



BASES and GROUNDWORK

Basic Techniques and Materials

**Bases and Groundwork
2013 AMPS International Show**



Introduction

- An Overview of My Personal Ideas and Techniques.
- Questions or Comments OK at Anytime.
- Agenda:
 - Why a Base?
 - Research
 - Composition
 - Materials
 - My Basic Technique
 - Frame / Decorative Base
 - Terrain Module
 - Fixing the Terrain Module to Base
 - Fixing the Models to the Terrain
 - References
 - Closing



Why a Base?

- More than something to just hold the model:
 - Sets the time, place, and circumstances. Provides an historical and situational context.
 - Tells the “story” of the model and answers the question of why the model looks the way it does.
 - Emphasizes special features and provides a human connection.
 - When integrated with the model, creates and single presentation that has unity, harmony, and continuity.



Why a Base?



- There is a element of “Showmanship”:
 - Craftsmanship is as important to the base as it is to the models.
 - The base should never be a hasty afterthought.
 - Poor construction with superficially integrated terrain and weathering detracts from even the best models.



Why a Base?



- Judges are human, too:
 - Yes, the rules state that bases should not be judged, but....
 - Always assume that the judges are influenced by everything that is put on the table: stowage, figures, and, yes, the base and terrain.
 - It's often better to have no base, than to have a poorly done base.

***Human Nature is Immutable, and
Judges are Human, Too!***



Research

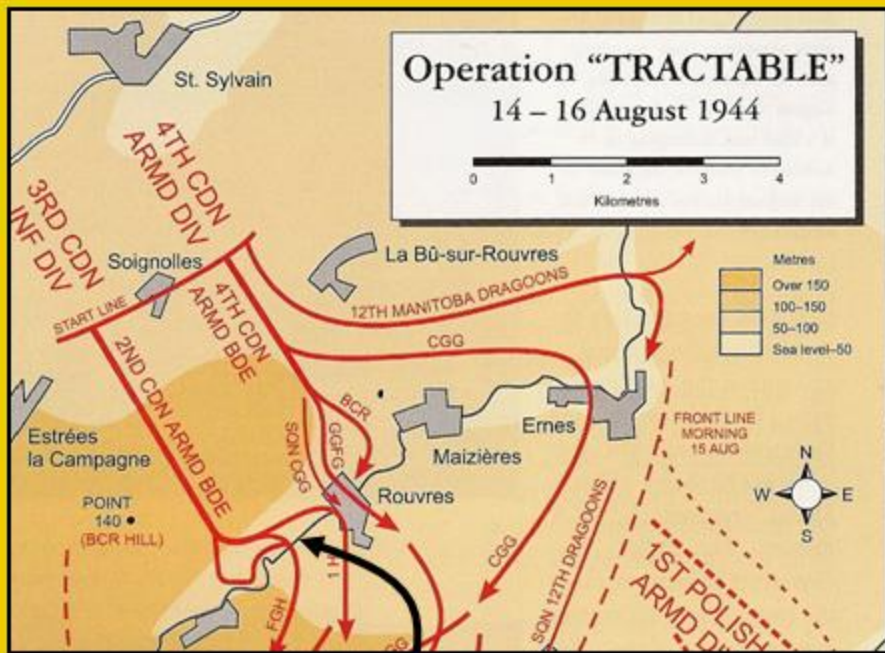


AMPS Research Bonus does Apply to Vignettes and Dioramas.

- Technical Research
 - Model features that terrain might be used to highlight.
- Historical Research
 - Time and Place of the Subject
 - Micro-terrain unique to the Setting
 - Weather and Season
 - Nature of Ground Cover
 - Unique Features to Setting
 - Realism



Historical Research



2nd Canadian Armored Brigade
Crosses the Laizon River

Note Local Spelling of River's Name.





Natural Research



**Vegetation Colors
And
Time of Year**



**Land Forms
And
Shapes**



Natural Research



**Land Forms and Shapes:
Undercut Wash**



**Vegetation Colors
And Details**



Natural Research



Vehicle Tracks in:

- Moist Earth
- Very Wet Earth
- Saturated Earth



Basic Planning Consideration:



Integrate the base with the model.

- Use the base to display or show off special features.
- Plan the build of the model and base together.
- Plan the finish and weathering with the base.
- Make the base part of the entire presentation.
- Possible use of the terrain as an element of the composition.



Testing Composition



- Use Mock-ups to test the composition.
 - Only takes a few minutes. Use at various stages of the build to test ideas.
 - Allow composition to determine overall size.
 - Experiment with different arrangements. Test lines of sight.
 - Consider 360 degree viewing.
 - Decisions to block the viewer's line of sight should be carefully thought out. This can inadvertently annoy the viewer.
 - Be wary of over-used clichés and tricks.
 - Be sensitive to spacing and distance between elements.



Mock-Ups: Designing the Composition



Planning Elevations / Drainage

Testing
Spacing
And
Figure
Interaction



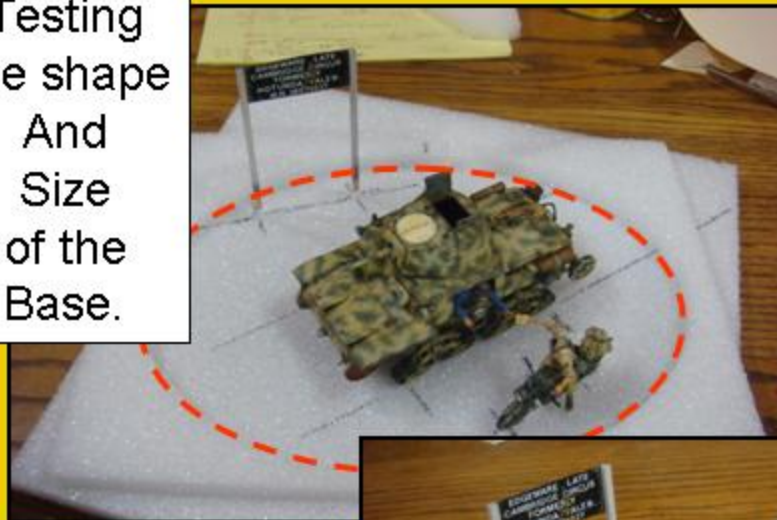
Elevations Marked in Red



Mock-Ups: Like Dry-Fitting Your Composition



Testing
the shape
And
Size
of the
Base.



Mock-ups for Your Mock-ups



Template with the same
footprint as the final element.



