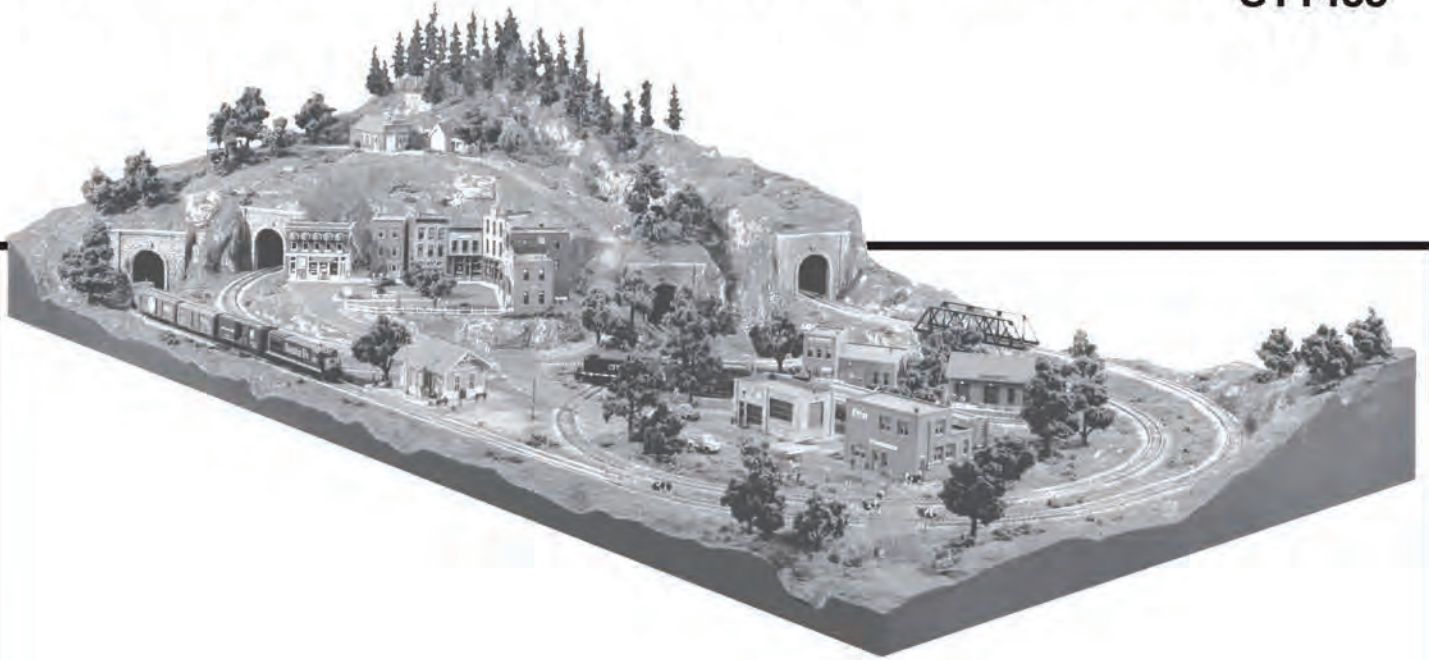


GRAND VALLEY™

HO SCALE LIGHTWEIGHT LAYOUT KIT

ST1483


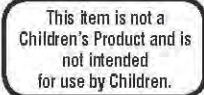




INSTRUCTION BOOKLET



WOODLAND SCENICS®

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Add Road Foundation.....	13	 CAUTION: We do not recommend using Plaster Cloth or Casting Plaster for body casts as it may irritate skin and develop heat sufficient to cause burns. Do not take internally. Tools recommended. Use with care.	 This item is not a Children's Product and is not intended for use by Children.
Wiring	13	 MODELING AND CARE INFORMATION Clean up spills immediately with warm, soapy water. Take care to cover project area and clothing appropriately.	 Conforms to Health Requirements of ASTM D4236
Method 1	13		
Method 2	13		

Introduction

The Grand Valley Layout Kit models a 4' x 8' HO scale layout complete with inclines, mountains, creeks, tunnels, bridges, roads and landscape. To aid in assembly, the track plan is printed on the Foam Base and contours are printed on Profile Boards.

Before beginning, collect the additional household items necessary for building the kit (listed under Household Items Needed). We recommend purchasing a Low Temp Foam Glue Gun (ST1445) and Low Temp Foam Glue Sticks (ST1446) and Hot Wire Foam Cutter (ST1437). These tools make building the Grand Valley Layout Kit easier and more efficient. Find them at your favorite hobby shop.

When building Grand Valley, know that mistakes can be fixed. Woodland Scenics Systems are designed to leave room for error and modelers can go back and fix problem areas.

Risers and Inclines are included, along with a pre-printed track plan. Risers and Inclines are part of the SubTerrain Lightweight Layout System[®]. They elevate the track above the base of the layout, making it easy to add ditches, creeks and low-lying areas without cutting into the base. Inclines add predetermined grades to the layout, so the train can climb and descend hills easily, without you having to make complicated calculations.

Instruction Notes

Before beginning each section, read through the steps to understand the modeling process. Illustrations are included to demonstrate the steps.

As you cut the Profile Boards and Foam Sheets, keep all scrap pieces until you are done with the project. Scrap pieces will be used in assembly of the layout.

Kit Contents

4 Pre-printed Foam Base Panels, 24 in x 48 in (60.9 cm x 121 cm)
9 Pre-printed Profile Boards, 8 in x 48 in (20.3 cm x 121 cm)
5 Profile Boards[™], 8 in x 48 in (20.3 cm x 121 cm)
4 Profile Board Connectors
5 Foam Sheets, 1/2 in (1.27 cm)
6 Foam Sheets, 1/4 in (6 mm)
4 Risers^{**}, 1 in x 24 in (2.54 cm x 60.9 cm)
19 Risers^{**}, 2 in x 24 in (5.08 cm x 60.9 cm)
2 4% Inclines^{***}, 0 - 1 in x 24 in (0 - 2.54 cm x 60.9 cm)
4 4% Inclines^{***}, 1 in - 2 in x 24 in (2.54 cm - 5.08 cm x 60.9 cm)
2 4% Inclines^{***}, 2 in - 3 in x 24 in (5.08 cm - 7.62 cm x 60.9 cm)
1 Black Foam Pencil
2 Track-Bed[™] HO Scale Rolls, 24 ft (7.31 m)
4 Cut Stone Tunnel Portals
6 Cast Road Inclines
75 Foam Nails, 2 in (5.08 cm)
6 Plaster Cloth Rolls, 20 ft² (1.85 m²)
2 Rock Molds
Lightweight Hydrocal[®] 1/2 gal (1.89 L)
Smooth-It[™] 1 qt (946 mL)
Earth Undercoat 4 fl oz (118 mL)
Earth Colors[™] Liquid Pigment
(Rock Colors - Yellow Ocher, Burnt Umber, Black) 1 fl oz (29.5 mL) ea
Top Coat[™] Asphalt 2 fl oz (59.1 mL)
Top Coat Concrete 2 fl oz (59.1 mL)
1 Foam Pad Applicator
1 Paving Tape[™] Roll (includes Spreader), 1/4 in x 30 ft (6 mm x 9.14 m)
1 Stir Stick
Black Tunnel Paint 2 fl oz (59.1 mL)
Gray Base Paint 12 fl oz (354 mL)

42 Deciduous Tree Armatures, 3 in - 7 in (7.62 cm - 17.7 cm)
24 Conifer Tree Armatures, 2-1/2 in - 6 in (6.35 cm - 15.2 cm)
Green Blend Blended Turf 64.9 in³ (1.06 dm³)
Earth Fine Turf 28.8 in³ (471 cm³)
Soil Fine Turf 7.21 in³ (118 cm³)
Burnt Grass Fine Turf 7.21 in³ (118 cm³)
Yellow Grass Fine Turf 3.6 in³ (58.9 cm³)
Medium Green Coarse Turf 32.4 in³ (530 cm³)
Conifer Green Clump-Foliage[™] 64.9 in³ (1.06 dm³)
Dark Green Clump-Foliage 54.1 in³ (886 cm³)
Medium Green Clump-Foliage 151 in³ (2.47 dm³)
Medium Green Clump-Foliage 50.5 in³ (827 cm³)
Light Green Clump-Foliage 54.1 in³ (886 cm³)
Buff Fine Ballast 5.41 in³ (88.6 cm³)
Buff Medium Ballast 61.3 in³ (1 dm³)
Buff Fine/Medium Talus 10.8 in³ (176 cm³)
Harvest Gold Field Grass 1 g (0.03 oz)
1 Plastic Cup & Sifter Lid
Scenic Cement[™] Concentrate 16 fl oz (473 mL)
1 Scenic Sprayer[™]
Foam Tack Glue[™] 16 fl oz (473 mL)
Hob-e-Tac[®] Adhesive 3 fl oz (88.7 mL)
Tunnel Portal Pattern
Grand Valley Instructions
Atlas[®] Track Instructions

*Hydrocal is a U.S. Gypsum registered trademark

**Patents US-6164555; UK-0970732; GER-69836856.8; CAN-2244545

***Patent US-5839657

Household Items Needed

- | | | | |
|---|---|--|--|
| <input type="checkbox"/> Newspaper | <input type="checkbox"/> Measuring Cups | <input type="checkbox"/> 4 Disposable Cups | <input type="checkbox"/> Sandpaper
(120 and 220-grit) |
| <input type="checkbox"/> Masking Tape | <input type="checkbox"/> Paintbrushes
(various sizes: 1/2 in - 2 in) | <input type="checkbox"/> Plastic Mixing Bowl | <input type="checkbox"/> Eyedropper |
| <input type="checkbox"/> Scissors | <input type="checkbox"/> Ruler | <input type="checkbox"/> Pan for Water | <input type="checkbox"/> Spray Bottle |
| <input type="checkbox"/> Liquid Dish Soap | | <input type="checkbox"/> Hobby Knife | |

Special Note

Scenic Cement Concentrate Formula

Prior to use, Scenic Cement Concentrate must be diluted. Mix 1-part Scenic Cement Concentrate with 3-parts water (1:3 ratio). Use this formula each time Scenic Cement is required.

Track

We used the Atlas Grand Valley Track Pack #589 (ST1183) with the Grand Valley Layout Kit, but you can use another brand or type of track, if you prefer. Refer to the list on the back of this instruction booklet for track requirements.

NOTE: When assembling track, it is not necessary to center on the Risers. Test train to be sure it runs properly. If running a long line of rolling stock, verify clearance around tunnels, bridges, rocks, etc. and adjust accordingly.

Adhesives and Special Tools

Woodland Scenics offers two types of adhesive for use with SubTerrain Lightweight Layout System. Each has advantages for different jobs. The general instructions for using both appear below.

The Grand Valley Layout Kit Instructions were written using Low Temp Foam Glue Gun and Low Temp Foam Glue Sticks to complete the kit. If using Foam Tack Glue to assemble the entire layout, read this section and refer back to it as you are gluing foam components together.

Foam Tack Glue (ST1444)

Foam Tack Glue is a specially formulated glue that is safe and easy to use with foam. It can be used to assemble this kit and is available at your local hobby shop. This kit includes enough Foam Tack Glue to glue down the Track-Bed and track. Foam Tack Glue is also good for gluing thin or narrow pieces of foam.



To use Foam Tack Glue, spread an even layer over both contact surfaces. When applied to both surfaces and allowed to dry, Foam Tack Glue acts like contact cement. If using the Foam Tack Glue to secure the foam, follow these steps.

1. Insert Foam Nails at an angle to pin Risers and Inclines in place when test fitting placement.
2. Remove Risers and Inclines individually and spread a thin layer of Foam Tack Glue on bottom of piece and contact surface of foam where it will be placed.
3. Let glue dry until clear (maximum working time, 1 hour).

4. Replace individual piece and pin firmly in place while drying. Continue until all pieces are glued in place. Remove Foam Nails when glue is dry.

NOTE: To remove Track-Bed, soften glue with warm, soapy water or use denatured alcohol.

Low Temp Foam Glue Gun (ST1445) and Low Temp Foam Glue Sticks (ST1446)

Low Temp Foam Glue Gun and Glue Sticks will not melt or damage the foam components included with this kit. The Glue bonds almost instantly and is easy to use.

Low Temp Foam Glue is recommended for gluing down Risers, Profile Boards and Foam Sheets. It sets quickly and dries faster than Foam Tack Glue. However, it can cause lumps if used underneath thin materials like Incline



Starters or Track-Bed. Low Temp Foam Glue Gun and Glue are available at your local hobby shop.

To use the Low Temp Foam Glue Gun and Glue, run a continuous bead along the seam of the materials you are bonding. **Important:** Do not use a high temperature gun with this kit.

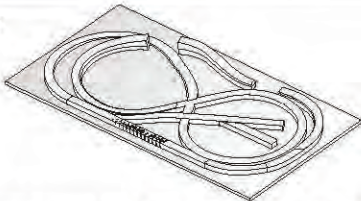
Hot Wire Foam Cutter (ST1435)

The Hot Wire Foam Cutter is designed to use with Woodland Scenics foam products and may emit toxic fumes with used with others. The Foam Cutter Bow & Guide (ST1437) makes the Hot Wire Foam Cutter even more versatile. Hot Wire Foam Cutter Replacement Wire (ST1436) is also available. The Hot Wire Foam Cutter, Bow & Guide and Replacement Wire are available at your local hobby shop.



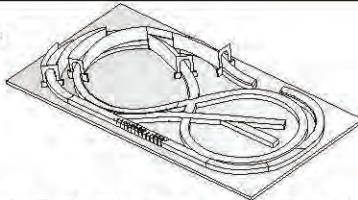
Layout Overview

1.



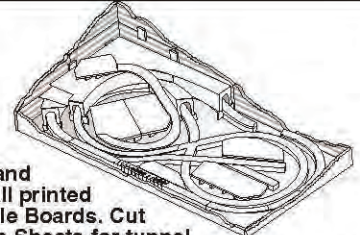
Install Risers and Inclines over printed Track Plan on foam base.

2.



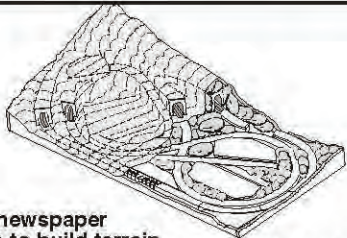
Install Track-Bed, track and Ballast along tunnel area. Add foam tunnel portals and walls.

3.



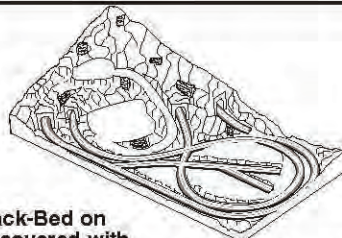
Cut and install printed Profile Boards. Cut Foam Sheets for tunnel roofs and to form flat areas for buildings.

4.



