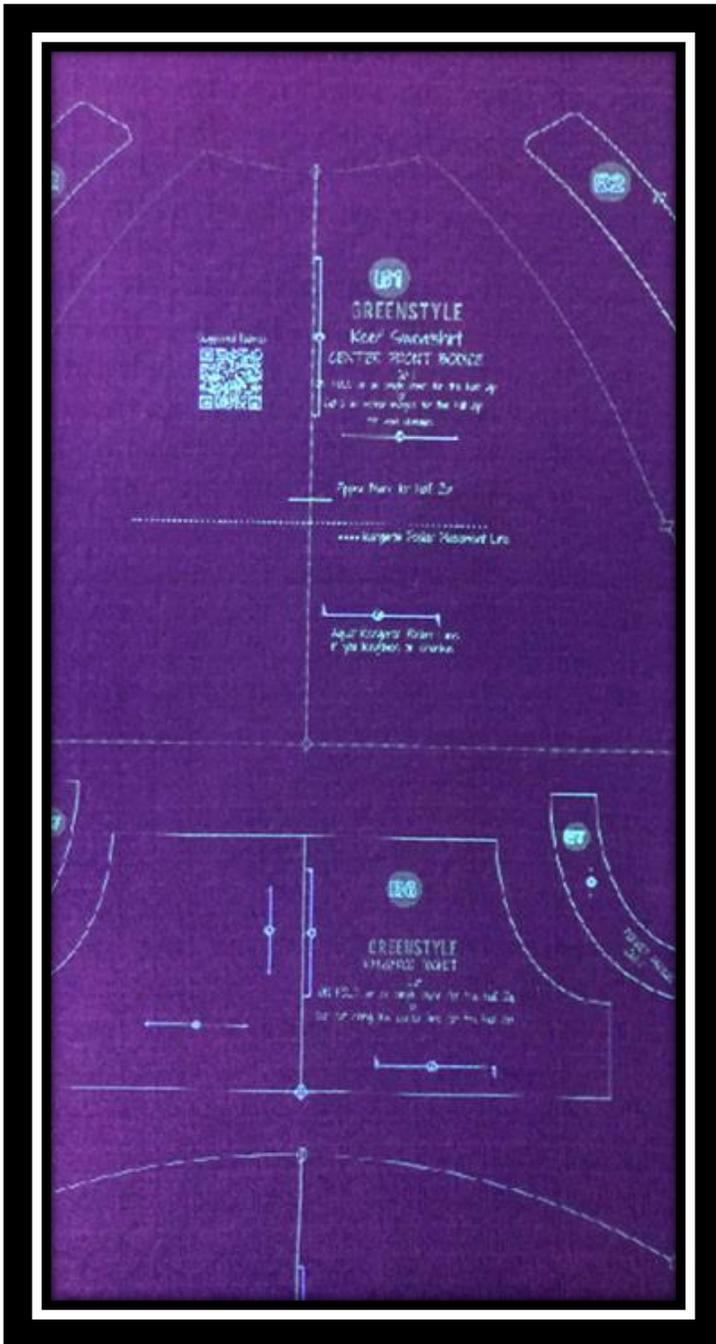
All I have are paper patterns

CAN I STILL USE A PROJECTOR?

Digitize your paper patterns

▶ Easiest – Take a picture of your pattern (add a ruler so you ensure the scale is correct).

▶ A bit more advanced - Trace the pattern lines from your picture with a vector drawing program and "create" your own digitized pattern pieces

Digital Pattern Alterations

(YES, YOU STILL CAN)

What counts as a "digital alteration"?

▶ Anything you'd do on paper, but done on-screen/digitally first

▶ Two buckets:

    ▶ **Within the pattern file** (layers/ selecting sizes, turning pieces on/off)

    ▶ **True alterations** (lengthen/shorten, FBA, blending sizes, moving darts)

Tools people use

▶ PDF viewer that supports **layers** and accurate measuring (e.g. Adobe Acrobat)

▶ Optional pattern-editing software

   ▶ Inkscape

   ▶ Affinity (need to have a Canva account, which is also free)

▶ A simple workflow option: **do alterations once**, save a "My adjusted size" file, then project that forever

Best Practices

- Alterations are easiest when the pattern is **layered** and you can isolate your size(s)
- Save versions:
  - "Original"
  - "Altered"
  - "Altered + seam allowance changes" (if you do those)
  - Etc.
- Always verify scale with the test square after exporting/saving
- If you're new to fitting: consider doing your alterations on paper first, then replicate digitally later

RESOURCES

- PROJECT & CUT
  (FREE 21-DAY TRIAL, $20 LICENSE)

- PATTERN PROJECTOR
  (FREE, OPEN-SOURCE WEB APP)

- FACEBOOK GROUP – PROJECTORS FOR SEWING

- YOUTUBE VIDEOS
  - Projector Sewing
  - Dailey sews and stuff

Lengthen/Shorten digitally (how it works conceptually)

- Find the pattern's lengthen/shorten lines (usually on bodice, skirt, sleeve)

- Decide how much to add/remove (e.g., +1" torso length)

- "Cut" the piece digitally at the line, spread/overlap by the amount

  - I like to draw a rectangle the change amount needed (e.g. 1" x 15"), then align that rectangle on the line where I will lengthen. This way I get an exact change.

- True up side seams and redraw curves as needed

Thank you

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