Key Locations and angles marked
In black to reveal relationships.
Here, nothing is exactly parallel.

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Mock-Ups: Other Purposes



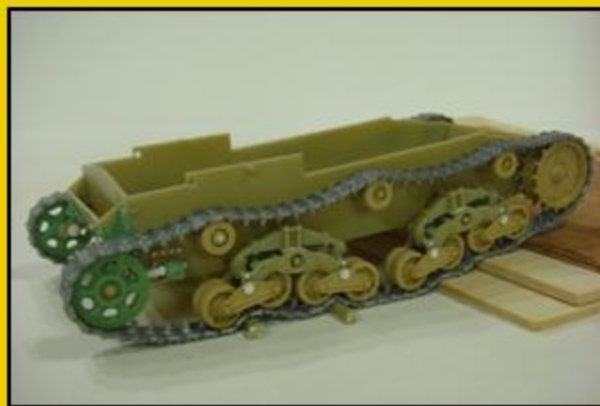
Technical Ideas



Become
Display
Ideas



Early Testing of Figure Poses
And Interaction



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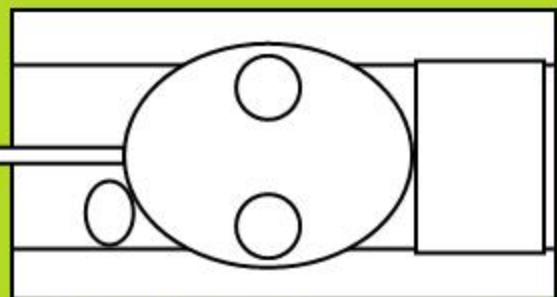
Composition Rules of Thumb



- Be sensitive to arranging elements parallel to sides or perfectly centered.
- Don't fill space with "random" elements.
- Classic "Triangle" or "Rule of Odds."
 - An odd number of elements is more pleasing to the eye than even numbers.
 - Even numbers give the appearance of contrived symmetry.
 - Odd numbers give the illusion of randomness or candidness.