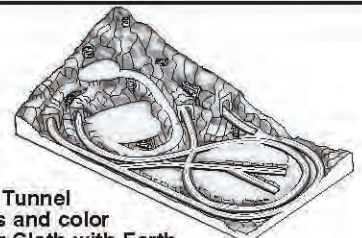
Use newspaper wads to build terrain contours, then cover with Plaster Cloth.

5.



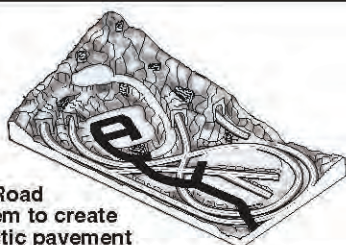
Lay Track-Bed on Risers covered with Plaster Cloth. Install track and rock faces.

6.



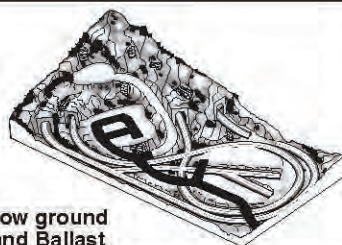
Install Tunnel Portals and color Plaster Cloth with Earth Undercoat.

7.



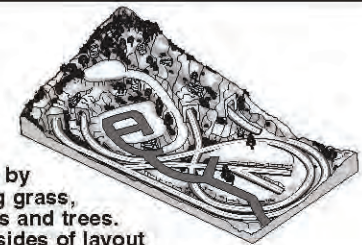
Use Road System to create realistic pavement and foundations.

8.



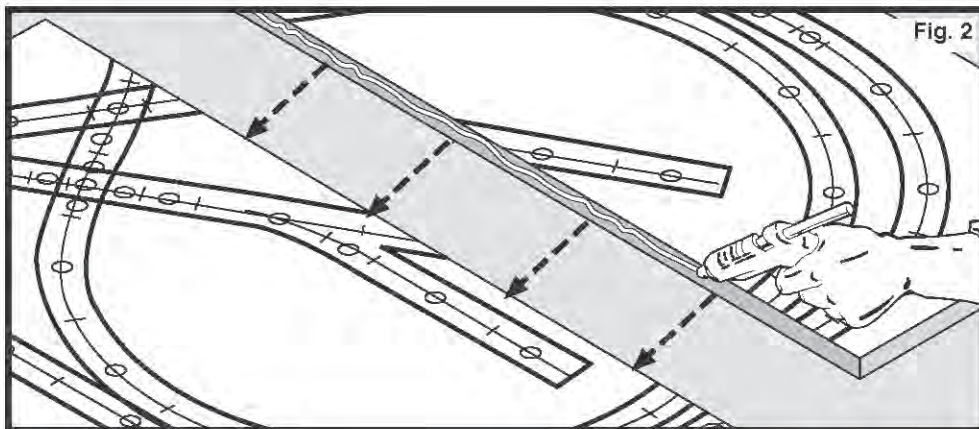
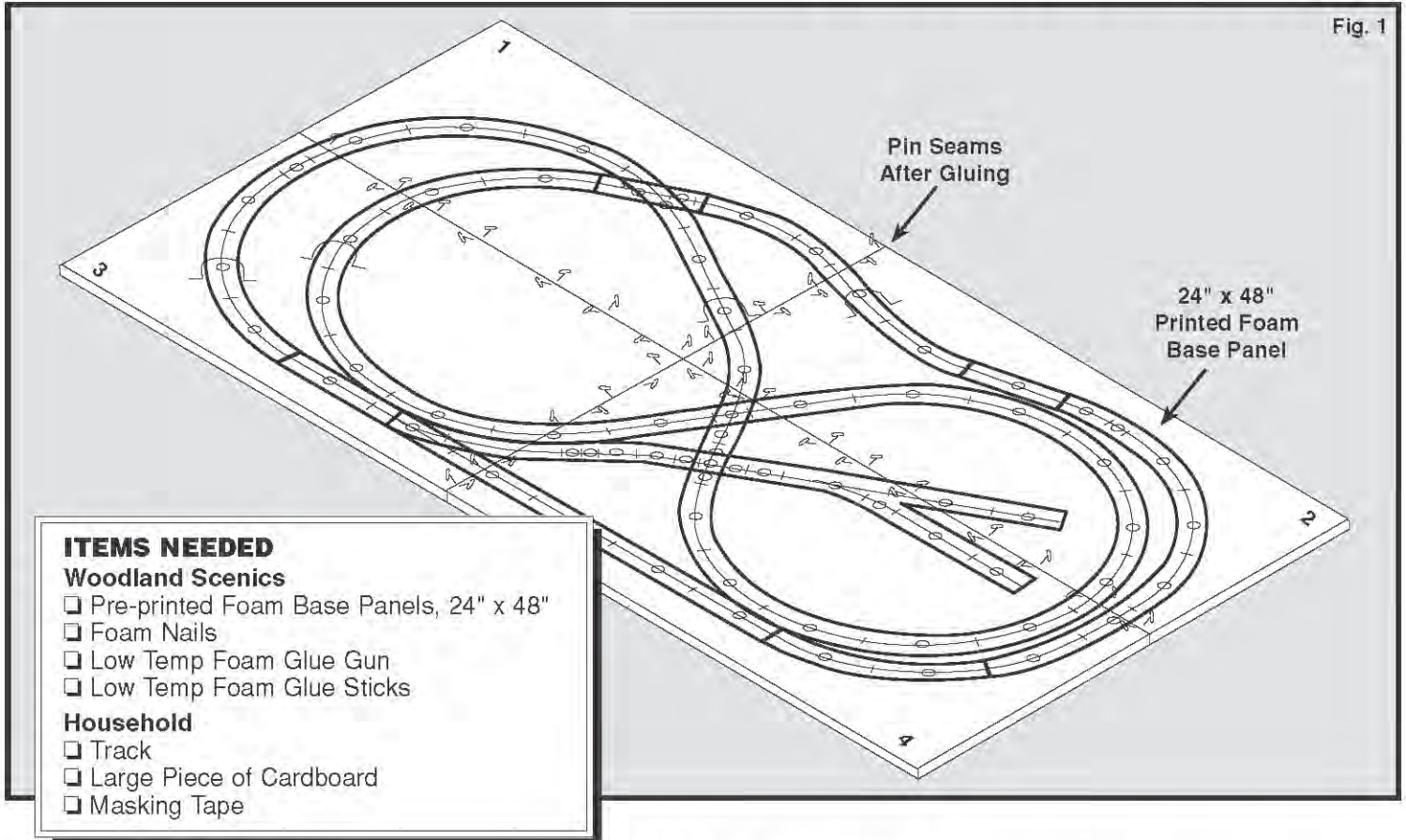
Apply low ground cover and Ballast track.

9.



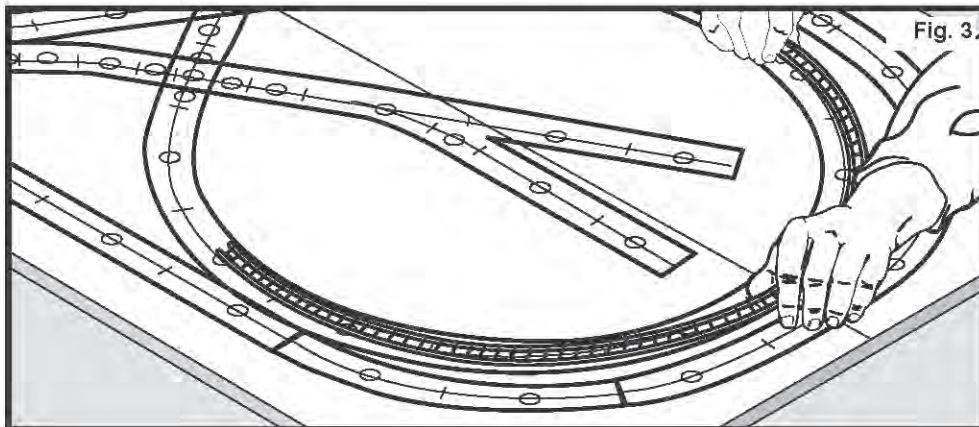
Finish by adding grass, bushes and trees. Paint sides of layout and add buildings.

Begin Layout Assembly



Assemble Base Panels

1. On a flat surface, assemble the four Pre-printed Foam Base Panels (24" x 48" ea) face up and in the proper sequence (**Fig. 1**).
2. Glue Panels together (**Fig. 2**). Pin at seams with Foam Nails while drying (**Fig. 1**). Wipe off excess glue.

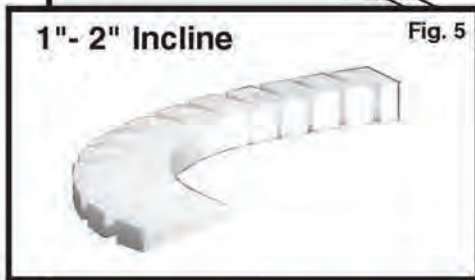
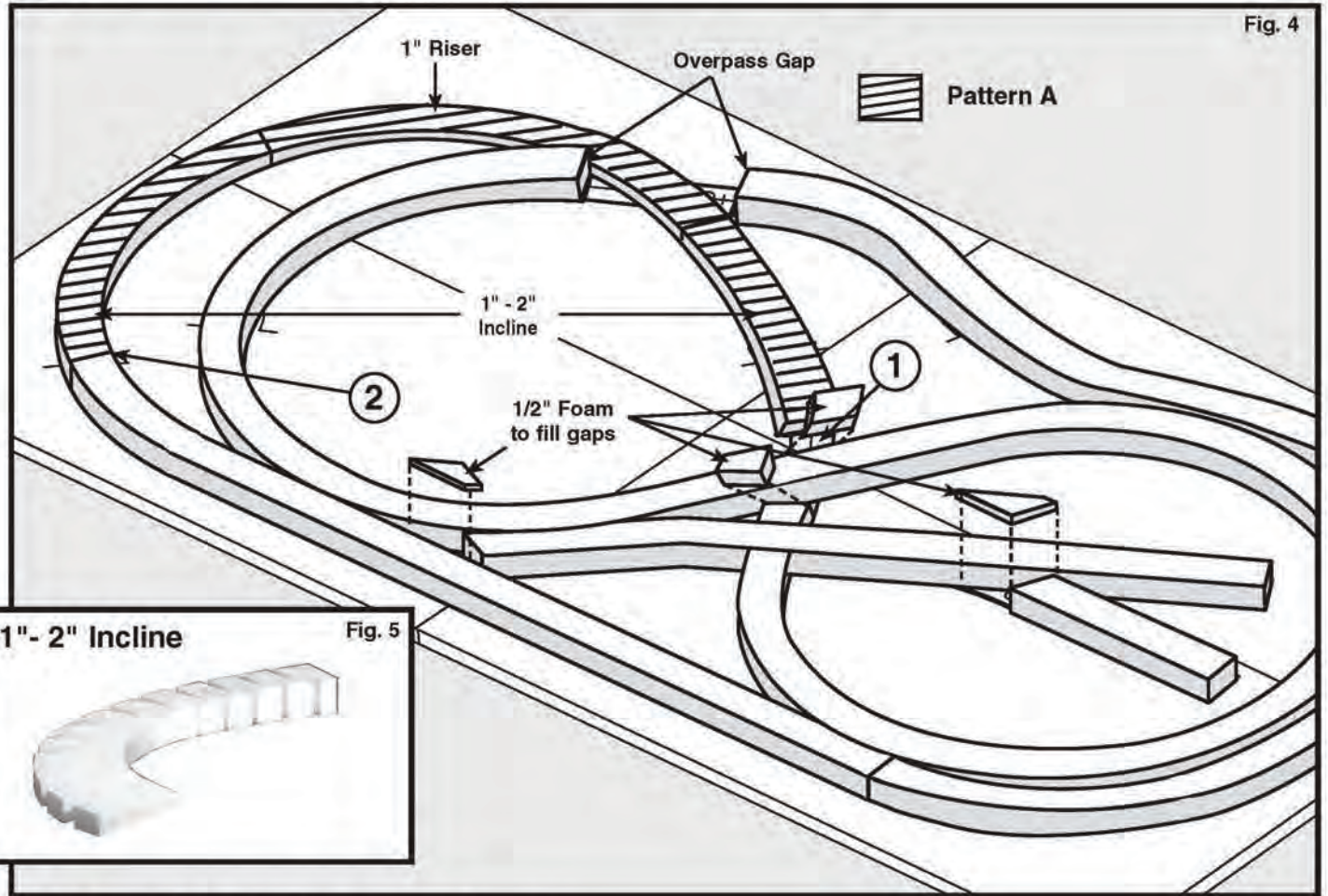


Track

1. Assemble track following track assembly instructions on Pre-Printed Panels (**Fig. 3 and back page**).
2. Remove assembled track in large sections. Use strips of masking tape to hold track segments together when moving.

TIP! Store sections of assembled track on a large sheet of cardboard (approx. 2' x 3'). Track will be test fitted several times before permanent installation.

Install Inclines and Risers



Install First Tier Inclines and Risers

Pattern A (see key on Fig. 4) indicates first tier Inclines and Risers and is composed of two 1"-2" Inclines and one 1" Riser. All 2" Risers are shown with no pattern. Position Inclines and Risers centered over printed track plan. Pin pieces in place with Foam Nails.

1. Place 2" end of first 1"-2" Incline (Fig. 5) at Point 1, working counter-clockwise (Fig. 4).
2. Place a 1" Riser at the 1" end of the first Incline (Fig. 6).
3. Continue with the 1" end of another 1"-2" Incline ending at Point 2.
4. Complete first tier of track plan with 2" Risers (Fig. 5a). Trim length if necessary for proper fit (Fig. 7).
5. When all pieces are pinned in place, apply glue along seams to secure (Fig. 8). Remove Foam Nails when glue is set.
6. To fill in gaps between Risers, cut pieces from 1/2" Foam Sheet to fit the four small triangular areas as indicated (Fig. 4).

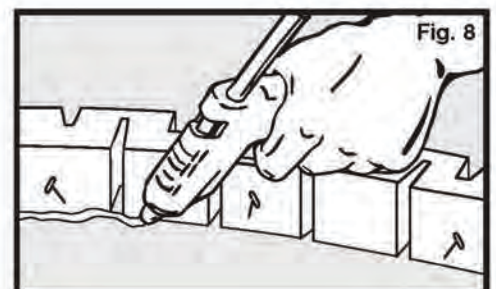
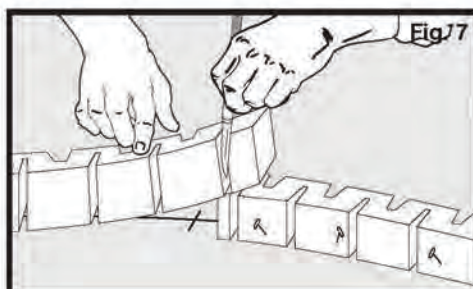
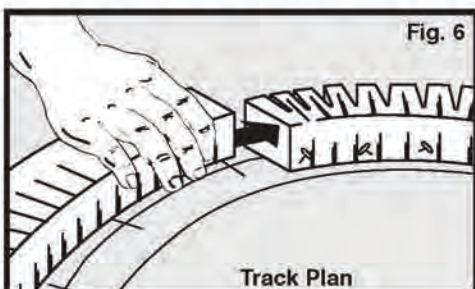
ITEMS NEEDED

Woodland Scenics

- Foam Nails
- Low Temp Foam Glue Gun
- Low Temp Foam Glue Sticks
- 1" - 2" Inclines
- 1" and 2" Risers
- Scrap Pieces of 1/2" Foam Sheet

Household

- Hobby Knife or Foam Knife
- Ruler
- Sandpaper (120-grit)
- Track



Install Second Tier Inclines

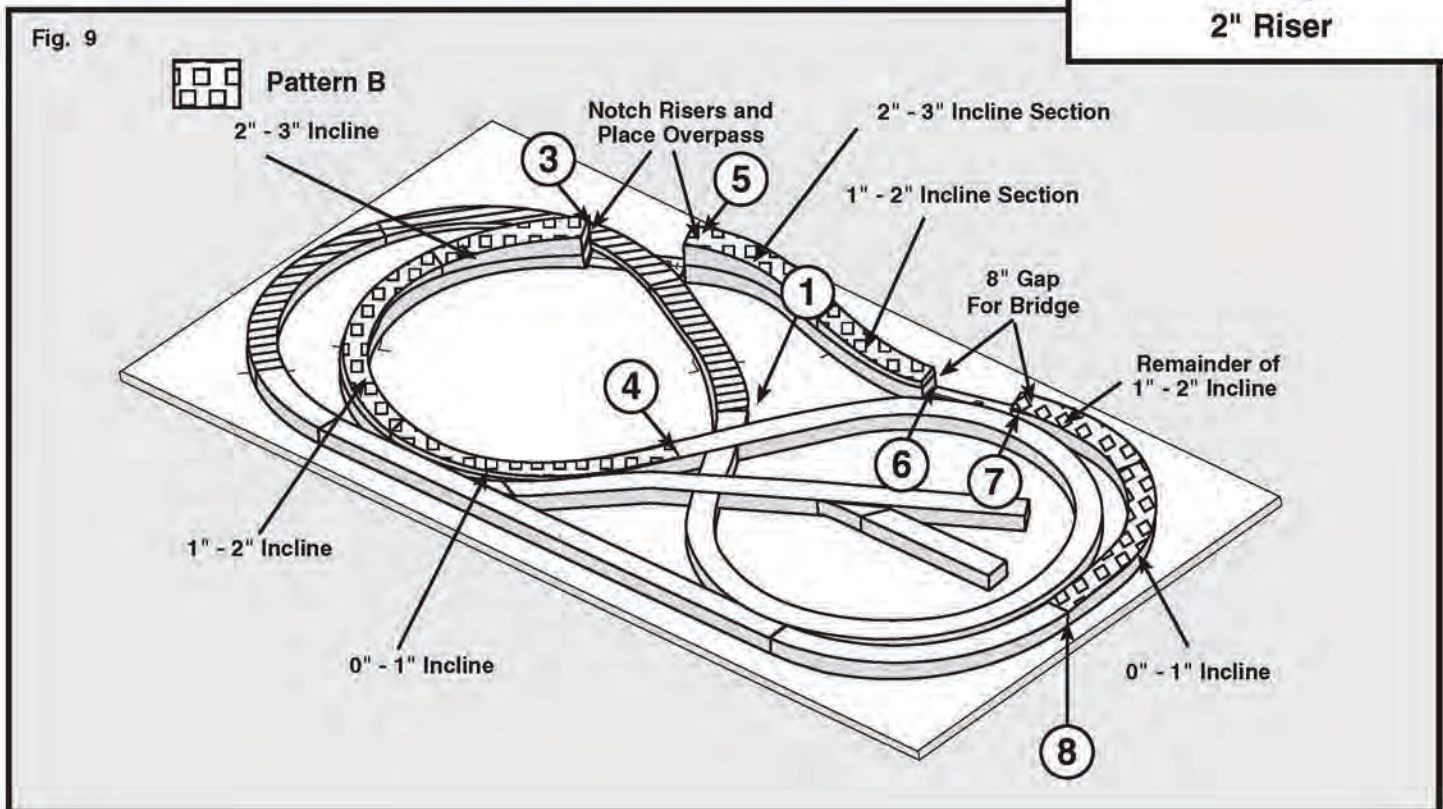
The second tier is indicated by Pattern B (Fig. 9). Pin second tier pieces to first tier and trim if necessary for proper fit.

1. Place 3" end of a 2"-3" Incline at Point 3, working counter-clockwise. Follow with 2" end of a 1"-2" Incline and then 1" end of a 0"-1" Incline, ending at Point 4.
2. Place 3" end of a 2"-3" Incline at Point 5, working clockwise.
3. Place 2" end of a 1"-2" Incline next. Cut off a section of Incline so it will end left of bridge and create a gap (Point 6).
4. Starting at Point 7, place remaining section of 1"-2" Incline 8" to the right of Point 6.
5. Place 1" end of 0"-1" Incline at the 1" end of the previously placed Incline, with the 0" end at Point 8.
6. When all pieces are pinned in place, apply glue to secure. Remove Foam Nails when glue is set.

Fig. 5a

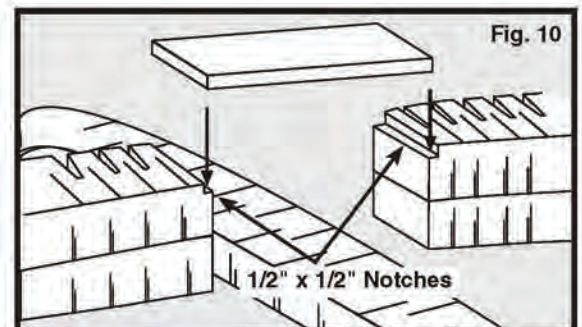


2" Riser



Install Overpass

1. Cut 1/2" x 1/2" notches into the top of both Risers (Points 3 and 5) for the Overpass (Fig. 9 and 10).
2. Cut a piece of 1/2" Foam Sheet 2 1/2" wide to fit into notches and between the Risers (Fig. 10).
3. Test fit Overpass piece to fit flush inside notches. Trim if necessary.
4. Glue Overpass piece in place.

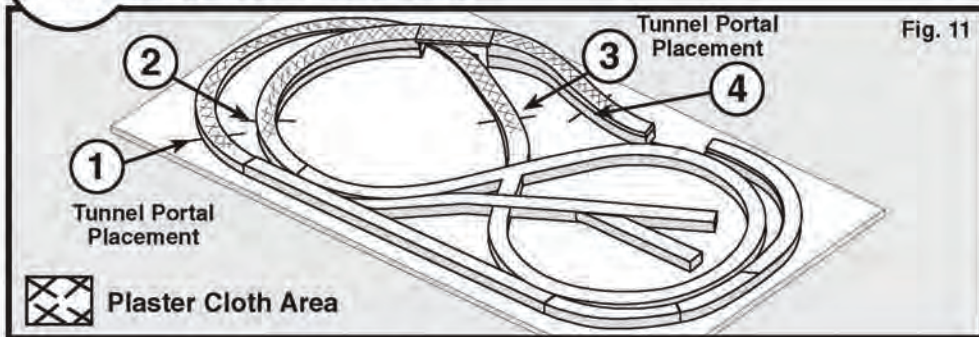


Test Track and Bridge

The bridge is part of the track. Position it so each end overlaps the ends of the Risers by 1/2" at the 8" gap (Points 6 and 7) (Fig 9).

1. Reassemble track on Risers and Inclines and test run train.
2. If a surface is uneven, sand down with 120-grit sandpaper.
3. Remove track in large sections.

Tunnel Work



ITEMS NEEDED

Woodland Scenics

- Plaster Cloth
- Low Temp Foam Glue Gun
- Low Temp Foam Glue Sticks
- Foam Tack Glue
- 1/2" Foam Sheets
- Buff Medium Ballast
- Scenic Cement
- Scenic Sprayer
- Foam Nails
- Foam Pencil

Household

- Track
- Hobby Knife
- Ruler
- Scissors
- Sandpaper (120-grit)
- Pan with Cold Water
- Paintbrush (1" - 1-1/2")
- Liquid Dish Soap
- Spray Bottle

Plaster Cloth in Tunnel Areas

Cut several 4" x 8" sheets of Plaster Cloth. Plaster Cloth is only applied along Tunnel Portal placement positions at this time.

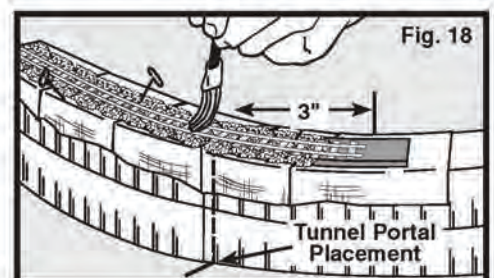
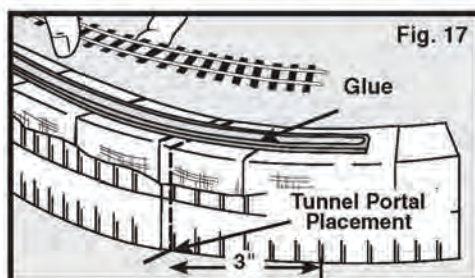
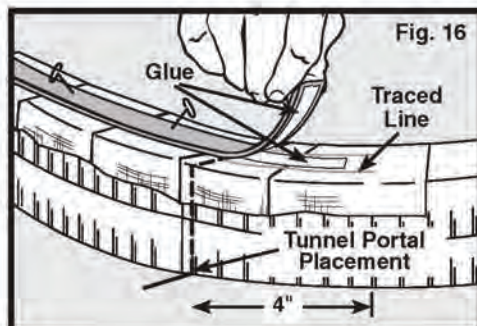
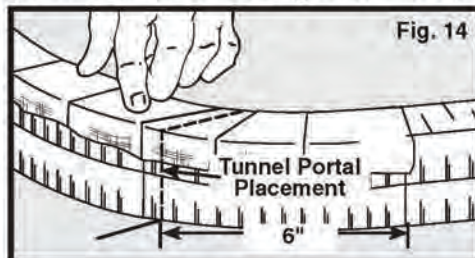
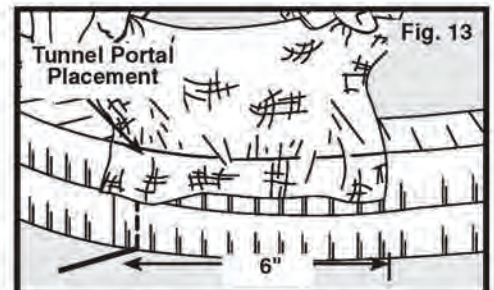
1. Hold Plaster Cloth sheet by the corners, dip in water (Fig. 12) and place on Riser bumpy side up. It should overlap sides of Riser 1/2" - 1". Position sheet approximately 6" outside Tunnel Portal Placement 1 (Fig. 11 and 13). Rub plaster bumps with wet fingers to fill holes in cloth and smooth out any wrinkles (Fig. 14). Plaster Cloth must be flat and smooth under Track-Bed (see next section).
2. Apply additional sheets of wet Plaster Cloth, butting together at the seam. Do not overlap sheets. Continue laying sheets clockwise approximately 6" past Tunnel Portal Placement 3.
3. Apply Plaster Cloth in the same manner beginning 6" outside Tunnel Portal Placement 2, working clockwise 6" past Tunnel Portal Placement 4 (Fig. 11).
4. Wrap Plaster Cloth snugly around bottom of Overpass (Fig. 15).
5. Under the Overpass, lay a dry strip of Plaster Cloth on lower Riser and mist with water from a spray bottle (Fig. 15). Smooth cloth in place.



Test Fit Track and Lay Track-Bed in Tunnel Areas

1. Place entire track on layout and pin with Foam Nails.
2. Trace the track that sets on Plaster Cloth with Foam Pencil. Be very accurate when marking track placement in tunnel areas.
3. Remove track in several large sections and set aside.
4. Working clockwise, measure and cut Track-Bed to reach between Tunnel Portal Placements 1 and 3, and 2 and 4 (Fig. 11). Extend Track-Bed 4" beyond start of Tunnel Portal Placements (Fig. 16).
5. Spread an even layer of Foam Tack Glue on traced track-area and on bottom of cut Track-Bed strips (Fig. 16). Let glue dry until clear (max. working time, 1 hour).
6. Lay Track-Bed, keeping it centered between track tracings (Fig. 16).

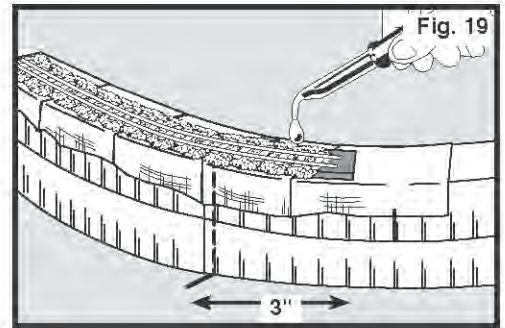
TIP! For a more secure adhesion, use 120-grit sandpaper to sand top and bottom of Track-Bed before adhering it to the layout and installing track.



Install Track and Ballast in Tunnel Areas

In a spray bottle, make "wet water" by mixing 2 drops of liquid dish soap in one cup of water. This will keep Ballast from clumping when applying diluted Scenic Cement.

1. Replace track over entire layout.
2. Pin down sections in tunnel areas and mark outline of track carefully and accurately. Track should extend 3" beyond Tunnel Portal Placements (**Fig. 17**). Remove track outside of tunnel area and set aside.
3. Unpin and remove track pieces inside tunnel area, one at a time. Spread an even layer of Foam Tack Glue on top of Track-Bed. Place pieces of track on glue, one at a time, and pin while drying (**Fig. 17**). Verify a secure connection between track pieces.
4. Brush diluted Scenic Cement on sides of the Track-Bed. Be careful not to get Scenic Cement on track. Pour Buff Medium Ballast directly over the track and ties, covering Track-Bed completely.
5. Brush excess Ballast from top of ties and rails (**Fig. 18**). Ballast should be even with top of ties for a realistic appearance.
6. Mist "wet water" on Ballast.
7. Using the Scenic Sprayer set to stream or an eyedropper, saturate Ballast with diluted Scenic Cement (**Fig. 19**). Clean rails before use.



TUNNEL WALL DIMENSIONS

Tunnel Wall Section 1

A. 6" x 12"

B. 6" x 12"

Tunnel Wall Section 2

A. 6" x 12"

B. 6" x 24"

Tunnel Wall Section 3

A. 6" x 15"

B. 6" x 12"

Fill Piece 6" x 6 1/2"

Tunnel Wall Section 4

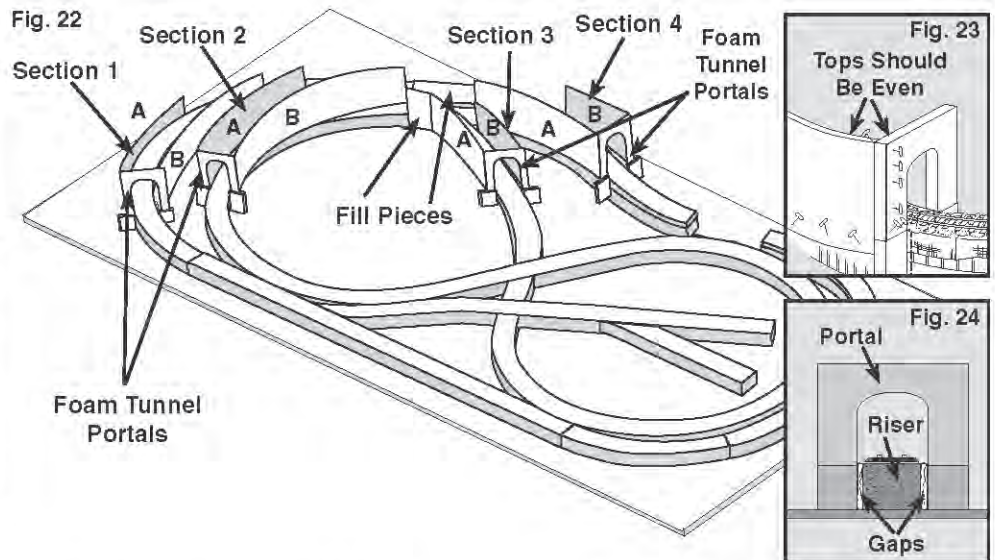
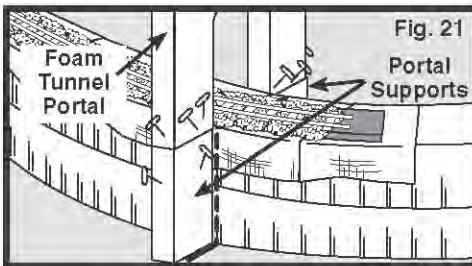
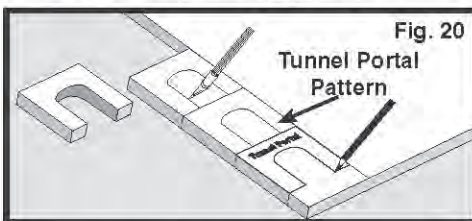
A. 6" x 18 3/4"

B. 6" x 12"

Fill Piece 2 1/2" x 9"

Place Foam Tunnel Portals

1. Trace four Tunnel Portal Patterns onto 1/2" Foam Sheet (**Fig. 20**). Cut out with hobby knife or Foam Knife. Foam Tunnel Portals provide a stable backing for Hydrocal Tunnel Portals.
2. Cut pieces of scrap Foam the height of the Riser and/or Incline for Portal Supports (**Fig. 21**).
3. Locate Tunnel Portal Positions on Track Plan and pin foam Portals and Supports in place (**Fig. 21**).



Install Tunnel Walls

1. Cut Tunnel Wall Sections from 1/4" Foam Sheets. Cut Sheet in half lengthwise to form 6" tall pieces. Refer to **Tunnel Wall Dimensions** for individual dimensions and Fig. 22 for placement.
2. Flatten Tunnel Wall pieces with a rolling pin or flex gently back-and-forth so pieces will not break when following Riser contours.
3. Align front edge of Tunnel Walls with inside edge of foam Tunnel Portals and pin in place. Top of Tunnel Walls should be even with top of Portals (**Fig. 23**).
4. Form Tunnel Wall to follow contour of Risers and pin in place (**Fig. 23**). Because Portals protrude slightly beyond edges of Risers, there will be a small gap between the opening edge of the Portal and the Riser (**Fig. 24**). Fill this gap with small pieces of scrap foam or damp paper towels.
5. After Tunnel Wall Sections are pinned in place, there are gaps that need to be filled in. Cut Fill Pieces to the dimensions noted in **Tunnel Wall Dimensions**. Pin in place as illustrated in **Fig. 22**.
6. Test train clearance and when satisfied with fit, apply Low Temp Foam Glue along seams to secure Portals and Walls. Remove Foam Nails when glue is set.
7. Paint 6" to 8" inside tunnel entrances with Black Tunnel Paint.

Profile Boards

Profile Boards are 8" x 24" ribbed sheets that interlock in a tongue and groove fashion. When measuring top and bottom edges, one edge is 1" thick and the opposite is 1/2" thick. Profile Boards that run along the front and back of the layout will be assembled with the 1" edge down (ribs inward) and the Boards on the left and right will be assembled with the 1/2" edge down (ribs inward). This allows the sheets to interlock at the corners. Connectors secure Profile Boards at seams (Fig. 26).

ITEMS NEEDED

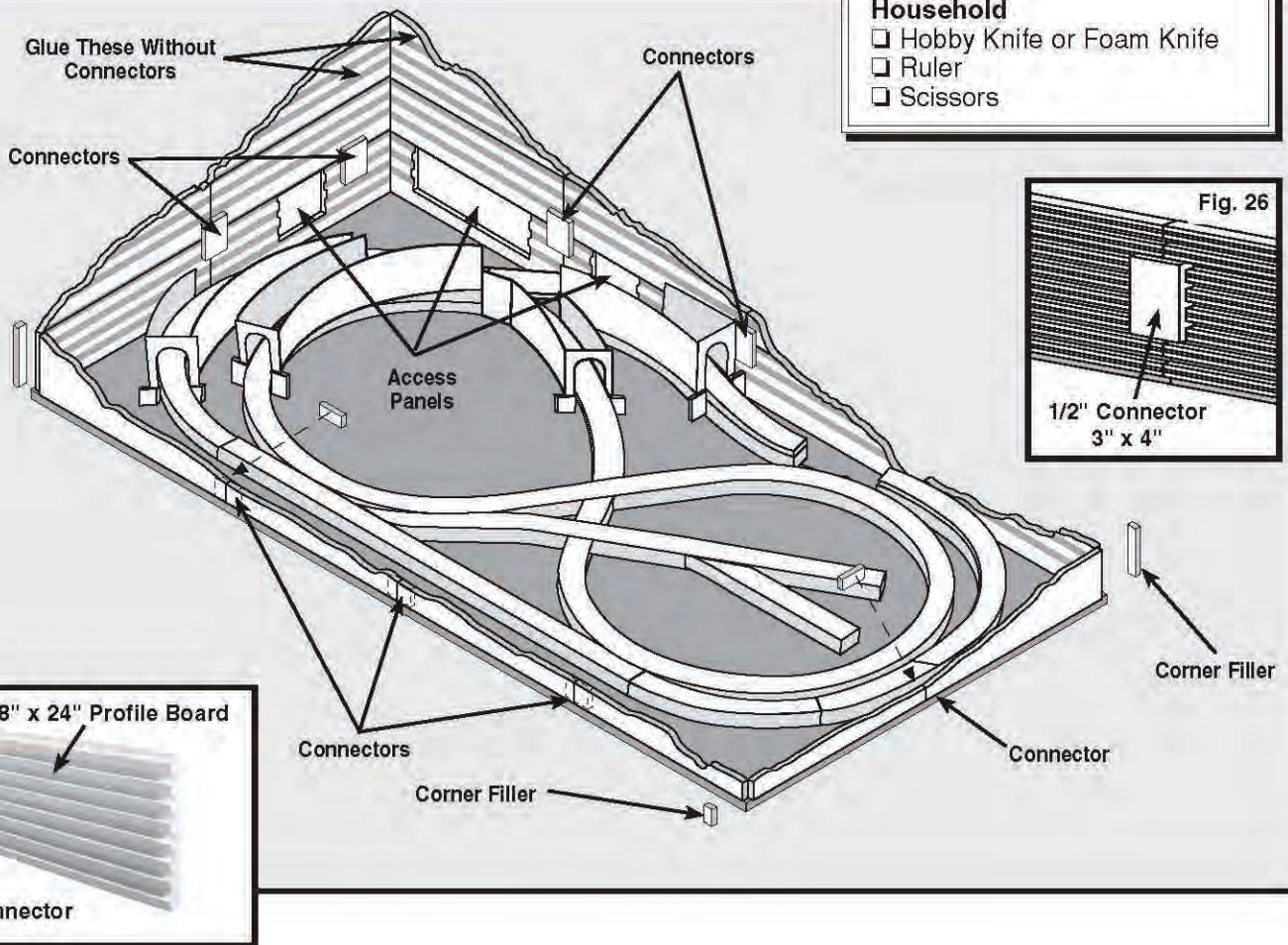
Woodland Scenics

- Profile Boards
- Connectors
- Foam Nails
- Low Temp Foam Glue Gun
- Low Temp Foam Glue Sticks
- Hot Wire Foam Cutter
- Foam Pencil

Household

- Hobby Knife or Foam Knife
- Ruler
- Scissors

Fig. 25



Cut Access Panels

1. Mark the five unprinted Profile Boards L1, L3, B3, B4 and B6 with the Foam Pencil (Fig. 27).
2. Using a hobby knife (or Foam Knife) and ruler, cut Access Panel openings on L1, B3 and B4 where indicated in Fig. 27.
3. Cut a 1" x 1" hole in the center of each Access Panel for easy removal.

Assemble Profile Boards

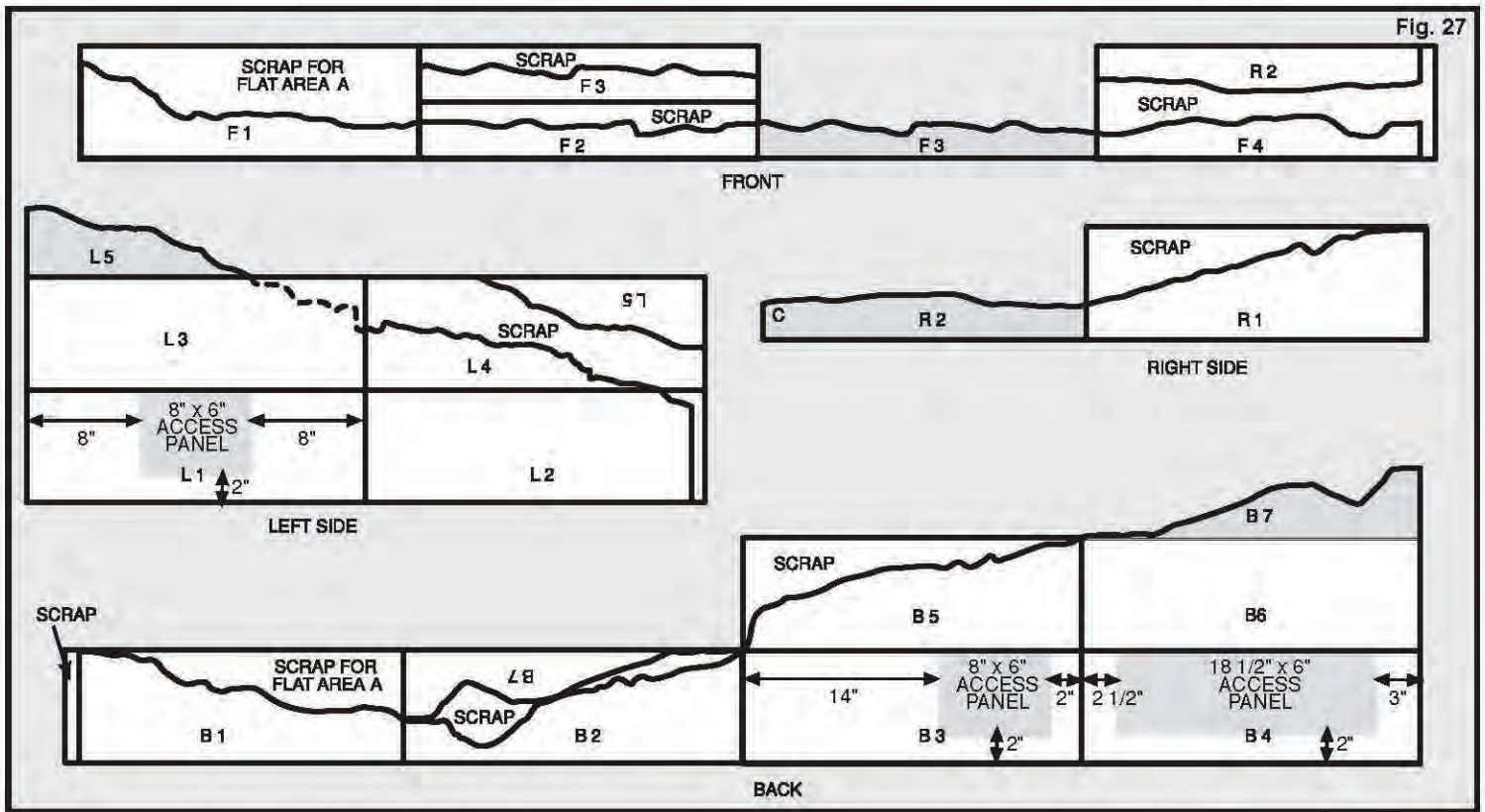
1. There are nine printed Profile Boards. Use Hot Wire Foam Cutter or Foam Knife to cut terrain contours following printed patterns (Fig. 28).
2. Cut four 3" x 8" Connectors in half to 3" x 4" pieces.
3. Sort cut Profile Boards into groups by side.

Front Side – 4 cut Profile Boards F1, F2, F3, F4 / 3 Connector halves

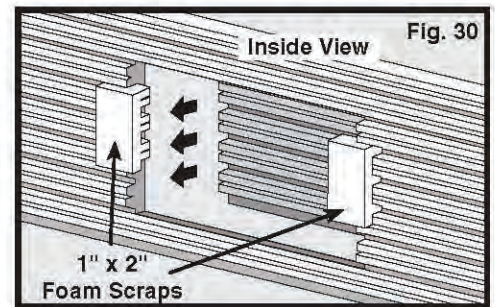
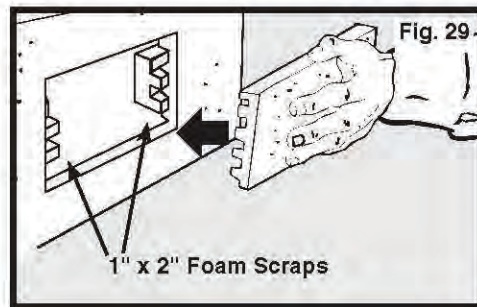
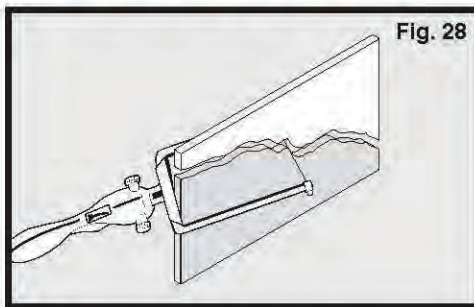
Left Side – 2 whole Profile Boards L1, L3 / 4 cut Profile Boards L2, L4, L5 / 2 Connector halves.

Back Side – 3 whole Profile Boards B3, B4, B6 / 4 cut Profile Boards B1, B2, B5, B7 / 2 Connector halves

Right Side – 2 cut Profile Boards R1, R2 / 1 Connector half

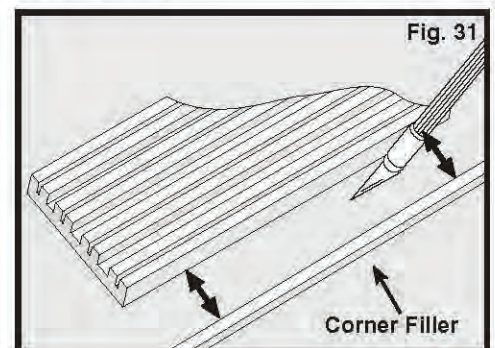


4. Start with front of layout and assemble Profile Boards with Connectors as shown (Fig. 25, 26 and 27). The ends of each side assembly are 1/2" from corners of Base and interlock with the Profile Board of the adjoining side. **NOTE:** The 1/2" is critical for alignment of all sides with the Base. Trim, if necessary.
5. Align smooth side of Profile Boards with outside edge of Base and pin in place with Foam Nails.
6. Assemble the remaining three sides in the same manner.
7. Glue Connectors to Profile Boards and Profile Boards to Base. Apply Low Temp Foam Glue along seams on interior of layout. When glue is set, remove Foam Nails.
8. On Profile Board L3, draw a contour line between Profile Boards L4 and L5 (see Fig. 27).
9. Touch up terrain contours so they are continuous and trim any Connectors that extend above layout sides.
10. Cut six 1" x 2" pieces of Profile Board and glue one to each side of Access Panel openings on inside of layout (Fig. 29 and 30). These will act as stops for Access Panels. Reinsert Access Panels flush with Profile Board.

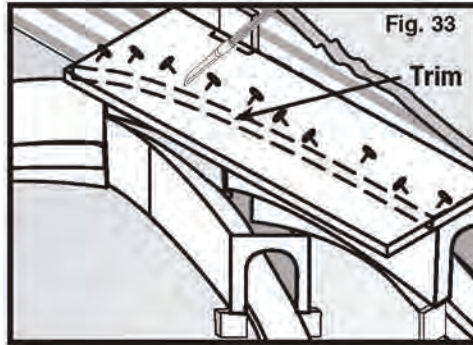
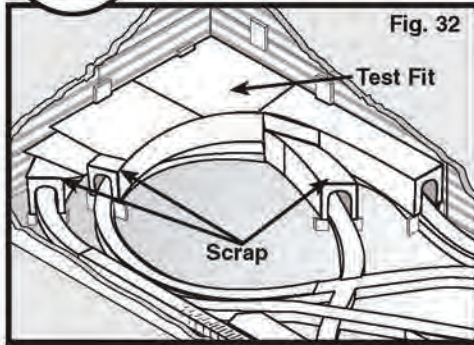


Fill Corner Joints

Using scrap Profile Board, cut 1/2" x 1/2" strips for Corner Filler. These will fill the void at each corner where Profile Boards meet. Trim to height of corner (Fig. 25 and 31).



Tunnel Roofs and Platforms



ITEMS NEEDED

Woodland Scenics

- Foam Sheets
- Low Temp Foam Glue Gun
- Low Temp Foam Glue Sticks
- Foam Nails
- Foam Pencil
- Scrap Foam

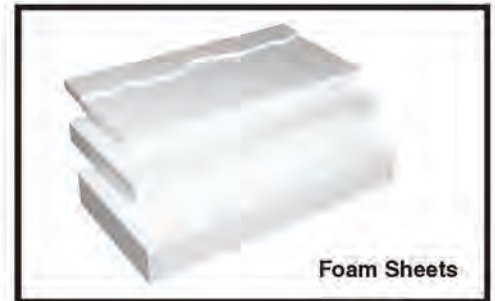
Household

- Hobby Knife
- Ruler
- Buildings

Tunnel Roofs

Tunnel Roofs serve as support for newspaper wads.

1. Test fit 1/4" Foam Sheet and place along inside corner of layout with edges in between ribs of back Profile Board (Fig. 32).
2. If Connectors interfere with Foam Sheet, mark Connector locations and cut 1" notches in Foam Sheet to fit around them.
3. Pin Foam Sheet down and trim to fit outside edge of Tunnels (Fig. 32 and 33).
4. Use Foam Sheet scraps to cover remaining Tunnel area (Fig. 32). Don't worry about neatness, the work will be covered in a later step.
5. Glue in place with Low Temp Foam Glue. Remove Foam Nails when glue is set.



Foam Sheets

Platforms

There are no precise measurements for Platforms. Refer to illustrations (Fig. 34 and 35) and buildings being used for approximate size and location. Test fit buildings when arranging Platforms.

Supports elevate the Platforms and do have specific sizes. Refer to **Support Height for Platforms** for height information.

Make Platform A

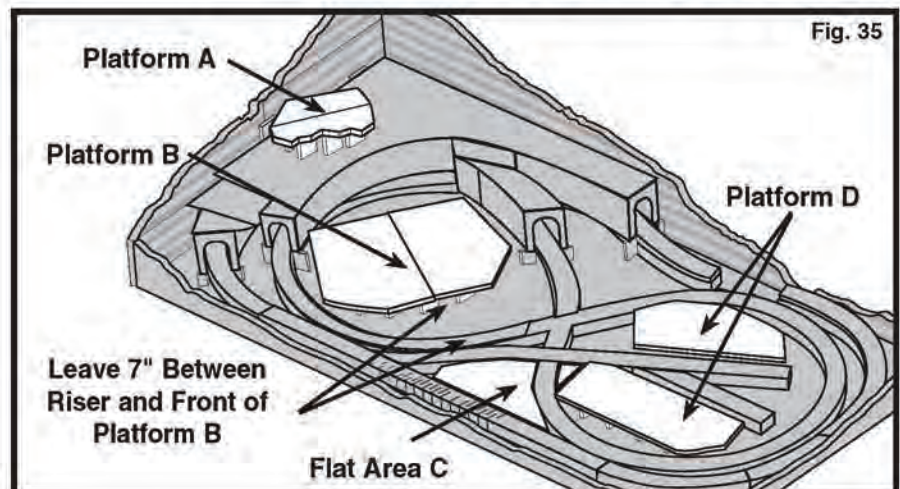
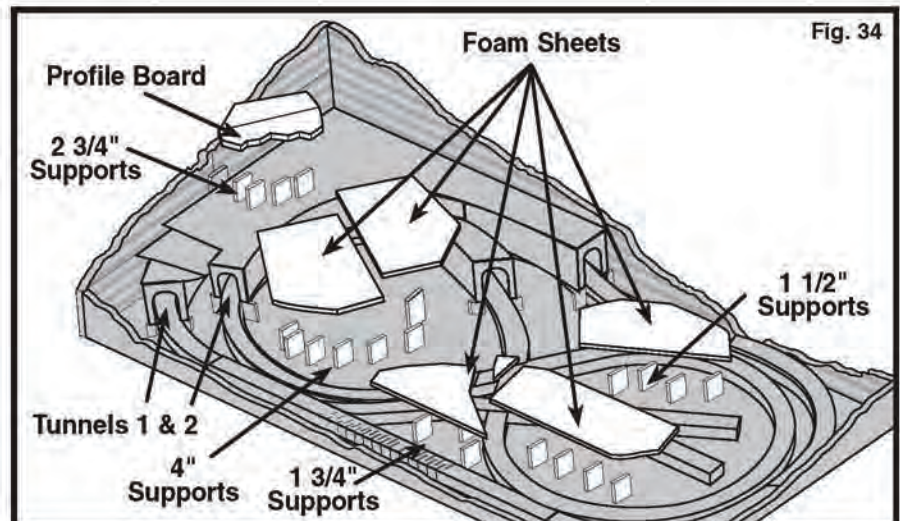
Platform A provides a spot for buildings (Fig. 35).

1. Cut out the two pieces of Profile Boards designated "Scrap for Flat Area A," then glue the two pieces together (Fig. 34).
2. From 1/2" Foam Sheet, cut seven or eight supports, 2 3/4" high. Glue supports between the ribs of Profile Board and test fit above Tunnels 1 and 2 (Fig. 35). Platform placement should not be higher than the profile of the layout.
3. When satisfied with placement, glue in place with Low Temp Foam Glue.

Make Platforms B, C and D

Platforms B, C and D are for buildings, factories, towns and roads (Fig. 35).

1. Use 1/2" Foam Sheet to make flat areas B, C and D. Where roads are planned, the Foam Sheet needs to butt against Risers. For low areas, allow space between Foam Sheet and Risers.



2. Cut Supports from 1/2" Foam Sheet or Profile Board scraps (**Fig. 34**). Refer to **Support Height for Platforms** for specific height of Supports.
3. Arrange Platforms (**Fig. 35**) and glue in place with Low Temp Foam Glue.

Support Height for Platforms

- A (use 1/2" Foam) – 2 3/4"
- B – 4"
- C – 1 3/4"
- D – 1 1/2"

Test Fit Buildings

If you have purchased the City & Industry Building Set (S1486) or have other HO scale buildings, test fit on flat areas and platforms. Verify clearance for train and landscape. See **Fig. 58** (pg. 19) or box cover photo for suggested placement.

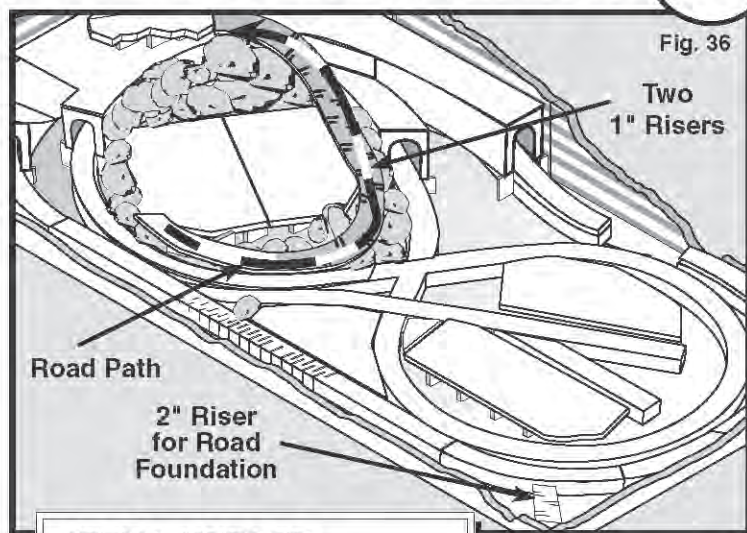
Road Foundation

A smooth surface is necessary to add dirt, gravel and paved roads to the layout. Use Risers to create a smooth foundation for the roads shown in **Fig. 36**. Other road areas have a foam base. Refer to the photo on the box and **Fig. 58** (pg. 19) for road placement ideas or create your own. This section covers only the placement of the foundation for the road around the city and the front, right-hand corner of the layout. Instructions for adding roads to all areas of the layout are in a later step.

Add Road Foundation

There is a road connecting Platform B and Platform A. Two 1" Risers are used to build the road foundation.

1. Use newspaper wads to create terrain features and elevate area to desired height (**Fig. 36**). (See **Add Plaster Cloth and Track-Bed** on page 14 for instructions on how to make newspaper wads.) Hold newspaper wads in place with strips of masking tape.
2. Pieces of scrap Foam Sheets can also be used to make elevation supports for Risers. Hold in place with Foam Nails.
3. Pin Risers in place with Foam Nails. When satisfied with road path, glue with Low Temp Foam Glue. Remove Nails when glue is set.
4. Cut a piece of 2" Riser to fit front, right-hand corner of layout (**Fig. 36**). Glue in place.



ITEMS NEEDED

Woodland Scenics

- 1" Risers
- 2" Riser
- Low Temp Foam Glue Gun
- Low Temp Foam Glue Sticks
- Foam Nails

Household

- Hobby Knife
- Newspaper
- Masking Tape

Wiring

Position track on layout and run wire along and through Risers to connect the track to the power supply and switch-control boxes. Locate wiring positions on switches and track. Leave 3" of wire unattached and tape over ends temporarily.

Method 1

Make a hole in the Risers just large enough for wire, or run wire down the sides and along Risers and Inclines. Tape or glue wire to Base.

Method 2

Make a hole just large enough for wire to pass through the Base (an awl can be used to punch the hole). On the underside of layout, route wiring to power supply or electric switches. We recommend leaving a single exit point for wiring to maintain a clean appearance.

NOTE: When covering layout with Plaster Cloth, consider the position of the wiring.

Add Plaster Cloth, Track-Bed and Track—

Stack newspaper wads to create desired terrain contours for mountains, hills, dry creek bed and other features. Refer to photo on box for ideas. Before adding Plaster Cloth, make sure all foam components are glued in place and Foam Nails are removed.

Make and Place Newspaper Wads

1. Begin at outer edge of newspaper sheet and roll edges under in a circular pattern to form a pillow shape (Fig. 38). Pillow shapes are easy to stack. Use smaller sheets of newspaper to create smaller wads, when needed.
2. Stack wads even with or below top of Profile Boards to form realistic contours. Hold in place with strips of masking tape (Fig. 39). Fill in between Risers and around perimeter of Foam Sheets. Leave clearance around Foam Tunnel Portals for placement of Hydrocal Tunnel Portals.

ITEMS NEEDED

Woodland Scenics

- Plaster Cloth
- Track-Bed
- Foam Nails
- Foam Tack Glue
- Foam Pencil

Household

- Newspaper
- Masking Tape
- Pan with Cold Water
- Scissors
- Hobby Knife
- Track

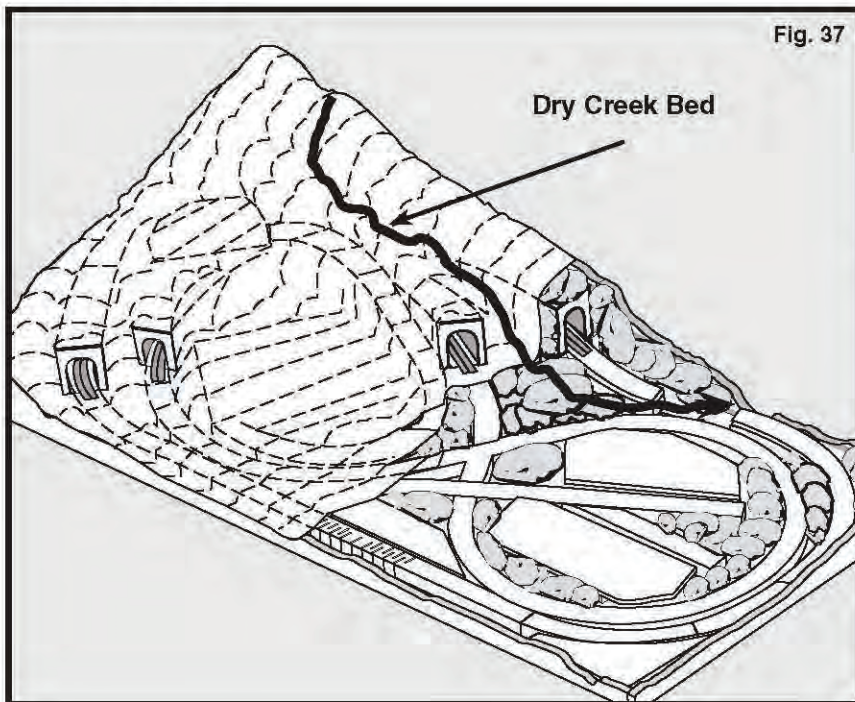


Fig. 37

Dry Creek Bed



Fig. 38

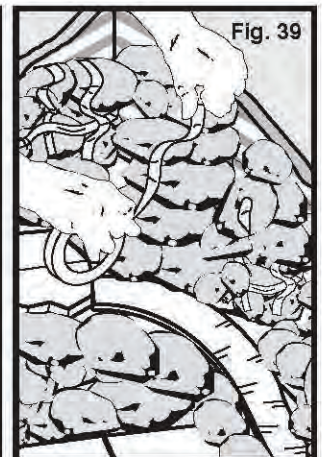


Fig. 39

Add Plaster Cloth

Plaster Cloth makes a strong, hard shell over the newspaper wads, on which to apply pigments, landscape and scenery products. Always apply Plaster Cloth with the bumpy side up.

1. Cut one roll of Plaster Cloth into 12" sheets. Set one roll aside for sides of layout.
2. Hold sheet by corners and dip and drag through water briefly (Fig. 40).
3. First, cover all Risers and Inclines with a single layer of Plaster Cloth. Let edges of Cloth overlap onto adjoining foam or newspaper wads. Rub plaster bumps with wet fingers to fill holes in cloth and smooth out wrinkles, bumps or folds. Plaster Cloth should be flat and smooth under Track-Bed or there could be problems when laying track. Apply sheets by butting them together at the seam. Do NOT overlap sheets on Risers or Inclines.
4. Next, cover contoured and flat terrain. Lay Plaster Cloth bumpy side up and smooth plaster with wet fingers to fill in holes and form cloth to terrain contours.
5. Begin at front, left-hand corner of layout and place a sheet of Plaster Cloth overlapping both edges by 1" (Fig. 41). Fold 1" edge over onto itself to make even with edge of layout (Fig. 42). Rub plaster bumps with wet fingers to fill holes in cloth. All outer edges should be covered in this manner.

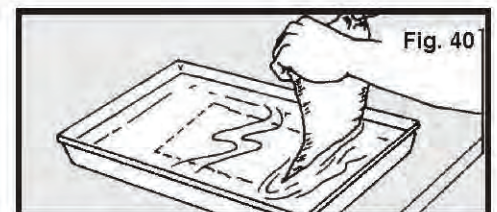


Fig. 40



Fig. 41

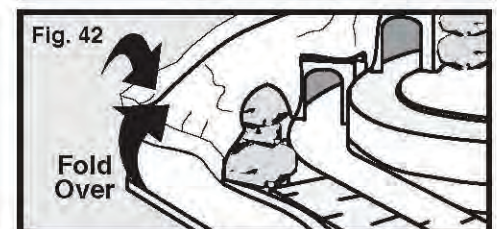


Fig. 42

Fold Over

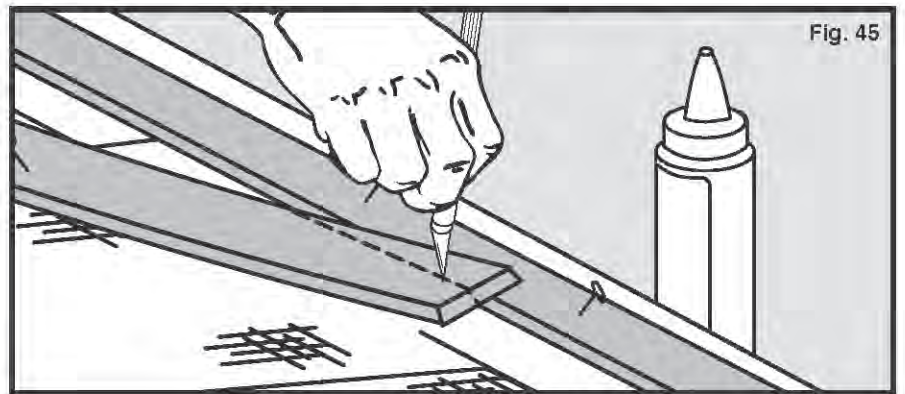
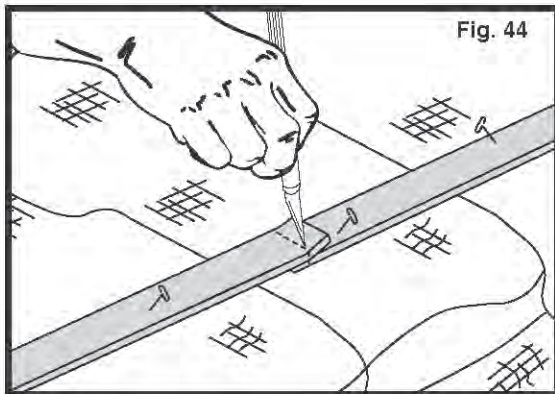
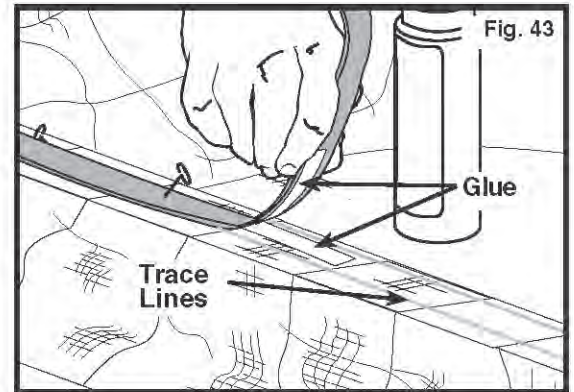
6. Working from left to right, overlap previous sheet of Plaster Cloth by 50% to form a double-thick plaster surface. Working from top to bottom, overlap previous strip by 1".
7. When applying Plaster Cloth alongside of Risers, butt sheet against Riser without overlapping. There should be no bumps, wrinkles or folds on Risers or problems could occur when laying track.
8. When covering the spaces between the tracks, it is necessary to apply a double layer of Plaster Cloth on the newspaper wads for strength. On the large, flat foam areas, it can be doubled, but a single layer is sufficient.
9. Let Plaster Cloth dry for 4-6 hours.

Test Track

When Plaster Cloth is dry, relay track on Risers and Inclines. Hook up power and test train for clearance and derauling problems. When the train is able to run without any problems, pin track in place and trace track outline on Plaster Cloth. Mark the position of the track clearly. Remove track in large sections and set aside.

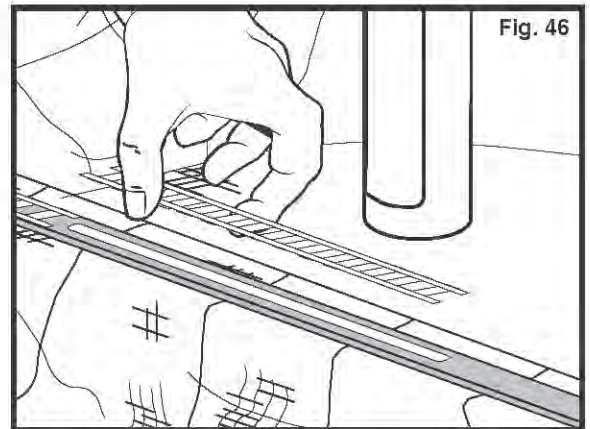
Lay Track-Bed

1. Spread a layer of Foam Tack Glue inside track tracing and on bottom of Track-Bed Roll. Let glue dry until clear (max. working time, 1 hour).
2. Center Track-Bed inside track tracing and pin in place (**Fig. 43**).
3. Butt ends of Track-Bed together without bumps, ridges or gaps. When needed, overlap ends and cut through both pieces with a hobby knife (**Fig. 44**). For turnouts, align turnout with straight section and cut Track-Bed as shown (**Fig. 45**).
4. When glue is dry, remove Foam Nails.



Install Track

1. Begin laying track from Tunnel Portals where track is already installed.
2. Glue track to Track-Bed. Spread a thin, even layer of Foam Tack Glue on top of Track-Bed and attach track, one section at a time (**Fig. 46**). **IMPORTANT:** Do not get glue on rails or near a turnout switching mechanism.
3. Double-check that all track connectors are securely attached and the track is not crimped.



Rock Castings, Terrain and Tunnel Portals -

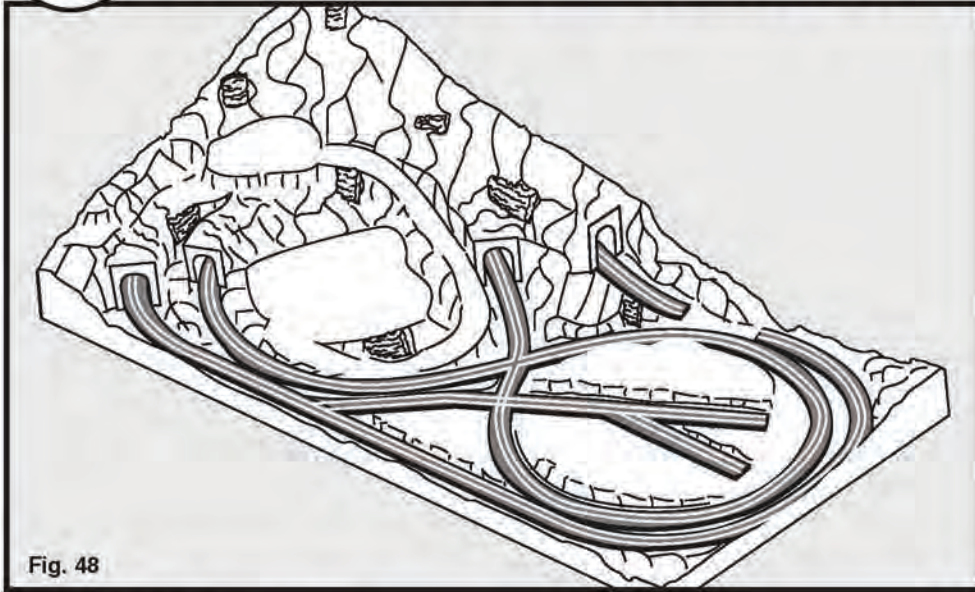


Fig. 48

ITEMS NEEDED

Woodland Scenics

- Lightweight Hydrocal
- Rock Molds
- Tunnel Portals
- Rock Colors
- Earth Undercoat
- Foam Pad Applicator
- Stir Stick

Household

- Measuring Cups
- Plastic Mixing Bowl
- Liquid Dish Soap
- Newspaper
- 4 Disposable Cups
- Hobby Knife

Make Rock Castings

1. Make a solution of "wet water." Mix 2 drops of liquid dish soap in 1 cup of water. Coat inside of Rock Molds with solution and pour out excess. Wet water helps disperse air bubbles in rock castings and acts as a mold release agent.
2. Secure Rock Molds in a level position using newspaper wads (**Fig. 47**).
3. Shake carton of Lightweight Hydrocal for 30 seconds to mix contents. Set aside 1 1/2 level cups to attach rocks in a later step.
4. Prepare Lightweight Hydrocal using a clean, mixing bowl and utensils only. Pour 2 1/2 level cups of Lightweight Hydrocal slowly into 1 cup of water. Let stand for 2 minutes, then stir thoroughly for 1 minute. Pour mixture into Rock Molds immediately (working time, 5 minutes). Fill level with top of Mold, and tap gently to dislodge air bubbles.

NOTE: There is enough Lightweight Hydrocal to fill both Rock Molds twice and one of the Molds a third time.

5. Let rock castings dry 30-40 minutes before removing from Molds. Clean mixing bowl and utensils before preparing each batch of Hydrocal. Do not pour any excess plaster down sink drain.

Install Rock Castings

1. Decide on rock placement and test fit in desired locations. Rocks look more natural on steep hillsides with strata layers running horizontally (**Fig. 48**). Break some castings into pieces for rock variety and a realistic, natural look.
2. It may be necessary to cut into Plaster Cloth terrain with a hobby knife for best fit (**Fig. 49**). Plaster Cloth is very durable and the integrity of the terrain will not be damaged.
3. Use the remaining 1 1/2 cups of Lightweight Hydrocal to install rock castings. Due to limited working time (5 minutes), mix in small batches to attach two or three rocks at a time. Mix 2 1/2-parts Lightweight Hydrocal with 1-part water. Prepare mixture as instructed in **Make Rock Castings**.
4. Soak castings in water for 10 seconds and wet Plaster Cloth terrain where rock will be attached. Both surfaces need to be wet.
5. Spread Lightweight Hydrocal on back of rock casting and press into place (**Fig. 50**). Hold until setting begins or use Foam Nails to hold in place until set. Use the Stir Stick to dab small amounts of Hydrocal around edge of rock where there are gaps. Keep plaster off rock face or casting will lose its rock-like detail.
6. Repeat for each rock. Let dry for a minimum of 12 hours before coloring.

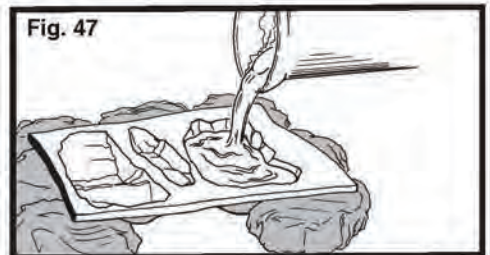


Fig. 47



Push or Cut
Plaster Cloth

Fig. 49

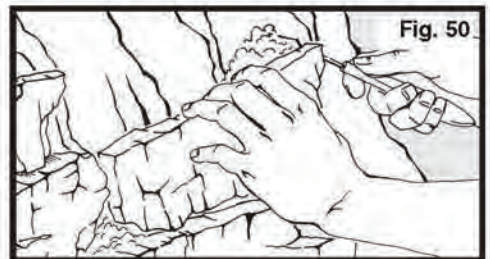


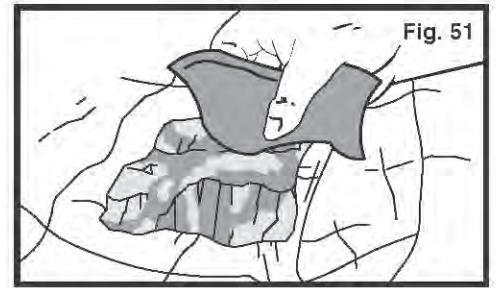
Fig. 50

Color Rocks

Color rocks using the Leopard Spot painting technique. It is easy to do and has realistic results. Let colors run together naturally. Dilute Rock Colors liquid pigments in individual cups. If color is too light when applied, add more pigment to the wash. If they are too dark, add more water.

1. Dilute Rock Colors with water to create color washes.
 - Yellow Ocher – 1-part pigment to 8-parts water
 - Burnt Umber – 1-part pigment to 8-parts water
 - Black – 1-part pigment to 16-parts water
2. Using the Foam Pad Applicator, dab Yellow Ocher randomly over 1/3 of rock face. Rinse Applicator.
3. Dab Burnt Umber randomly over a different 1/3 of the rock, leaving 1/3 white. Rinse Applicator.
4. Apply Black wash over the entire rock to tie colors together (**Fig. 51**). Rinse Applicator.
5. Repeat the Leopard Spot technique on each rock casting.

NOTE: Save remaining color washes for coloring Tunnel Portals and touch-up work.



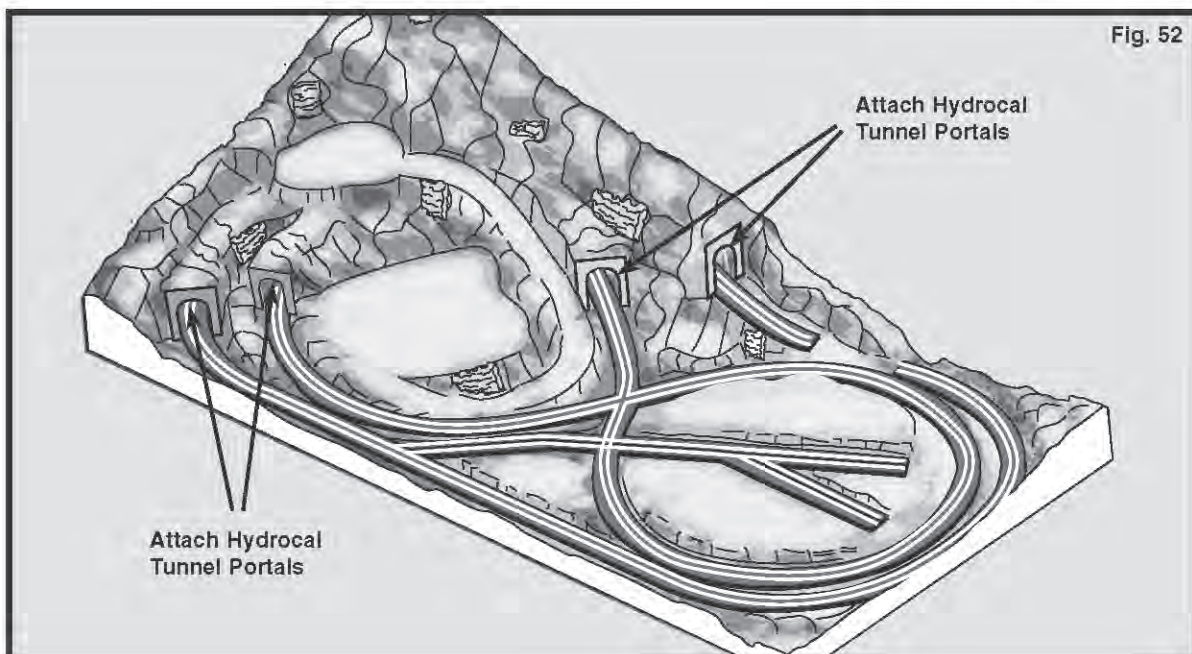
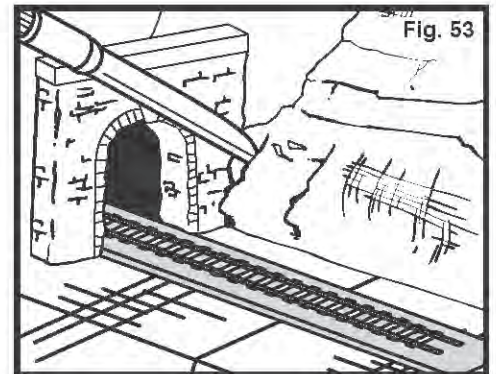
Color Terrain

Earth Undercoat models dirt and soil by creating a terrain base of natural-looking earth tones and highlights. It hides the white plaster and has a realistic appearance when covered with landscape materials.

1. In a container, mix entire bottle of Earth Undercoat (4 fl oz) with 1 cup (8 fl oz) water. Mix thoroughly.
2. Dip Foam Pad Applicator or a 1" foam paintbrush in diluted Earth Undercoat. Brush over entire Plaster Cloth surface. Dab pigment into crevices and low spots for complete coverage. Earth Undercoat should be slightly translucent.
3. Do NOT apply over rock castings.

Color and Install Tunnel Portals

1. Color Tunnel Portals using the same Leopard Spot paint technique that was used to color rock castings. Let dry.
2. Test fit Portals in front of Foam Tunnel Portal openings. The Tunnel Portal openings must be centered over track. If Hydrocal Portal does not fit properly against the Foam Portal, cut into the Plaster Cloth terrain with a hobby knife for a proper fit (**Fig. 53**). Seams can be hidden with landscape materials.
3. Test train clearance through Portal before gluing in place.
4. Spread a layer of Foam Tack Glue on front of Foam Portal and backside of Hydrocal Portal. Wait for glue to dry (max. working time, 1 hour) and install Tunnel Portals.



Plaster Cloth Sides of Layout

This is a very messy job! Prop layout on 1" pieces of scrap Foam. Place layers of newspaper under raised edge of layout.

1. Pin Plaster Cloth strips to all sides of layout, bumpy side out. On the front, and wherever possible, use a continuous strip, allowing an inch or so to overlap the sides.
2. Spray Plaster Cloth thoroughly with water, smoothing the plaster with your fingertips to fill holes in cloth (**Fig. 54**).
3. Let Plaster Cloth dry approximately 30 minutes, then cut out the Access Panels with a hobby knife (**Fig. 55**).

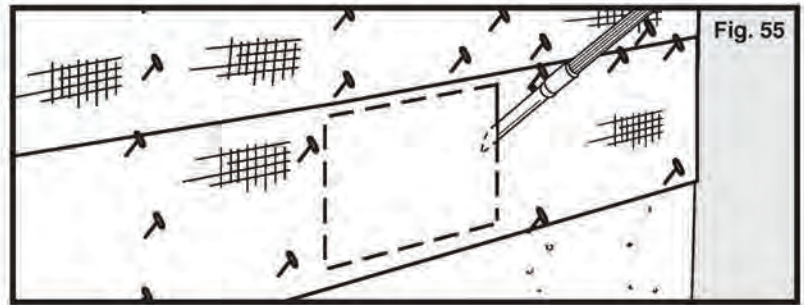
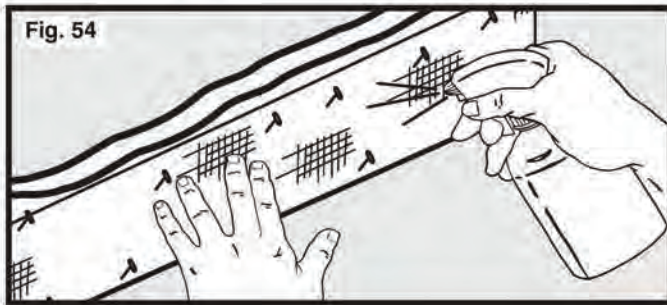
ITEMS NEEDED

Woodland Scenics

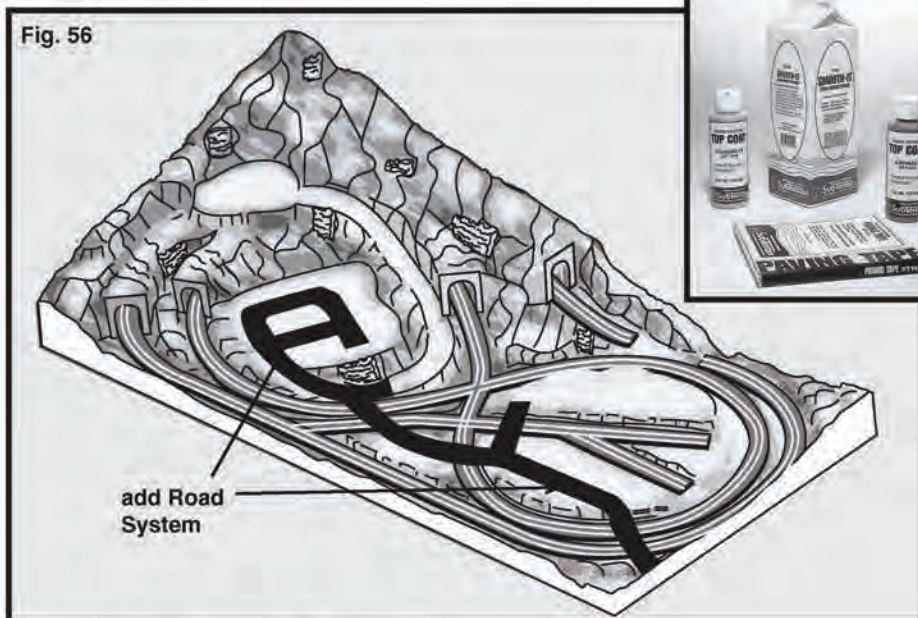
- Plaster Cloth
- Foam Nails
- Pieces of Scrap Foam

Household

- Spray Bottle
- Newspaper
- Hobby Knife



Add Road System



ITEMS NEEDED

Woodland Scenics

- Smooth-It
- Paving Tape
- Top Coat - Concrete and Asphalt
- Plastic Spreader
- Hydrocal Inclines
- 1/4" Foam Sheets
- Foam Tack Glue
- Scenic Cement
- Buff Fine Ballast
- Soil Fine Turf
- Earth Fine Turf
- Scenic Sprayer
- Foam Pencil

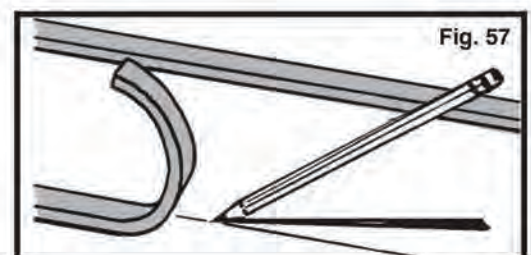
Household

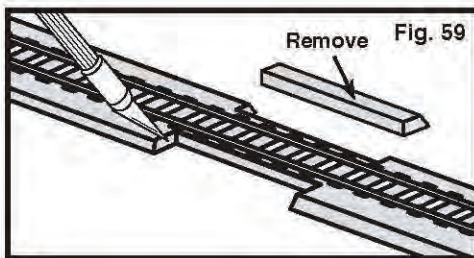
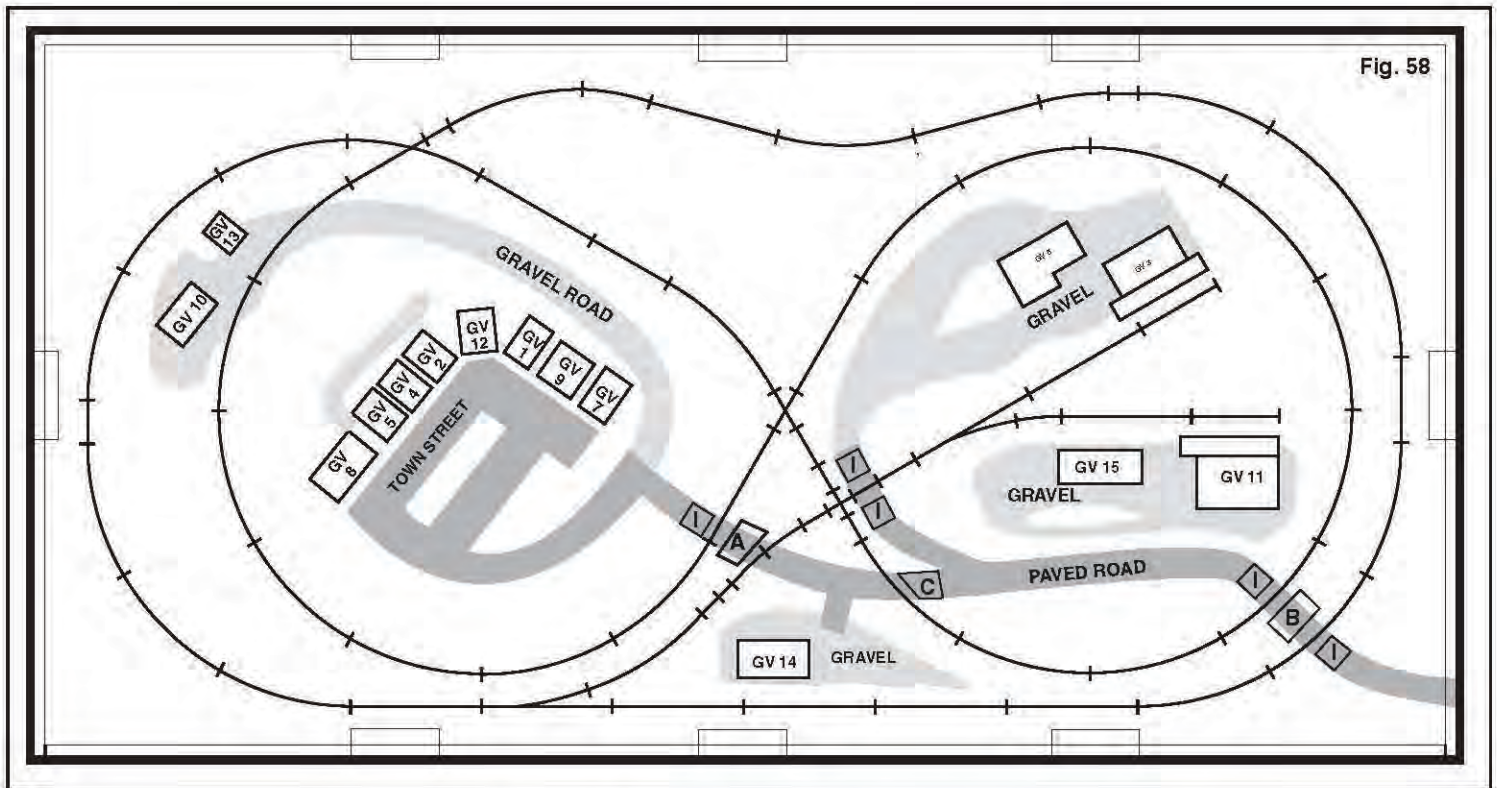
- Plastic Mixing Bowl
- Stir Stick
- Hobby Knife
- Ruler
- Sandpaper (220-grit)
- Paintbrush
- Spray Bottle

Mark Roads and Streets

Woodland Scenics Road System consists of Smooth-It, Paving Tape and two colors of Top Coat, Asphalt and Concrete. It makes it easy to add realistic roads, streets, sidewalks and pavement to a layout.

1. Plan roads, streets, town areas and rail crossings (**Fig. 58**).
2. Make country roads 2-1/2" wide and city streets 4-1/8" wide. If using buildings, test fit when laying out road system. Measure and mark width of roads and streets, then draw outline with the Foam Pencil and ruler (**Fig. 57**).





Remove Fig. 59

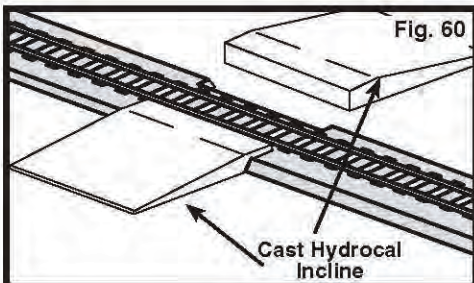


Fig. 60

Cast Hydrocal Incline

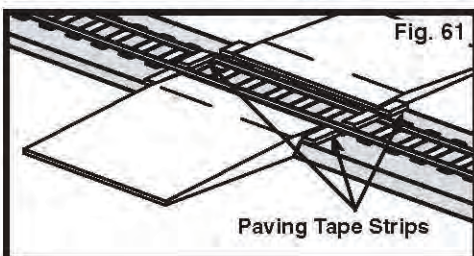


Fig. 61

Paving Tape Strips

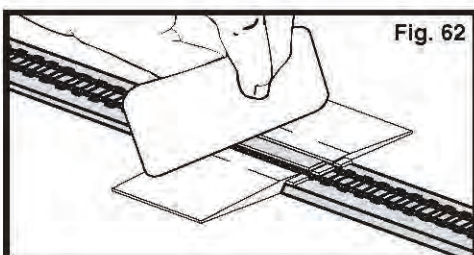


Fig. 62

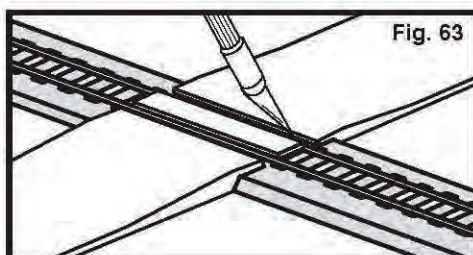


Fig. 63

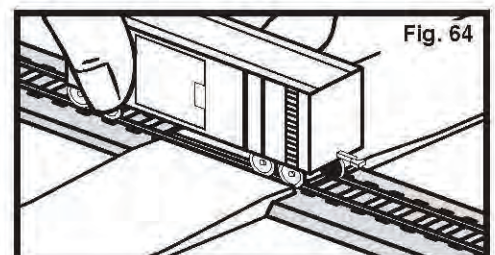
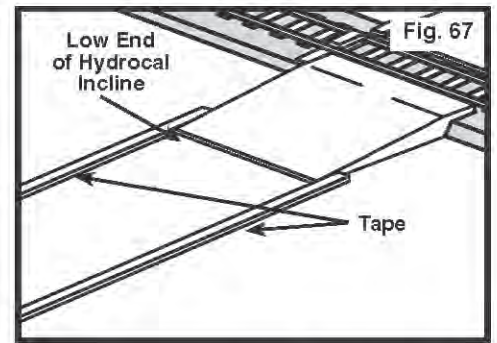
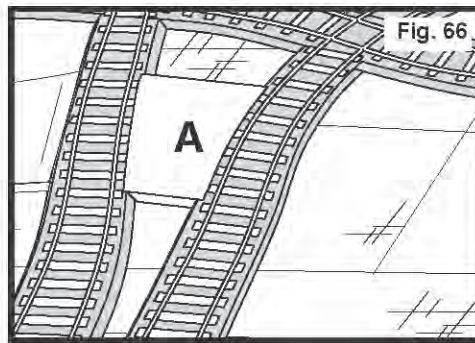
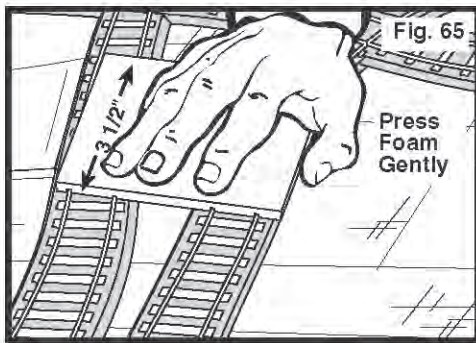


Fig. 64

Install Hydrocal Inclines at Rail Crossings

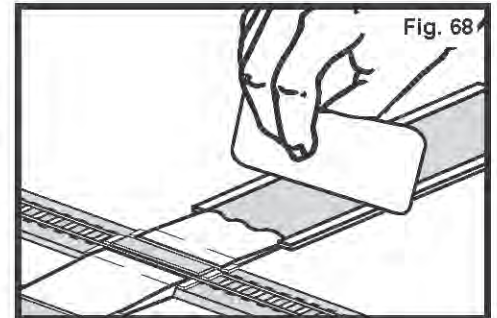
1. For rail crossings, cut and remove Track-Bed material the width of the Hydrocal Incline from both sides of track (**Fig. 59**). Use a hobby knife to cut Track-Bed.
2. Test fit Hydrocal Inclines in Track-Bed notches. Top of Inclines must be level with top of rails (**Fig. 60**). Spread a layer of Foam Tack Glue on bottom of Incline and on Plaster Cloth where Incline will be placed. Set Incline in place and hold until setting begins. **NOTE:** The angled Incline should be placed in position "C" (**Fig. 58**).
3. Cut and place narrow strips of Paving Tape along outer edges of Inclines, between rails and at outside rail edges (**Fig. 61**). This will act as a form when spreading Smooth-It.
4. Mix a small batch of Smooth-It according to package instructions.
5. Fill area between Paving Tape strips with Smooth-It. Use the Spreader to level Smooth-It even with top of rails and top of Inclines (**Fig. 62**). Carefully, wipe off excess Smooth-It from top of rails.
6. Let Smooth-It dry completely, then remove Paving Tape strips.
7. Run a hobby knife along outside edges of rails several times to score a groove in the Smooth-It to allow clearance for train wheels (**Fig. 63**).
8. Test clearance by running a piece of rolling stock several times over the area (**Fig. 64**). If necessary, sand down Smooth-It between rails.
9. Repeat Steps 7 and 8 until train has proper clearance.



Make Roads and Streets

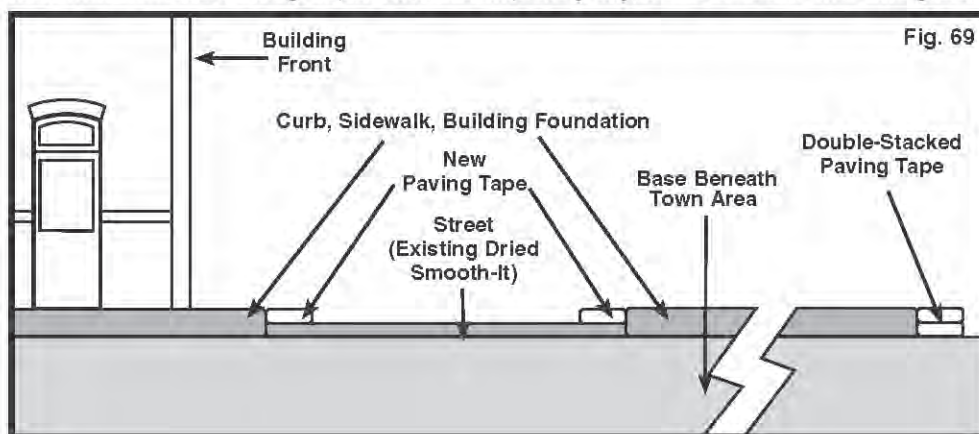
Sections marked "A" and "B" in Fig. 58 require a piece of 1/4" Foam Sheet placed between the tracks as a level foundation for the road.

1. Notch Track-Bed 3-1/2" wide for the 1/4" Foam Sheet pieces. Follow the same steps used for placing Hydrocal Inclines. Notches should be centered on the road path.
2. To size the Foam to fit tightly between the two sets of track, press a piece of Foam Sheet gently down on rails to make an impression (**Fig. 65**).
3. Using a hobby knife, cut approximately 3/16" inside the impressions and trim for a close fit.
4. Test fit and trim if necessary. Use Foam Tack Glue to glue in place (**Fig. 66**). Repeat Steps for section "B."
5. At the low end of the Inclines, begin laying Paving Tape along outside edge of previously drawn lines to create a form for the road when pouring Smooth-It (**Fig. 67**).
6. Make roads a section at a time. Mix appropriate size batches of Smooth-It according to package instructions.
7. Starting at the low end of the Inclines, fill road forms with Smooth-It and use the Spreader to level evenly with top of Paving Tape (**Fig. 68**). Work efficiently, Smooth-It has a 15 minute working time.
8. Following the street plan (**Fig. 58**), lay strips of Paving Tape along outside edge of lines defining streets (**Fig. 57**). Street edges need to line up with the roads leading into an area. Mix an appropriate size batch of Smooth-It. Pour immediately and use the Spreader to smooth level with top of Tape.
9. Let all roads dry completely (approx. 30-40 minutes), fill any holes with Smooth-It and sand smooth with fine grade sandpaper.
10. Remove Paving Tape.



Add Curbs, Sidewalks and Foundations

1. Place a new strip of Paving Tape on top of street edges where you want curbs, sidewalks and building foundations. Then, place two strips of Paving Tape parallel with outside of edge of street, not wider than 4". This will elevate the area above the street. (**Fig. 69**)
2. Mix another batch of Smooth-It. Pour and use the Spreader to smooth level with top of Tape.
3. If it is necessary to make a building foundation wider, stack two strips of Paving Tape parallel with the edges. Prepare another batch of Smooth-It and pour between existing foundation and Paving Tape. Spread smooth with the Spreader.
4. Let dry 30-40 minutes, then remove Paving Tape. When completely dry, sand smooth with fine grade sandpaper.

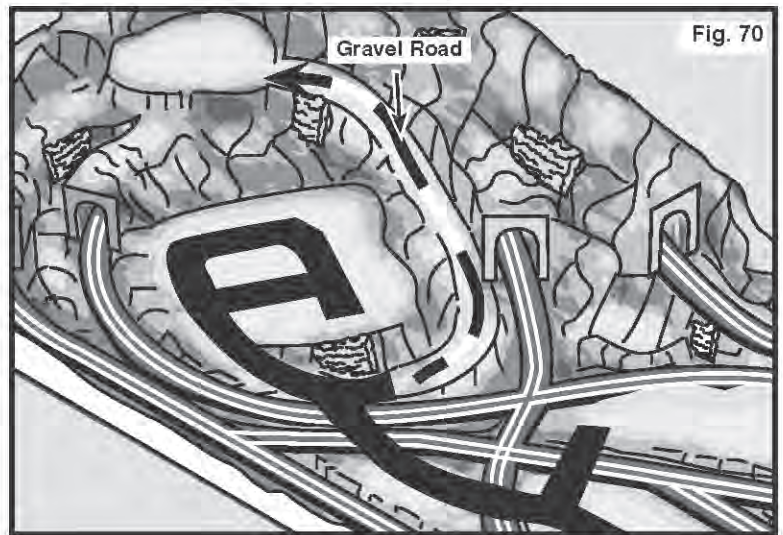


Paint Roads, Streets, Sidewalks and Foundations

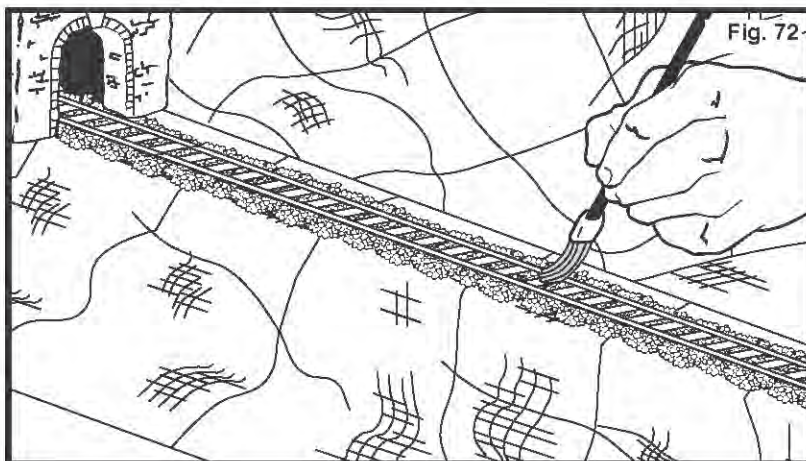
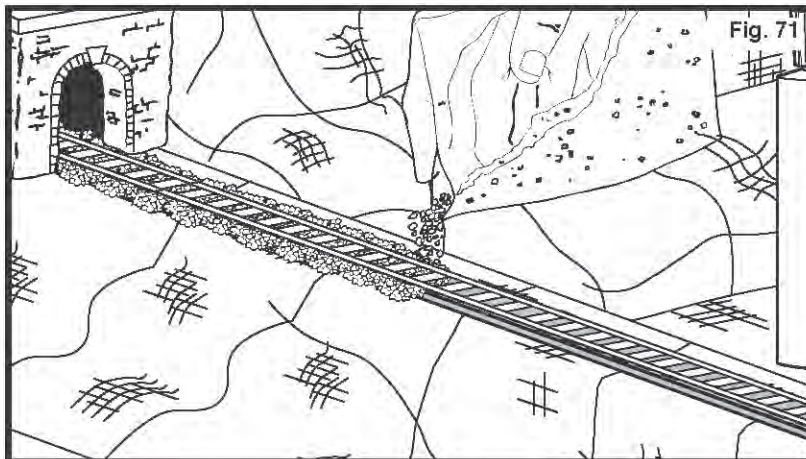
1. Paint sidewalks and foundations with Top Coat Concrete.
2. Paint roads and streets with Top Coat Asphalt.
3. Let paint dry thoroughly.

Detail Gravel Roads

1. Spray Scenic Cement along path of gravel roads (**Fig. 58 and 70**).
2. Pour Buff Fine Ballast onto wet glue. Mist Ballast with "wet water."
3. Spray another coat of Scenic Cement lightly on Ballast, then sprinkle on Soil and Earth Fine Turf.
4. When gravel roads are complete, spray a final coat of Scenic Cement to seal landscape materials in place.



Ballast Track



ITEMS NEEDED

Woodland Scenics

- Buff Medium Ballast
- Scenic Cement

Household

- Spray Bottle
- Paintbrushes
- Masking Tape

Ballast is broken stone laid along the railroad bed to give stability to ties and rails.

IMPORTANT: Before Ballasting track, cover top of turnouts and switch machines with masking tape.

1. Use a paintbrush to apply Scenic Cement to sides of Track-Bed. Be careful not to get adhesive on rails.
2. Start at Tunnel #1. Pour Buff Medium Ballast over track and ties until Track-Bed is completely covered (**Fig. 71**). Do not Ballast turnouts and switch machines.
3. Spread Ballast evenly and brush from top of ties and rails with a small, dry paintbrush (**Fig. 72**).
4. Spray Ballast with "wet water" to prevent clumping.
5. Saturate Ballast with Scenic Cement using the Scenic Sprayer set to stream or an eyedropper. Avoid spraying rails with adhesive.
6. Clean rails before use.

Landscape

ITEMS NEEDED

Woodland Scenics

- Scenic Cement
- Scenic Sprayer
- Variety of Fine Turf
- Medium Green Coarse Turf
- