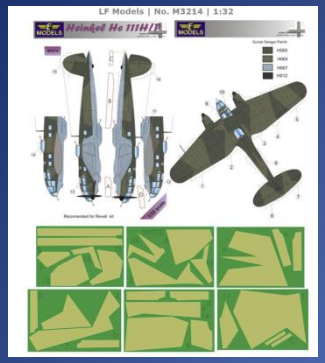

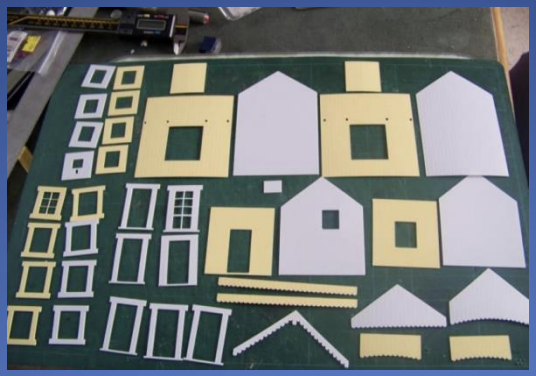

DESKTOP CUTTING MACHINES 101
AN INTRO FOR SCALE MODELERS

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IPMS Toronto/NENY

What is a "**Desktop Cutting Machine**"?

- Desktop Cutting Machine (DCM): similar to a desktop printer, but instead of printing on paper, a DCM is a programmable cutting machine that cuts onto a variety of thin materials (e.g., cardstock, masking tape, vinyl, fabric, and even thin plastics).

Relevancy for the Scale Modeler

1) Markings (numbers, letters)

2) Simple symbols (stars & bars)

3) Camouflage patterns

4) Canopy Masks

5) It should NOT be confused with a Decal Printer (e.g., ALPS Printer)! - Not the tool for image reproduction.

Popular Brands Today

- Cameo Silhouette
- Cricut
- USCutter
- Roland

Tips when Buying

- ✓ Wait for sales and try not to buy retail. (many sources: Costco, Hobby Lobby, Sam's Club)
- ✓ Look for ones that have "deeper cutting capacity" (more options for modeling)
- ✓ Choose known brands with support to software, updates, and designs you can purchase or download

Required DCM Software

1) Many kinds of software from advanced (e.g., *Fusion 360, Photoshop*) to "what's in the box" (*Silhouette Studio* w/ Cameo 4 printer). Some are costly, other design software are free.

2) The more advanced the software, the more tools for editing and creating masks - BUT learning curve is steep!

3) BUT…Start with the software with the Printer!

4) Some software such as Silhouette Studio (that come w/ the Cameo 4), can be upgraded. I would suggest an upgrade (cost as of 2021 is $50). Provides added tools and functions such as rulers and Scalable Graphic File (SVG) import.

Other Things You Will Need

1) DCM consumables:
   - Blades
   - Cutting Mats
2) Different blades for different effects or materials (some blades included, some not)
3) **Masking Sheets** you will print on (e.g., Tamiya, Oracal)
4) **Transfer Tape** to help position delicate cut masks onto a surface (e.g., Oracal, Silhouette)
5) a **HIGH-RESOLUTION SCANNER**!

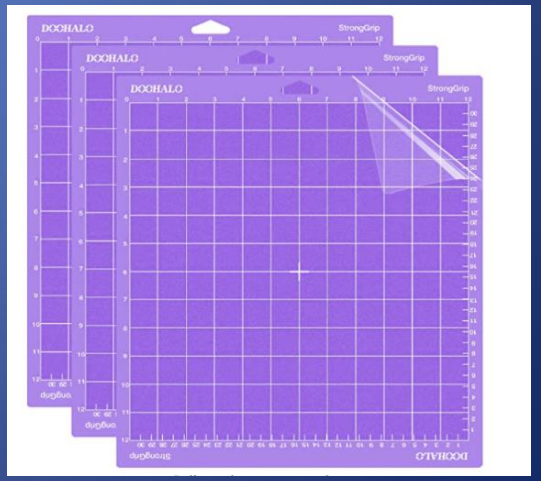
Other Things You Will Need

Blades

Transfer Tape

Masking Sheets

Cutting Mats



Cutting Blade Types in order of relevancy for Scale Modelers (Cameo 4)

1) **Auto Blade** - your “Go-To” blade

2) **Kraft Blade** - deep-cutting blade useful for scratch-building such as scribing into .010” or .020” styrene sheet. Cameo 4 has deepest Kraft Blade now of any manufacturer (3mm)!

3) **Pen Holder** - holds small pen so you can design and position patterns (e.g., camo patterns) first, before cutting the pattern.