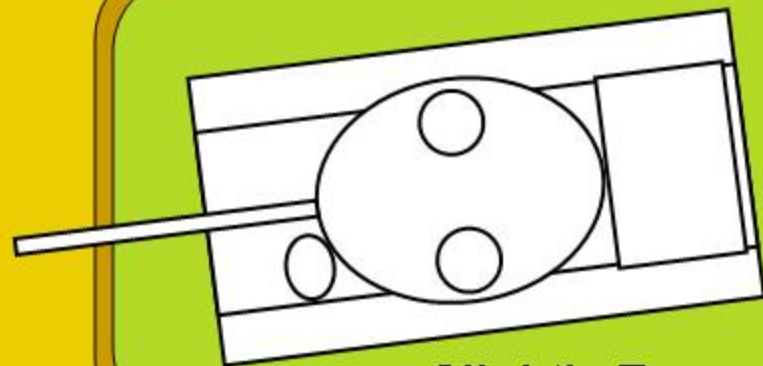


Parallel and Centered Elements



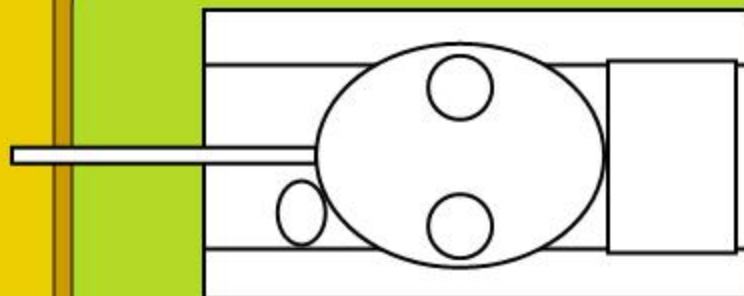
Perfectly Centered

Very Static



Slightly Turned

More Candid Look



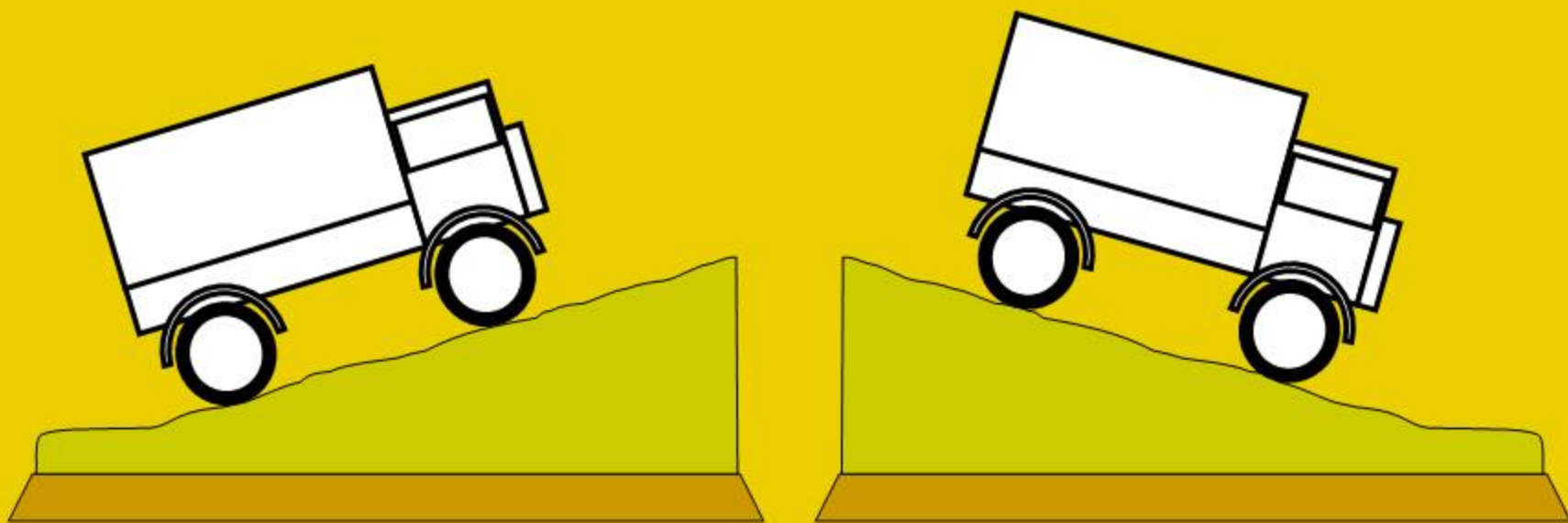
More Room at Front

Implied Sense of Motion or Direction

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Up Hill / Down Hill



Very Strong Implied Sense of Movement and Direction



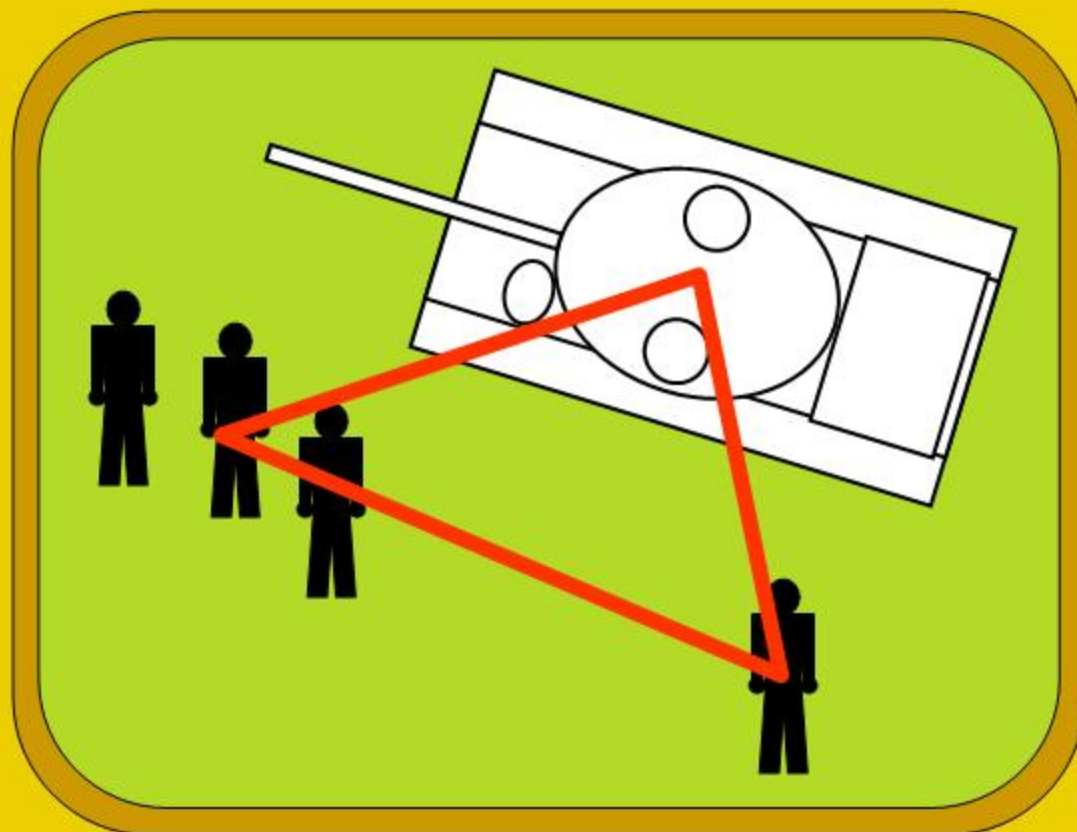
Rule of 3's, Odds, or the Classic Triangle



Also Note
Visual
Weights
by:

- Size
- Number
- Isolation

Number



Size

Isolation



Principles of Composition



- **Emphasis.** A clear, single main idea or subject that doesn't compete with other elements or ideas.
- **Harmony.** Everything works together to tell a single story. Avoid anachronisms or illogical pairings.
- **Unity.** Nothing is distracting, everything fits together. Elements are close enough to relate.
- **Opposition.** Contrasting elements can be used to fix the eye. Light and dark, dull and bright, large and small, elements facing towards or away from each other, etc, etc, can all be used to create visual opposition.



