

Modeling Under a Microscope

NMRA FVD Clinic - November 20, 2016

Presenter: Brian M. Williams



About the Presenter: Brian M. Williams

- Micro-Layouts
- Z-Gauge, T-Gauge and smaller
- HO of 2' Gauge Portable Railroads / Decauville / Feldbahn
- Royal Trains
- Era I Steam
- Military Miniatures
- Lego Trains



http://www.flickr.com/photos/brian_williams/

About Microscopes

Why Use Magnification ?

- Assemble kits with precision
- Diagnose mechanical problems with ease
- Paint tiny details more accurately
- Getting older and eyes just ain't what they used to be



Why Use a Microscope?

- Higher magnification
- Steadier at higher magnification levels
- Adjust magnification level
- Built-in lighting
- Optional Camera



Types of Microscopes



AOMEKIE AOM005 20X - \$47
www.ebay.com



Omano OM24L 20x-40x - \$179
www.microscope.com



LEICA A60 S 5x-30x - \$1739
www.microscopecentral.com



American 570 7X-42X - \$195
www.ebay.com



Amscope SM-3B 7X-45X - \$329
www.amscope.com

← Cheap Expensive →

Working Under a Microscope

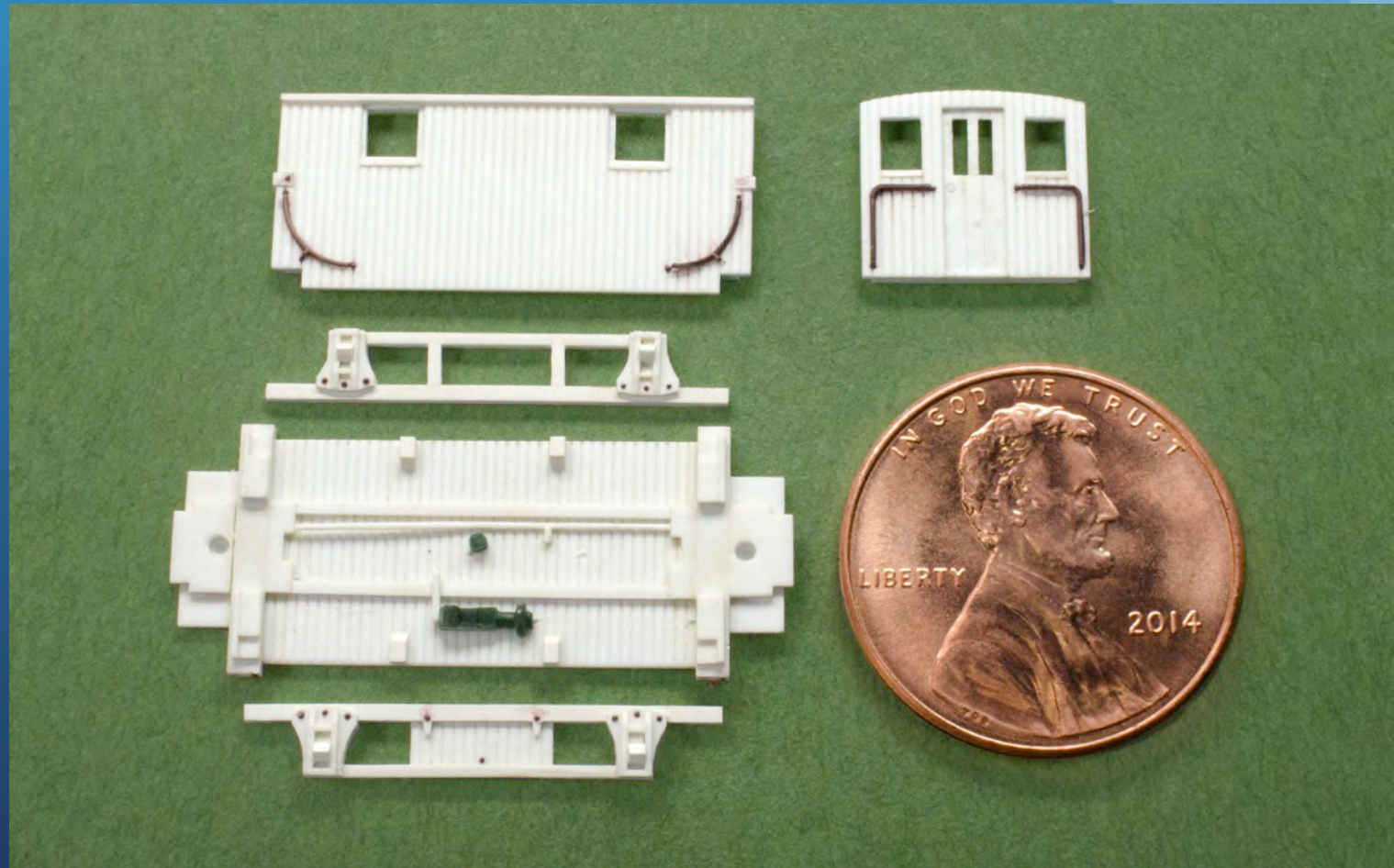
Microscopic Work: Bobber Caboose



Microscopic Work: Bobber Caboose



Microscopic Work: Bobber Caboose



Microscopic Work: Koppel Feldbahn



How Small is Too Small ?

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Faberge Imperial Egg depicting Trans-Siberian Railway presented by Tsar Nicholas II to Alexandra Feodorovna (Kremlin Armoury Museum, Moscow)



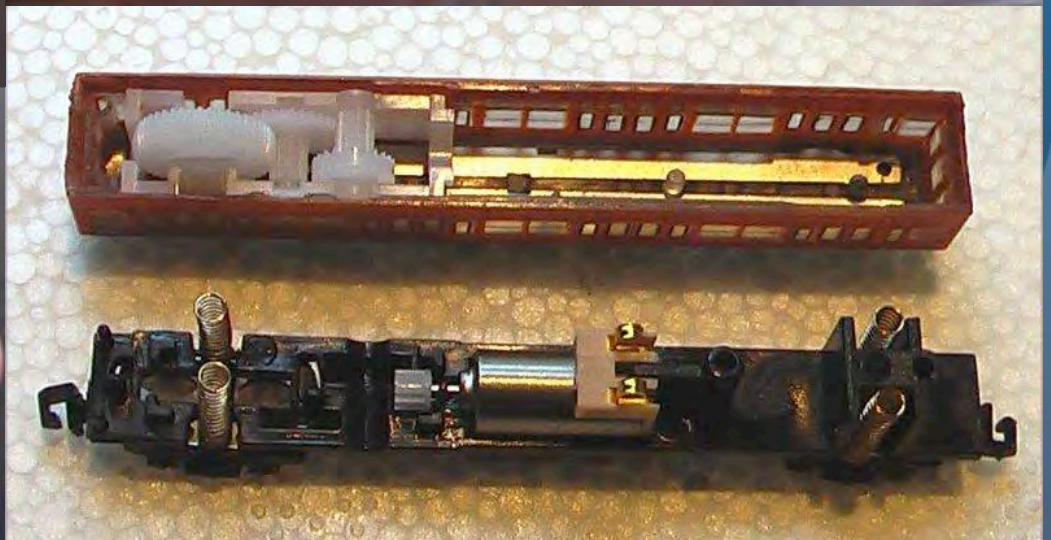
How Small is Too Small ?

1:300 "ZZ" Scale - https://en.wikipedia.org/wiki/ZZ_scale (Bandai)



How Small is Too Small ?

1:450 (1:480) "T" Scale - www.tgauge.com (Enshindo)