4) **Rotary Blade** - rolls over surfaces. Good for fabrics perhaps for model display base etc. Less so for model building.

TIPS

- ✓ Use Cutting Blades designed for your cutter, but you can use ANY type of Cutting Mat, Transfer Tape, or Masking Sheets!
- ✓ Experiment reading in SVG, PDF (Vector) files too!
- ✓ Save your Masking Sheets (excess Tamiya Tape)! You can still use bits and pieces on a DCM.
- ✓ Use **Windows PAINT** for simply fast image cropping.
- ✓ Don't throw out any decals! They may come in handy one day as they scan perfectly, and can then be modified (.e.g., outlines added, size & proportions changed)!
- ✓ The best masks are from high-res images, original decal sheets, or original SVG files. Best are "darker" images!

Cutting TIPS

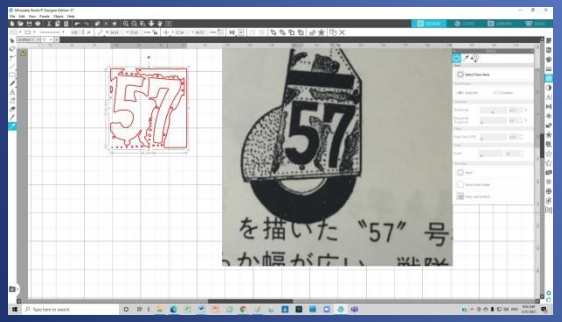
- Use the highest resolution images as possible!!!
- Rely on your Auto-Blade (takes guess-work out on settings)
- BUT DO set your cutting weight to 7 or 8 to save on your blade sharpness (the higher the cutting weight, the firming the cut). Default setting are around 15.
- Save as many cutting designs on a page as you can to save on Masking Sheets!

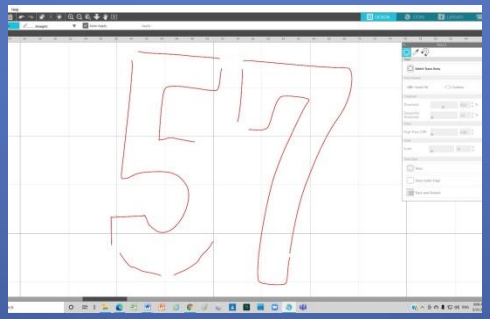
GENERAL
“HOW-TO” STEPS TO CREATE A SIMPLE MASK

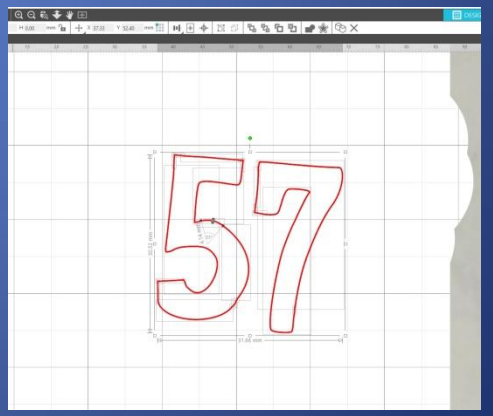
1) Capture the image of what you want to create a mask for. Options: Screen-capture, scan, or read in an SVG file directly.

2) Read image file into DCM Software.

3) Trace the item you want to create mask for, and clean-up, edit, copy, resize as you need.