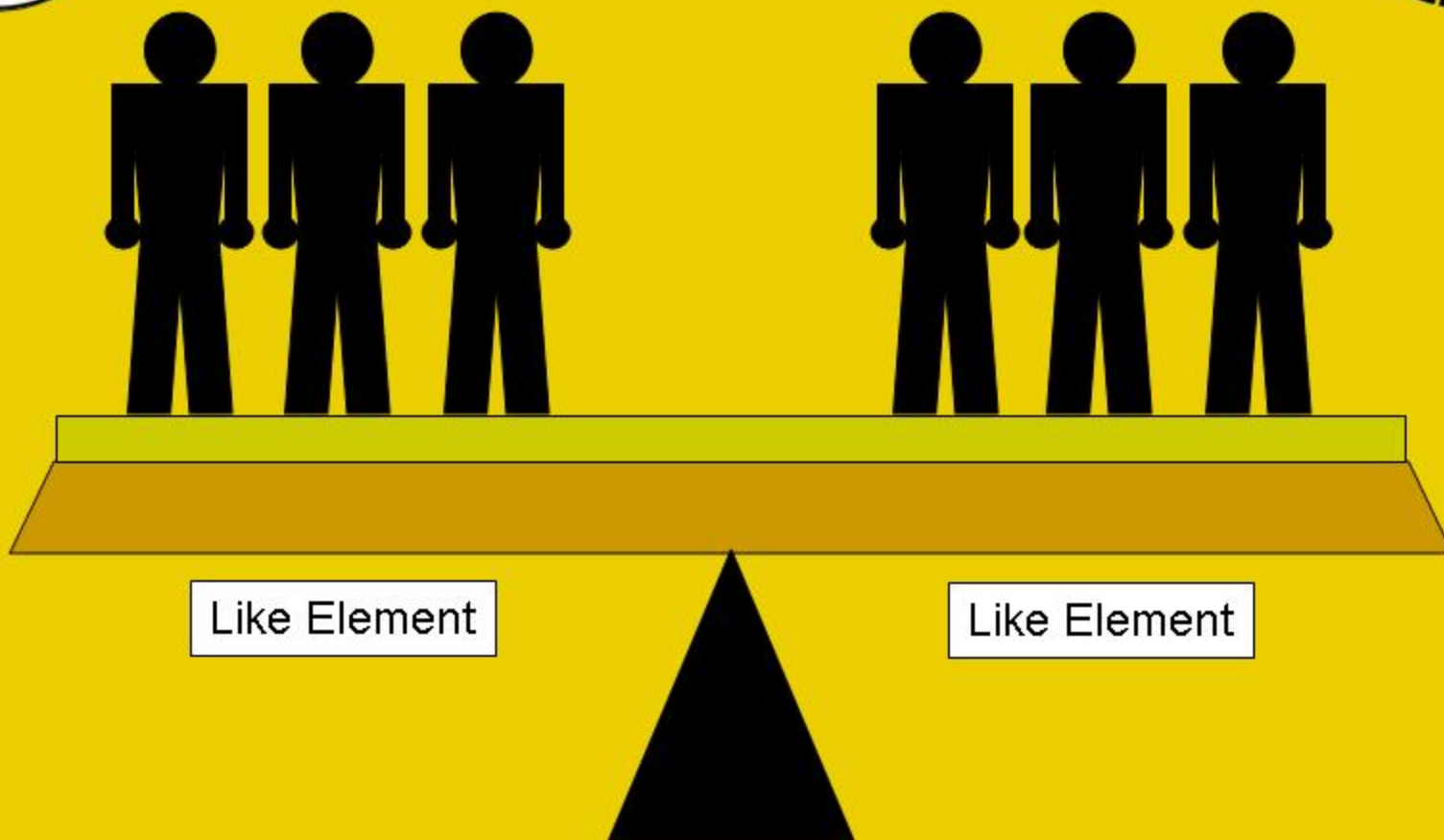
Concepts of Composition



- **Balance.** Composition is arranged to hold the viewer's attention across the entire scene.
 - **Visual Weight.** How visually “strong” an element is. Mass, color, size, number, isolation can all be used to give an element weight.
 - **Symmetrical Balance.** Similar elements arranged to provide balance.
 - **Asymmetrical Balance.** Different kinds of elements with similar visual weight arranged to provide balance.
- **Radial Balance.** Concentric (looking inward) or Eccentric (looking outward).
 - Desirable for 360 degree viewing.
 - A horizontal triangle creates a basic radial balance.
- **Variety.** Different kinds of elements to add interest.
 - Must remain balanced, unified, and harmonious.
 - Too little is boring; Too much is confusing.
 - Small details, if harmonious and logical, can help keep the viewer's attention. Be careful of their visual weight!



Symmetrical Balance

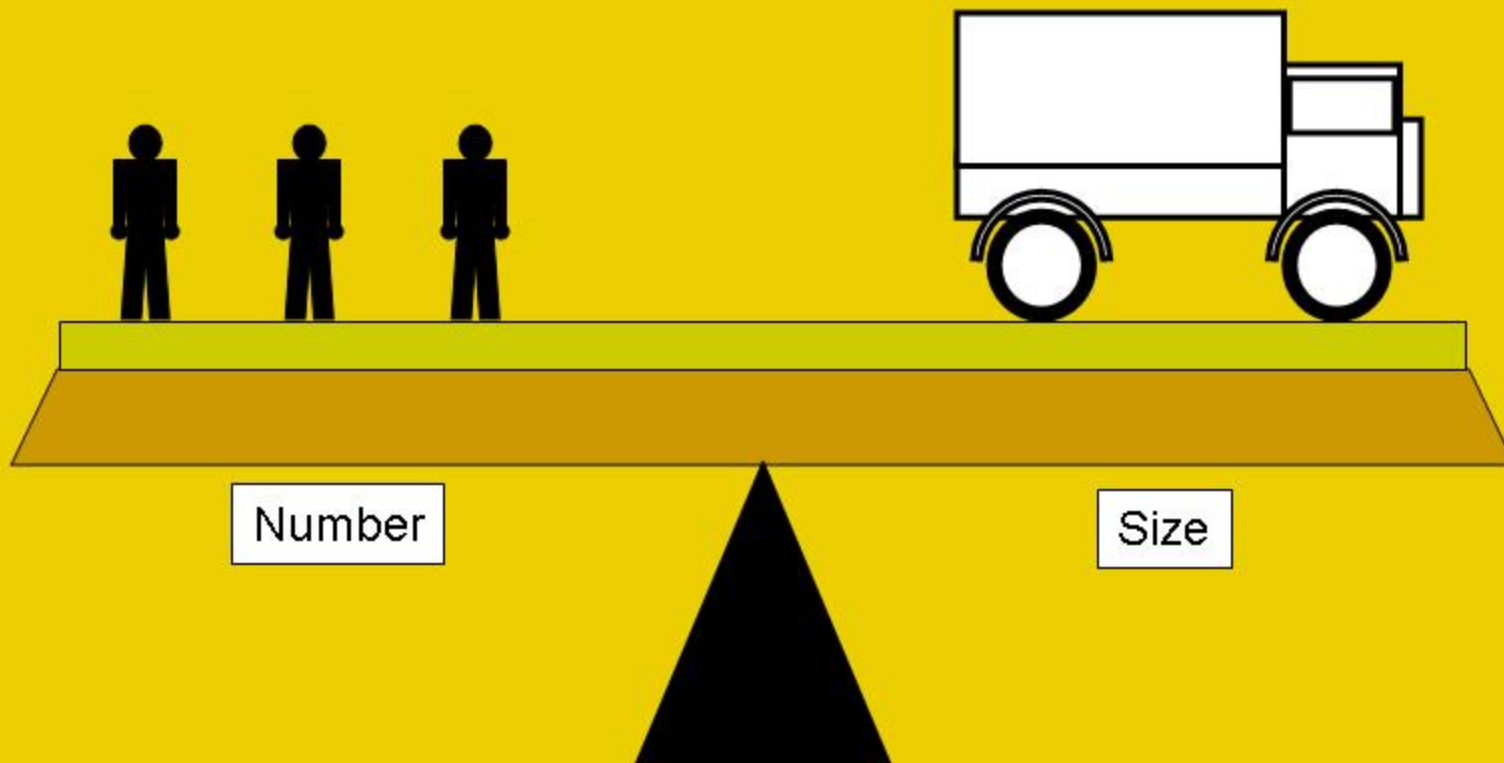


(Apologies to Sheperd Paine!)