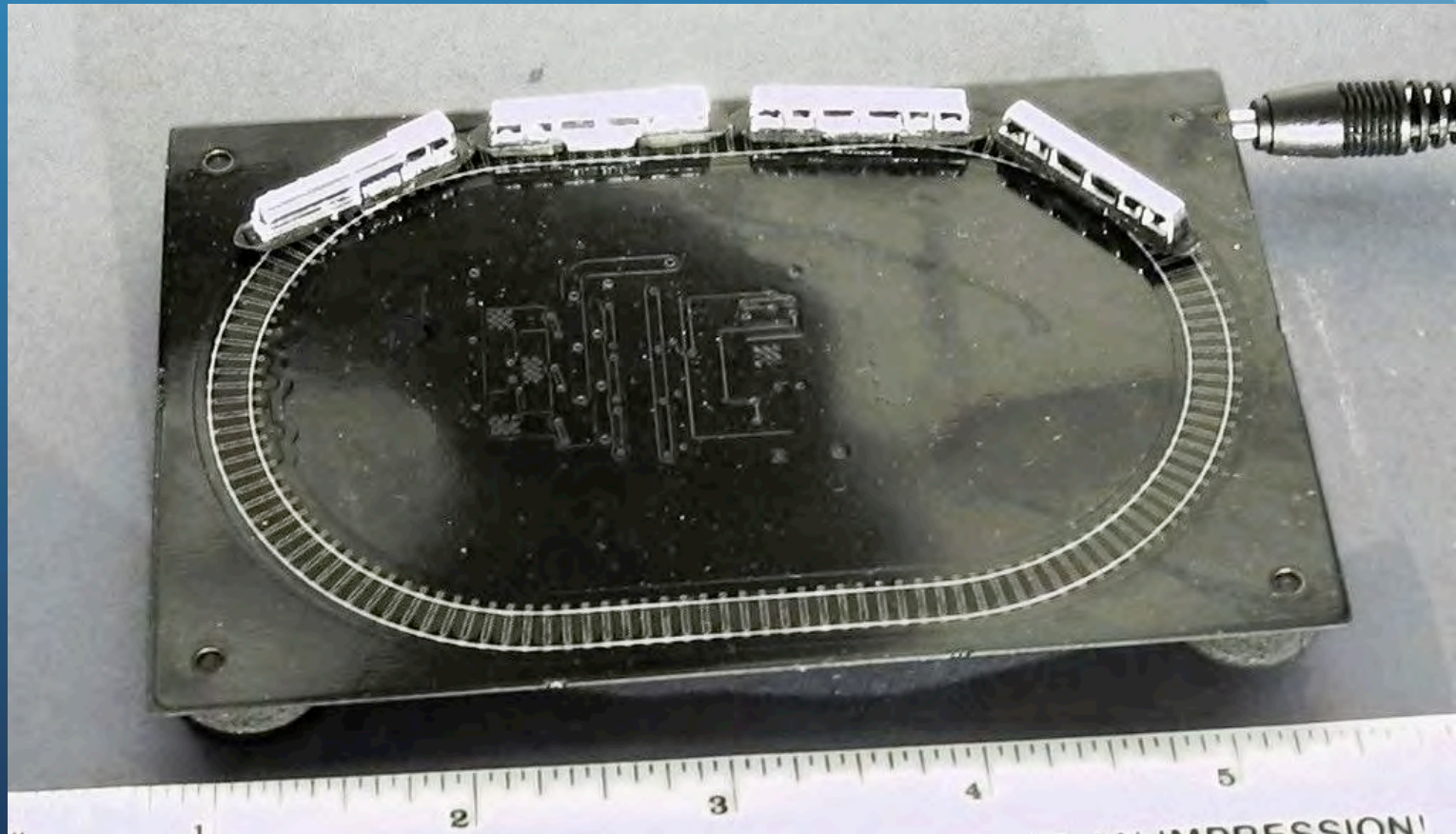
How Small is Too Small ?

1:900 ? “TY” Scale - www.tiny-trains.net (Tim and Laura Dillon)



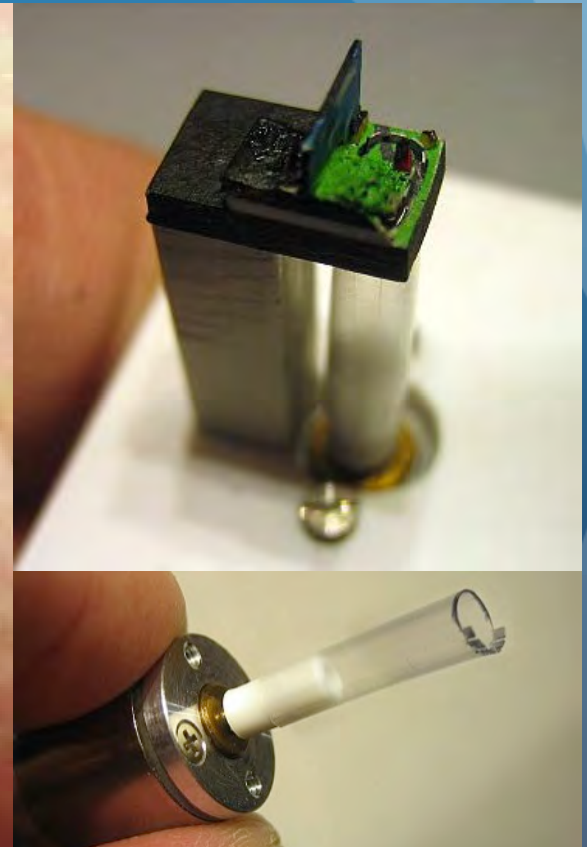
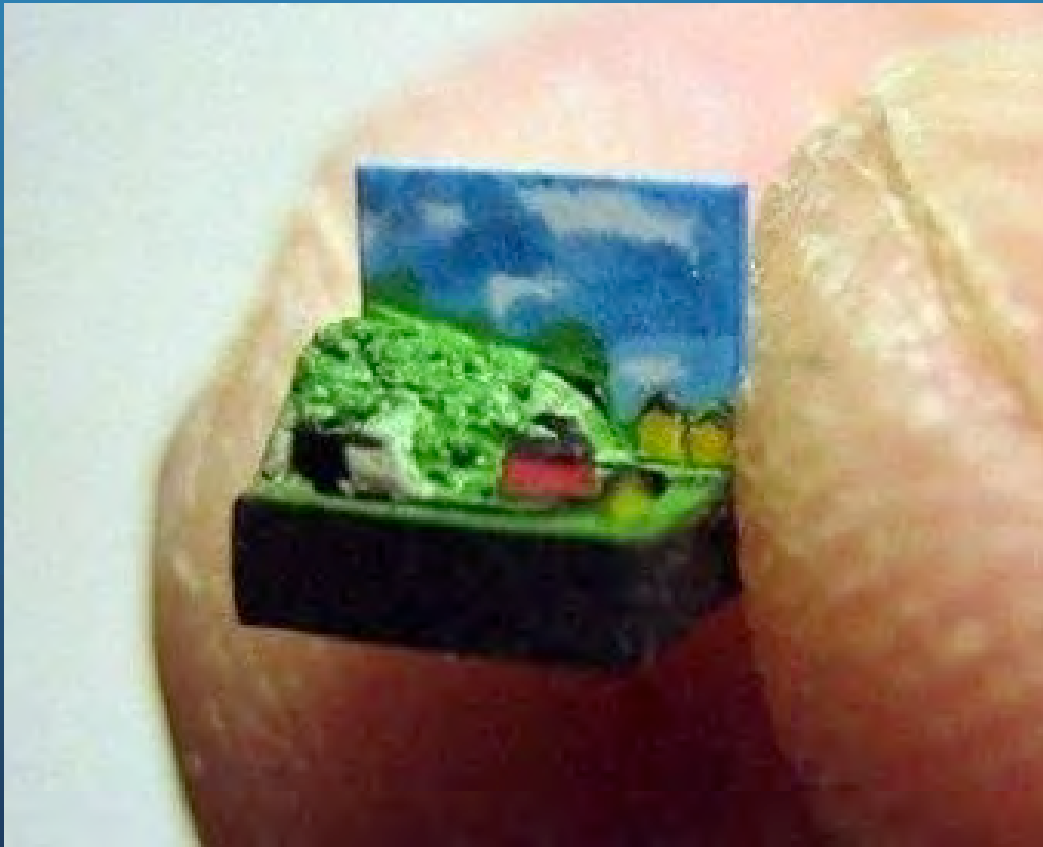
How Small is Too Small ?

1:1000 ? - www.teenytrains.com (IDL Motors)



How Small is Too Small ?

1:35200 ? - <https://youtu.be/OKui9F1u334> (David Smith 2009)



Thank-you !

http://www.flickr.com/photos/brian_williams/

Questions ?

Other Tools to Consider

- Assembly & cutting jigs made from Lego
 - Carved Toothpicks
 - Jewelry Industry tweezers, files and oilers
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- Lego is well suited for box dioramas due to the ease with which minifigs are posed