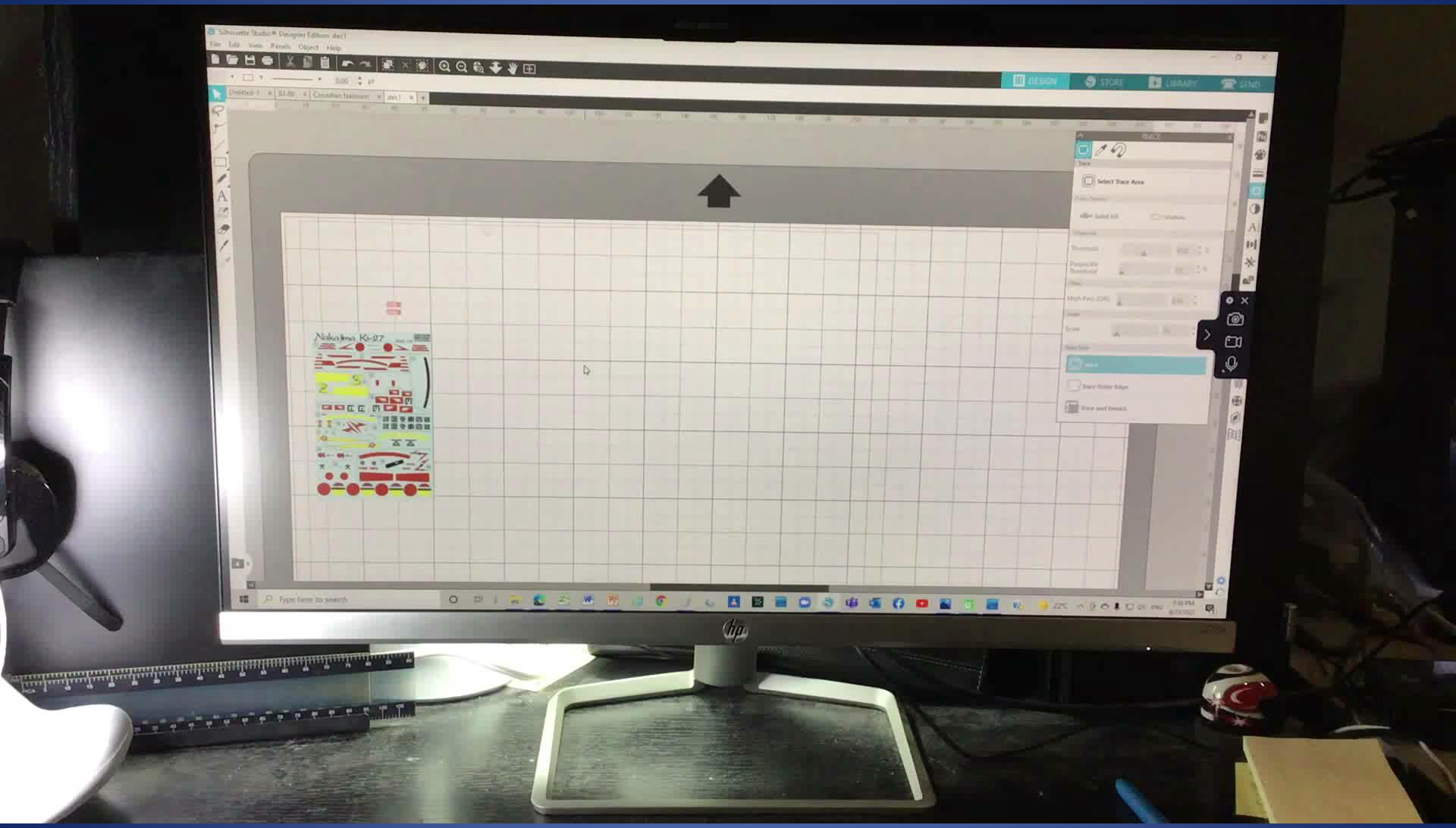


4) Print onto Masking Sheet!

VIDEO DEMO

Example – Cameo 4 DCM with its Silhouette Software

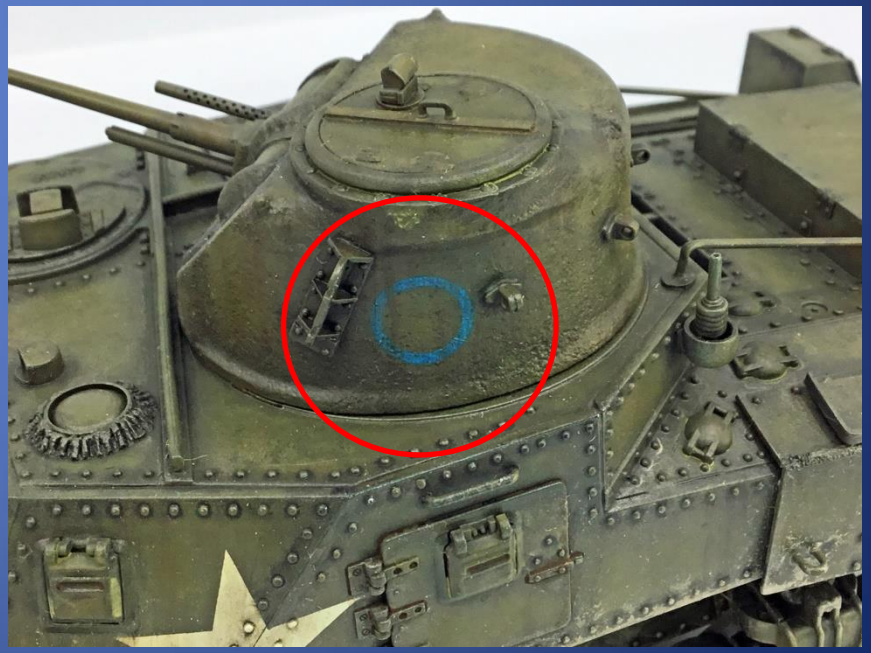
VIDEO – TO PLAY OUTSIDE OF POWERPOINT, OPEN “PART 2” FILE



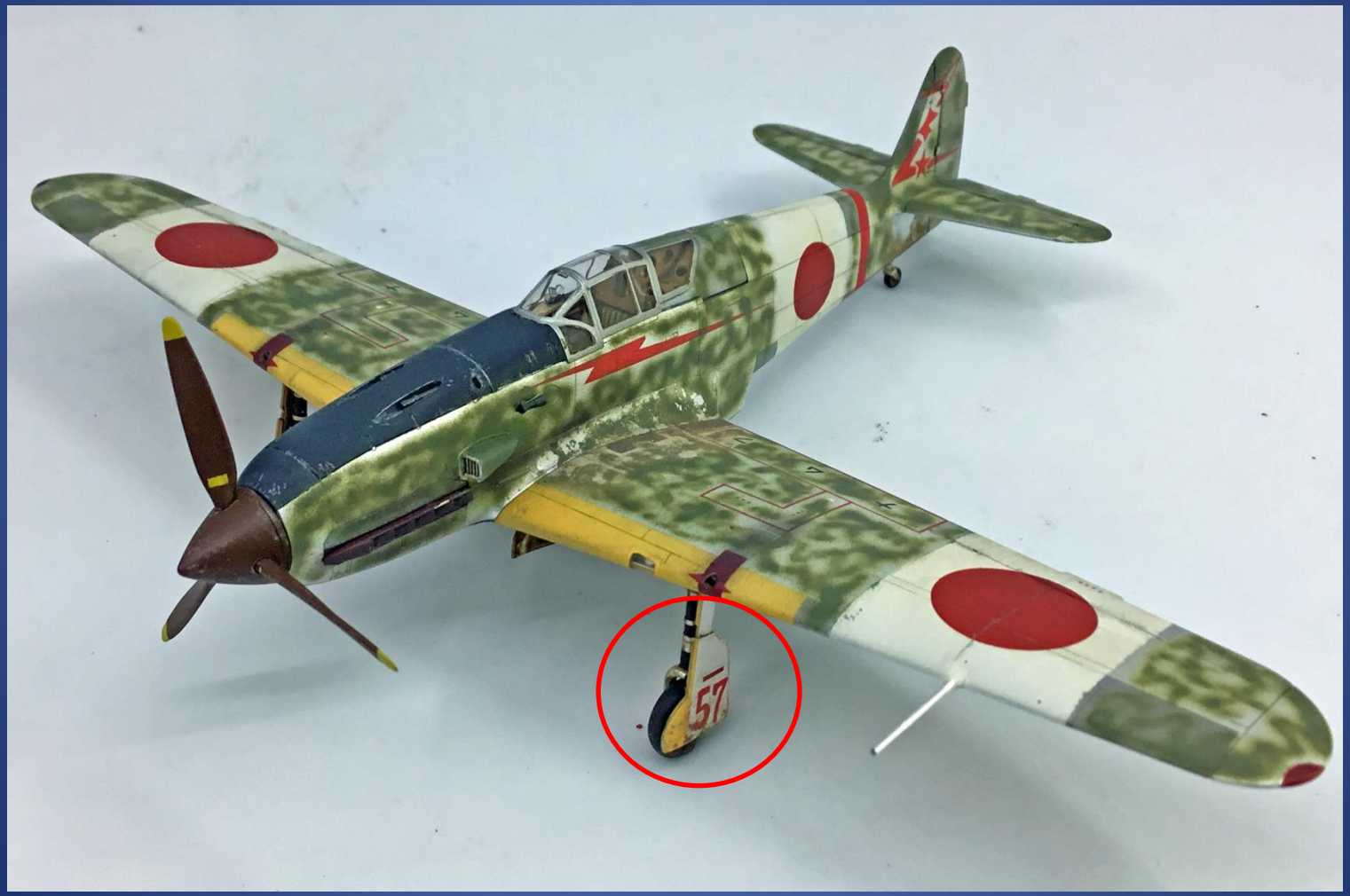
SOME OF MY RECENT EXAMPLES

1/48 CANT 1007bis
Numerals from DCM (Squadron Emblem from ALPS Printer)

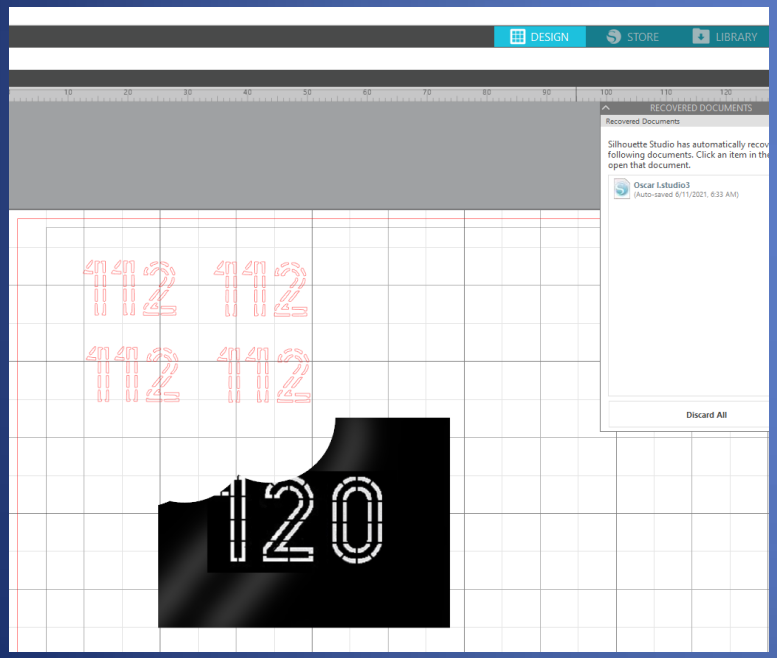
1/35 M3 Lee



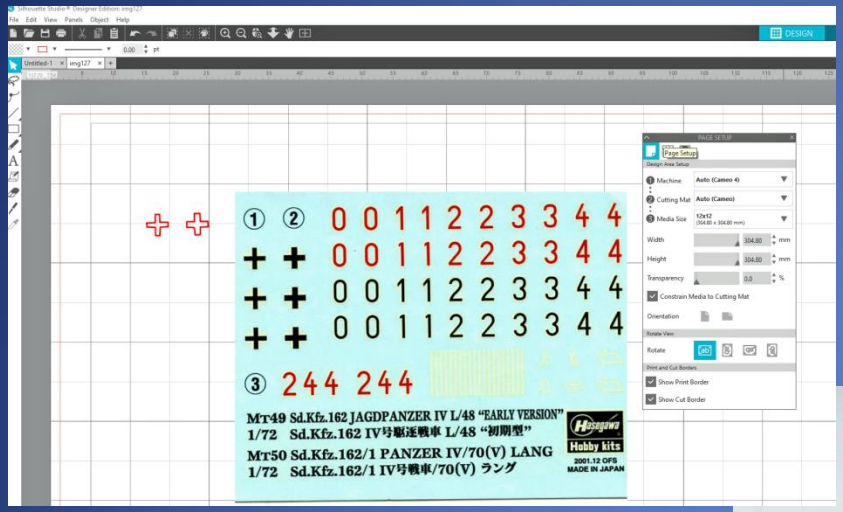
1/72 Ki-61D “Tony”
Wheel Cover Numbers



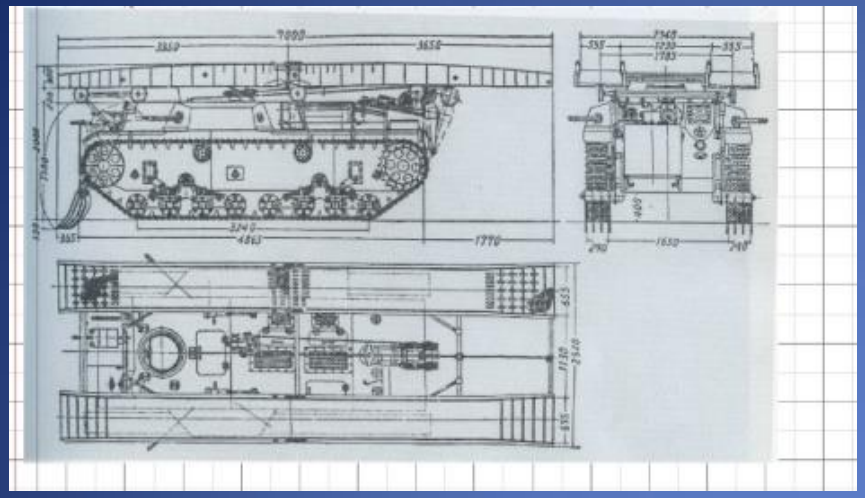
For my friend Darren Gawle’s 1/35 Brummbar

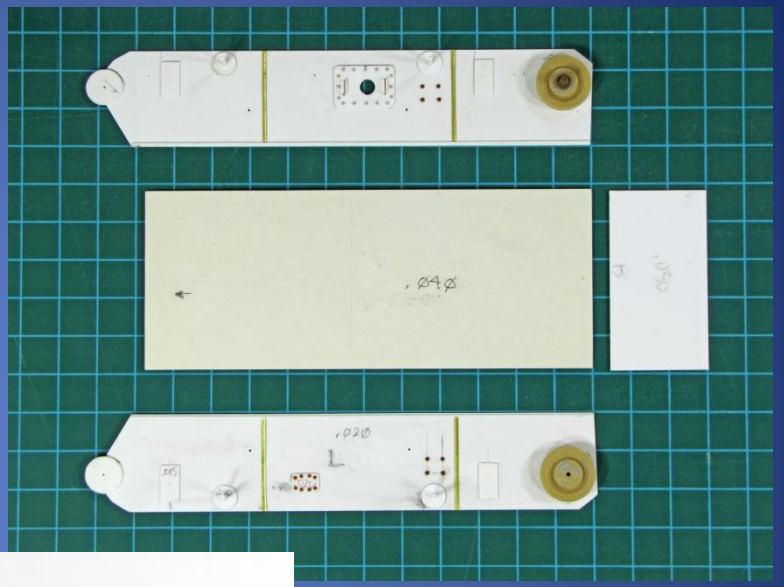


1/72 Sdkfz 162

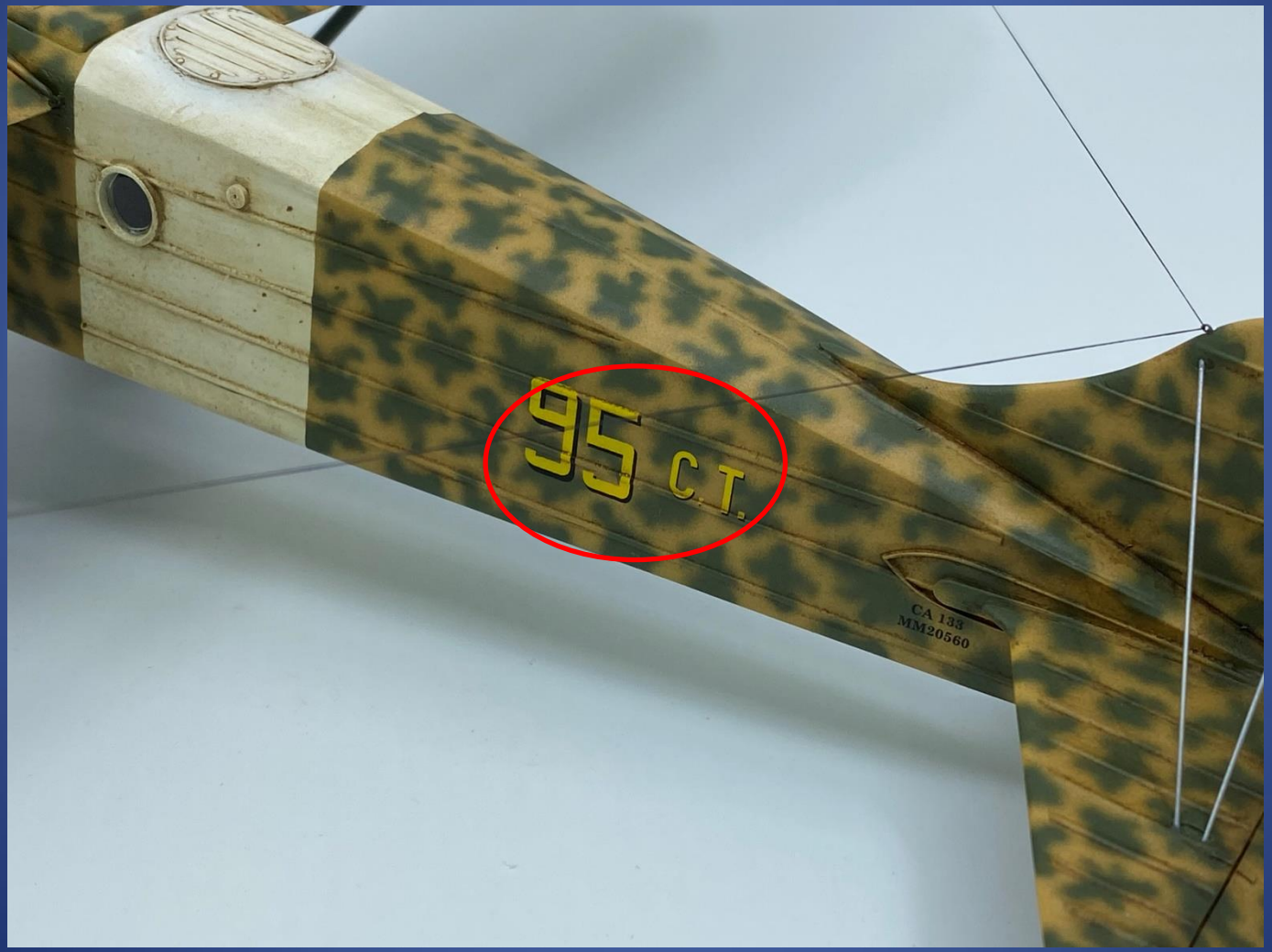


Etching - 1/35 Japanese Engineering Vehicle

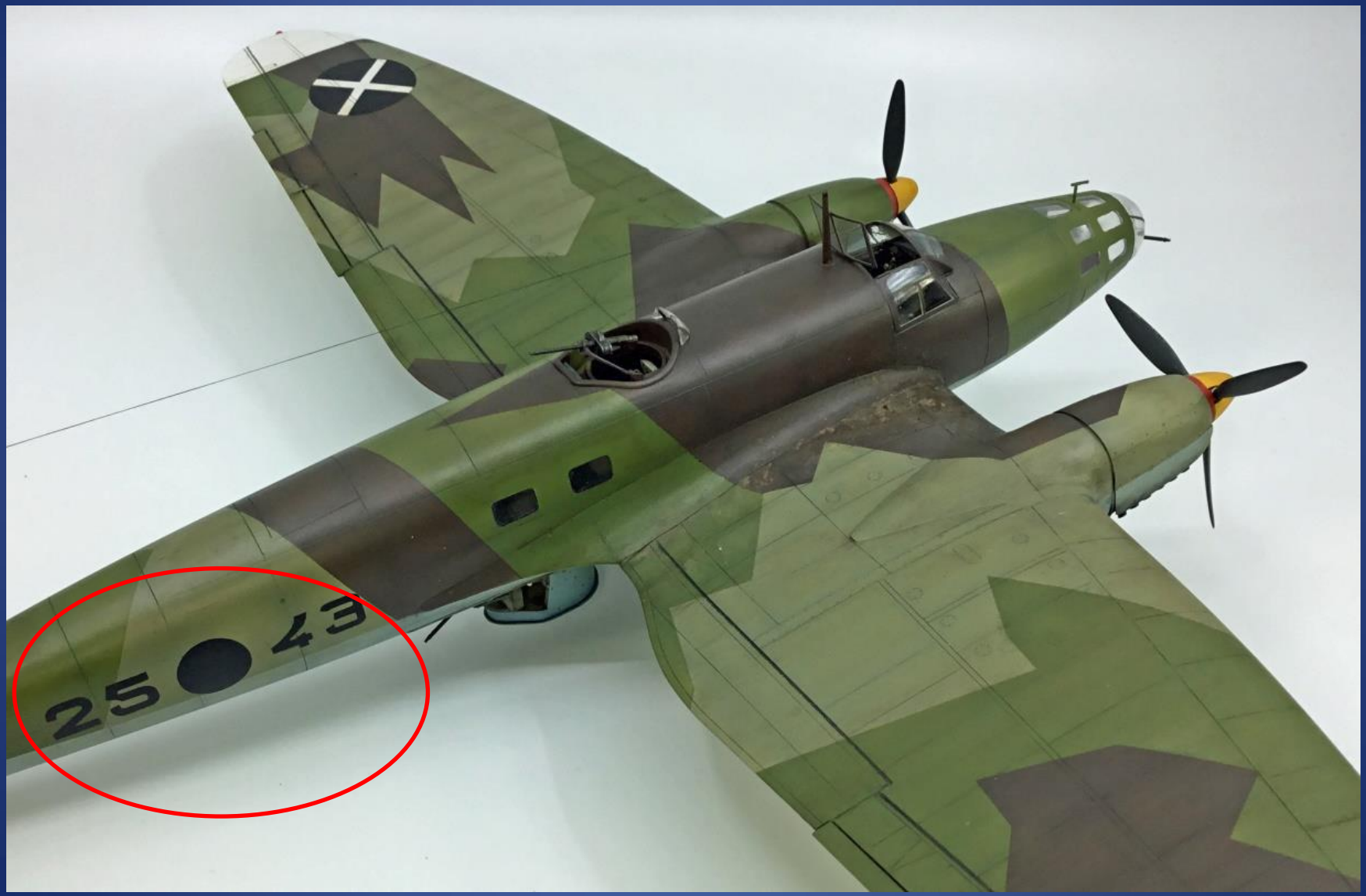




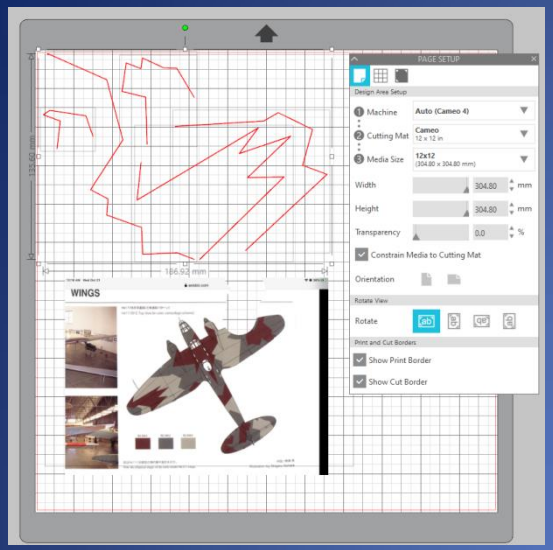
1/48 Caproni 1!33T

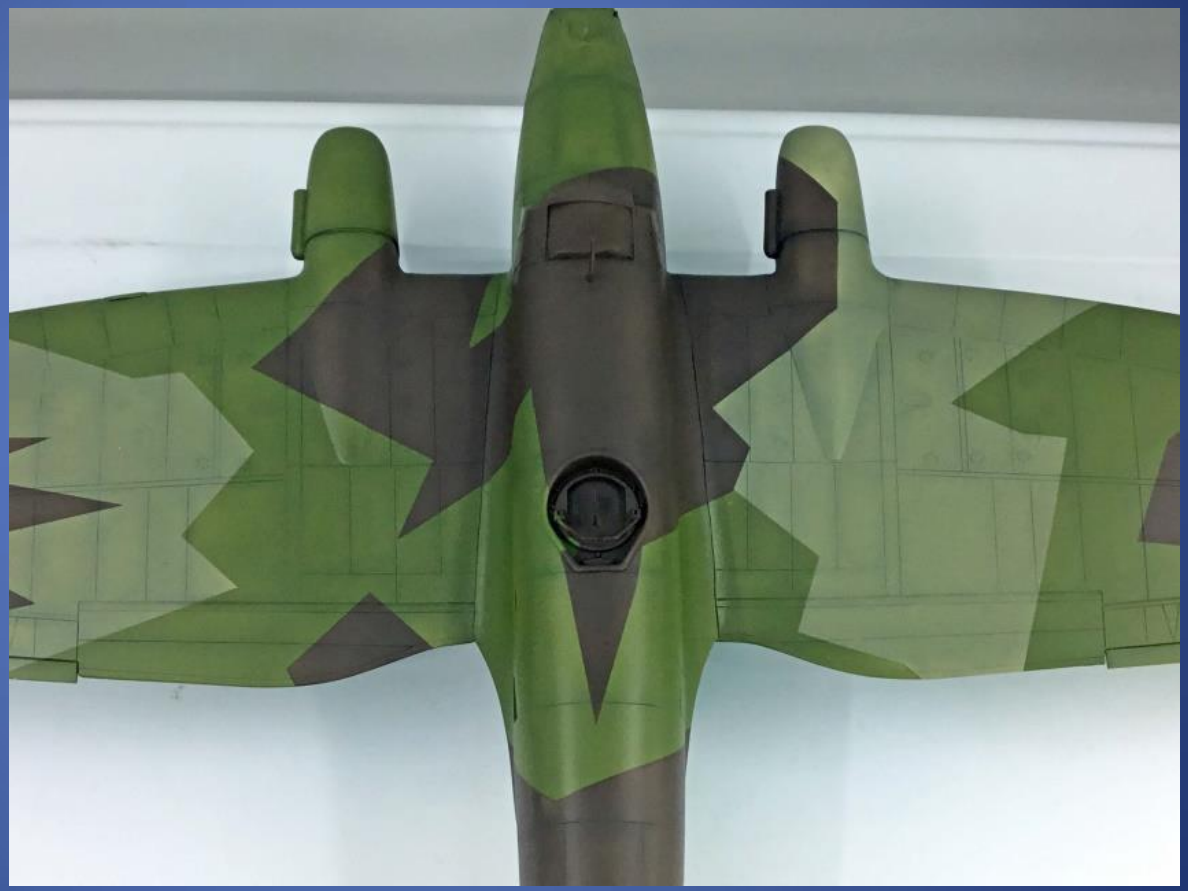


1/48 He-111B -2
Numerals



1/48 He-111B -2
Camo Pattern Mask





Other On-Line Resources!

Join the private FACEBOOK GROUP:
The Cutting Edge scale modeling plotter/cutter users | Facebook

Some modelers share/upload their files for others to use!!! Just open the FILES tab in Facebook under this group! Click on one and if format is compatible, will auto-load into your DCM!

Harvey Low
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PlasticAddic | Harvey Low's Scale Model Collection

THANKS FOR WATCHING!