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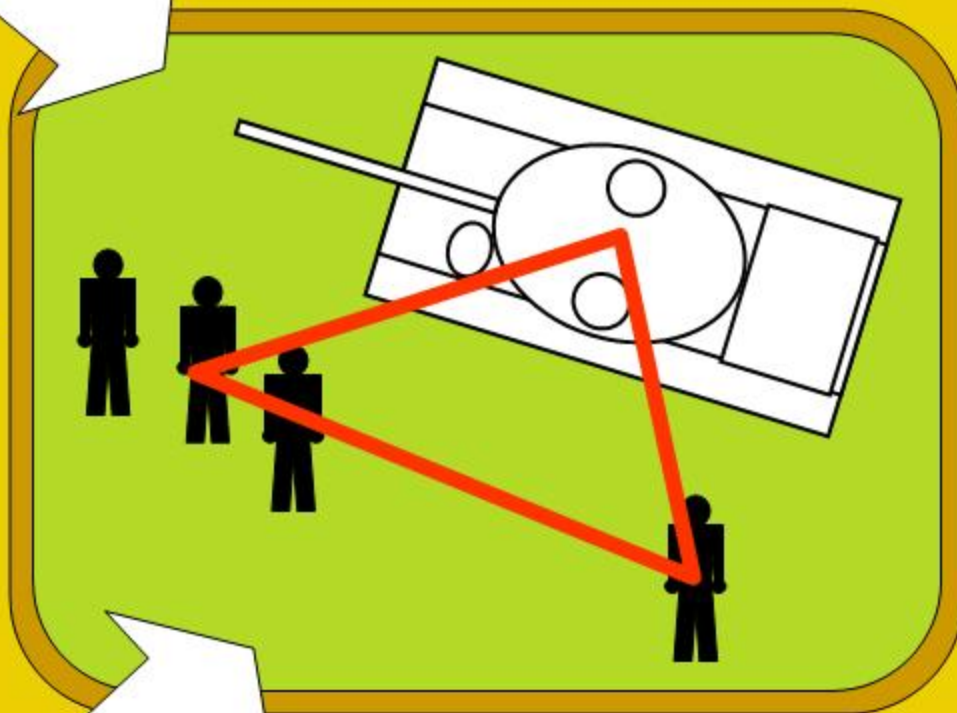
Asymmetrical Balance





Radial Balance with the Basic Triangle

Offers a Balanced View from any Direction.



Note that each Leg of the Triangle is also Asymmetrically Balanced.



Concepts of Composition (cont.)



- **Depth / Height.** Balanced arrangement front to rear or bottom to top.
- **Repetition.** Sometimes called *rhythm*. Can help to draw the eye around the scene.
- **Lines and Linear Elements.** Can be used to lead the viewer's eye around the scene.
- **Figure Interaction.** Emotion, conversation, non-verbal communication.
 - Adds the human element and gives sense of size and scale.
 - Attract the viewer's attention, and their placement can be used to draw the viewer's notice of what's around the figures.
 - Give the viewer an intuitive understanding of what's happening in the scene.
 - Figures communicate with the viewer, and therefore, the modeler uses figures to communicate with the viewer.
 - Sometimes the absence of figures can tell as much about what's happening as their presence.



Materials



- **Local Sources**

- **Big Box Craft Stores:** Hobby Lobby, Michael's, etc. for decorative plaques, Styrofoam sheets and shapes, hot-glue guns, PVA (white glue), Celluclay, felt, dried flowers, and craft paints.
- **Big Box Home Improvement Stores:** Lowe's, Home Depot, etc for plaster, Durham's Water Putty, sand paper, rattle-can clear coats, and stains.
- **Local Hobby Shops:** Woodland Scenics materials.
- **Harvested lichens and moss** (Reindeer lichen and Beard Lichen in the east / southeast – easily preserved in solution of 50:50 glycerin and denatured alcohol).
- **Harvested plant roots and wild flowers.**
- **Sand and gravel for textures** (sifted and washed).

- **Specialty Sources**

- Walthers Model Railroading <http://www.walthers.com/>
- Woodland Scenics <http://woodlandscenics.woodlandscenics.com/>
- Military Miniatures Warehouse <http://www.milminwh.com/>
- Scenic Express <http://www.sceneryexpress.com/>
- Dick Blick Artist Supplies <http://www.dickblick.com/>



Local Sourced Materials



- Celluclay
- Plaster
- Styrofoam Sheets
- Pre-cut Wood Plaques
- Artist Acrylic Textures

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Local Sourced Materials



- Artist Acrylic Textures
- Durham's Water Putty
- Clear Coats
- Stains
- Dried Flowers



Local Sourced Materials



Craft Paints

- Yard & Garden
- Americana
- Ceramcoat
- Keepsake

Inexpensive
Widely Available
Hugh Color Range
Often "On Sale"



Local Sourced Materials



Glues

- Mod Podge
- Elmers (PVA)
- Scenic Cement (PVA)
- Spray Glues

Not show is an
Inexpensive
Crafter's Hot-Glue
Gun



Harvested Local Materials



“Reindeer”
Lichen
Cladonia



“Beard”
Lichen
Usnea



Harvested Local vs. Specialty Materials



“Reindeer”
Lichen
Cladonia



Easy to find
But usually
Strongly
Pre-Colored



“Beard”
Lichen
Usnea

US\$18 + Ship!



Preserving Lichens



Soak and
Agitate
About
2-3 Hours.



Dry Overnight.

Mixture of:
Denatured Alcohol – 3 parts
Glycerin – 1 part



Save
Leftover
Preserving
Solution

Store in a
Container that
Doesn't Crush
Or Squeeze the
Lichen.



Specialty Manufacturers



- **Noch:** Paper Leaves, Static Grass
- **MiniNature:** Grass Clumps and Tufts, Sea Foam (Sea Moss)
- **Woodland Scenics:** Long Grass, Ground Foam, Static Grass, Rocks & Gravel, Scenic Cement, Reindeer Moss
- **Busch:** Static Grass, Grass Clumps and Tufts
- **Green Line:** Grass Clumps and Tufts
- **Verlinden:** Static Grass
- **Hudson & Allen:** Long Grass, Burch Catkins (Forest Litter and Ivy)



Specialty Materials



Rocks and Sand



Static Grasses



Grass "Clumps" or "Tufts"



Ground Foam

Paper Leaves



Long Grasses

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Description of My Technique



A "Terrain Module" constructed separately and then mounted on a finished decorative frame or base.

Advantages: rigid, lightweight, eliminates masking the decorative frame / base, allows for large variations in elevation and contours.



Decorative Base Terrain Module



Terrain Module



Decorative Base

View of Bottom of
Terrain Module



Frame / Decorative Base



- **Cutting or Purchase to Size / Shapes**
 - Ideally cut to the exact size.
 - Size should match planned composition determined by a mock-up.
 - Square or rectangular bases imply a definitive front and back.
 - Round or oval bases invite all-round viewing.
 - Faceted bases are a compromise.
- **Sanding.** Rough, unfinished bases give a haphazard appearance.
- **Staining / Painting.** Subdued colors that do not compete for the viewer's attention. Other options should be carefully selected.
- **Clear Coat.** Clear gloss lacquer from a rattle-can is easy and fast to apply.
- **Adding Felt Pad.**
 - Nice finished appearance.
 - Helps with resist sliding and buffers minor bumps.
 - Draw around base with water-soluble marker, cut to size with scissors, and glue on with PVA. Marker will wipe off edges of base if it has been clear-coated.
 - Apply the glue to the wood base and not to the felt.



Frame / Decorative Base



- Cutting or Purchase to Size / Shapes
- Sanding.
- Staining / Painting.
- Clear Coat.
- Adding Felt Pad.



[Decorative Base Demo Video](#)



Terrain Module



- Major Elevations and Basic Contours
- Finish Sides
- Final Contours
- Initial Terrain Module Colors
- Basic Terrain Textures
- Ground Cover / Vegetation
- Fixing Terrain Module to Decorative Base
- Mounting the Models



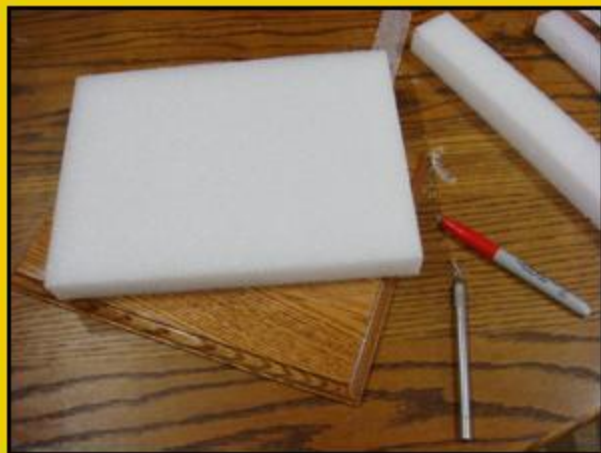
Major Elevations and Contours



- I use layers of Styrofoam.
- Cut out layers like the shapes on a contour map.
- Hot glue together like a layer-cake.
- Smooth by trimming edges.
- Final blending and minor contours can be done by crushing the foam.



Major Elevations and Contours



Layout Elevations
Based on
Mock Up



Elevations Carved
And
"Crushed" Into Shape



Test Fit on
Decorative Base



Finish Sides



- I use ordinary plaster of Paris.
- Makes the terrain module ridged and fills the foam holes on the sides.
- Avoid getting on the bottom.
- Sand using fine sand paper and a sanding block to get a level, smooth finish. (Very messy!)
- Use a mister and water to pre-wet plaster for any additional coats, as necessary.



Final Contours



- I refine the top contours with plaster, too.
- Do at the same time as sides.
- This usually only requires a single coat.
- Plan for smooth and / or level contact points for the model's wheels or tracks.
- Mask these and / or use sheet plastic (hot glued on) to keep these areas flat.

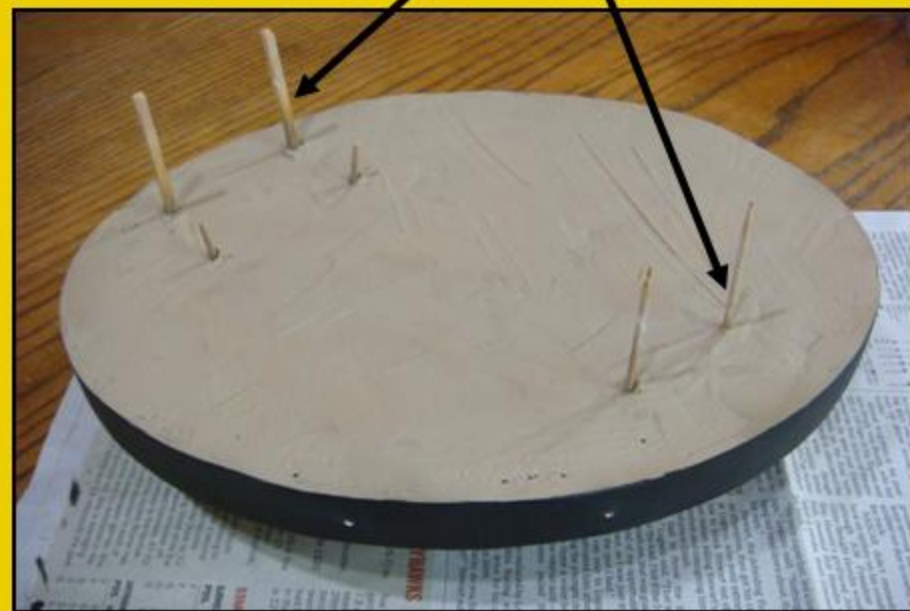


Basic Terrain Module Construction

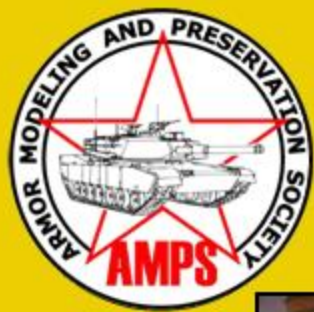


- Cut foam layers
- Glue and Shape Foam Contours
- Initial Plaster Coats
- Sand
- Final Plaster Coats
- Final Sanding
- Add Basic Colors

Note pins mark key element locations in plaster.



[Terrain Module Basic Construction Demo Video](#)



Finish Sides

Bottom of
Terrain
Module
Is Smooth
And Side
Color has
Been
Carried
Under



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Initial Module Colors



- Allow the plaster to set and dry (usually overnight).
- Sides get brush coat of craft store acrylics (I like black or charcoal).
- Carry side color onto bottom edges.
- I test out my basic terrain colors on the top.
- These are usually airbrushed with some shadows and highlights.



Initial Module Colors



Colors and Shading
are used to
Define and Highlight
Contours and Elevations



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Basic Terrain Textures



- Small Washes
- Soil
- Sand / Rocks and Desert Textures
- Mud
- Dried Mud Flat
- Roadways
 - Dirt and Gravel
 - Cobble Stone
 - Tarmac
 - Corduroy



Small Washes



Upwards Growing
Vegetation on
“Fingers” with
Bare Earth in
“Rills”



Heavy Construction
Paper Supports
Celluclay or Plaster
To form Overhangs



Undercuts Formed by
Turf along with
Roots, Stones, and
Debris

Highlights and Shading
To Emphasize
Land Forms



Soil Textures

Thin Layer of
Celluclay over
Plaster with
Sand and Gravel
Creates Final
Soil Textures



Note Flat Surfaces
For Track Runs.
Will be filled after vehicle
is in place to ensure no
“floating” tracks.

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Sand, Rocks, and Desert Textures



Rocks and Large Stones are Embedded into Earth.

Textures are added Largest to Smallest.

Highlighting and Shading Used to Emphasize Land Forms.



Mud



Sheen and Levels of Gloss are Varied to Suggest differing degrees of Saturation.



Wet and Snow Effects Materials



- Future Floor Wax
- Acrylic Gel Mediums
- Micro-Balloons (mixed with PVA)

Reality in Scale "Snow-in-a-Pot" Materials



Dried Mud Flat

- Most convincing effect that I've seen was Tony Zadro's Italian AA Gun.
- Used a commercial craft-type "crackle" paint.





Roadways



Dirt Road



Tarmac with Curbs



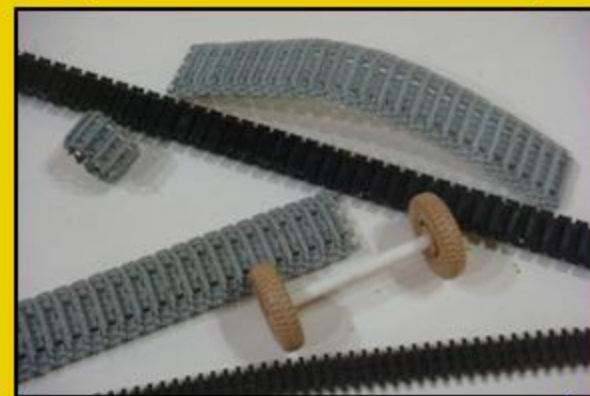
Gravel Road Verge



Narrow Cobble Road



Damaged Cobble Road



Tools to Texture Tracks



Ground Cover / Vegetation



- Grass and Weeds
- Trees, Shrubs, and Understory Growth
- Snow
- Architectural and other Man-Made Elements



Grasses and Weeds



Variety in Textures,
Colors, and
Materials
To Achieve a
Realistic, Natural
Appearance.



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Grasses and Weeds



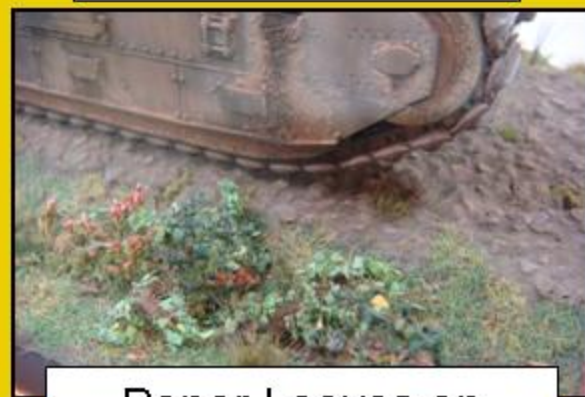
Sphagnum Moss &
Dried Flowers



Sphagnum Moss &
Painted Dried Flowers



Ground Foam Mixture



Paper Leaves on
Sea Foam with
Painted Dried Flowers



Paper Leaves on
Ground Foam



Static Grass Mixture



Trees, Shrubs, and Understory Growth



Prickly Pear & Camel Thorn



Cattails: Dyed Fur With Wire and Plastic Rod



Noch Paper Leaves on Sea Foam



Noch Paper Leaves on Sea Foam



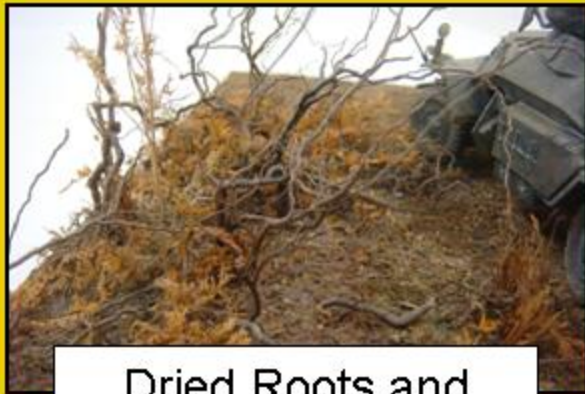
Paper Leaves Colored With Scraped Pastels



Noch Paper Leaf Mixture



Larger Trees



Dried Roots and
Canadian Goldenrod



Sphagnum Moss Limbs
On Balsawood
Armatures



Balsawood Armatures
Textured with Putty;
Wire Bare Limbs and
Roots



Root Armatures with
Steel Wool and Oregano



Root Armatures with
Steel Wool and Oregano



Snow



Micro-Balloons
and PVA

Note Vegetation
Under Snow

Mud Splashes
on Snow along
Road Verges



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Snow



Splashed Mud Replicated with
Pigments mixed with Future
Floor Wax



Micro-Balloons mixed with PVA

Wet Brush with Baking Soda
Used to add "Sparkles"



Architectural and Man Made Features



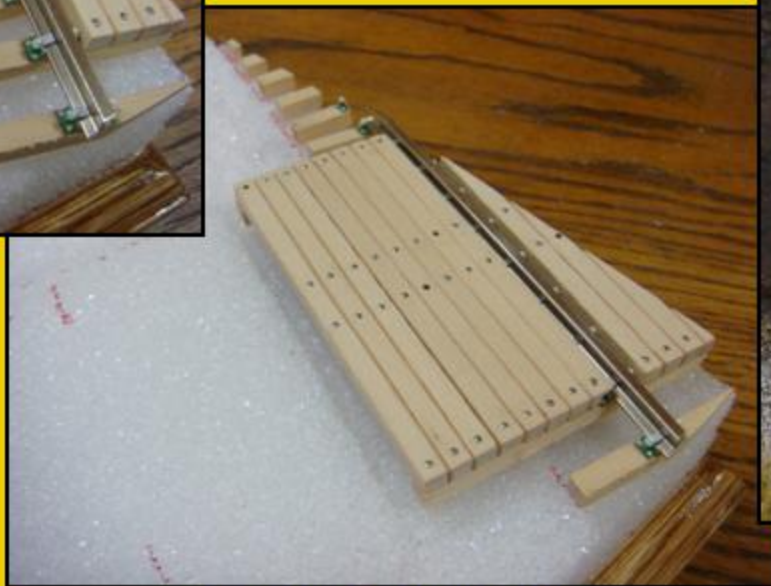
- These should be planned early and incorporated into the initial stages of construction.
- Research and Composition should be relied upon.



Architectural and Man Made Features



Incorporated as
Elements of the Base
And Integrated into
The Groundwork
And
Elevations



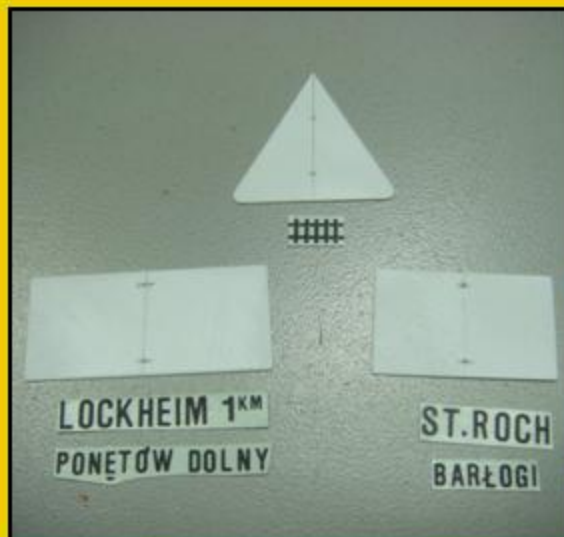
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Architectural and Man Made Features



Culverts
And
Road Signs





Fixing the Terrain Module to the Base



- Brush on finish color coat on sides of terrain module. Artist craft paints are an economical choice.
- Use two-part epoxy to glue terrain module down to decorative base.
- Name Plates are relatively inexpensive and add a “professional” touch. Get them at a local trophy shop.
- Sometimes I attach the model to the terrain module before I attach the module to the base. This depends mostly on how much I will have to handle things. The terrain module is much lighter and usually easier to handle without the decorative base.





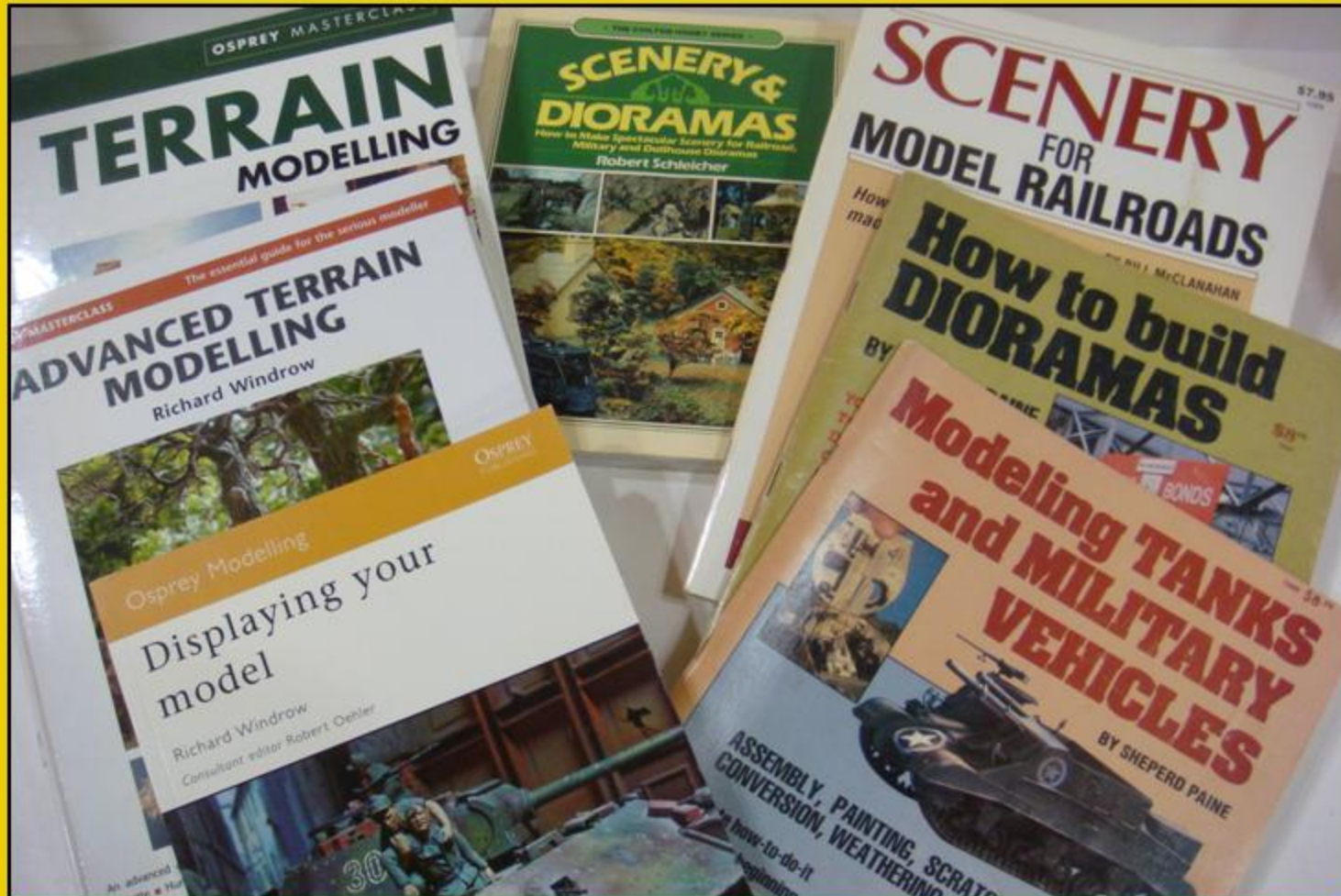
Mounting the Models



- I generally use PVA to attach my models to the Terrain Module. Figures are pinned.
- Weathering under and behind hull and track-work should be done first.
- Bring ground colors and textures onto model, as required, to blend groundwork into the weathering (Continuity of Finish!).



References



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References

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Closing



- There are many other techniques and methods beyond those discussed here.
- All of the slides and notes are available on our club's website:
www.ampscentralsouthcarolina.org
- Questions, Comments, or Observations?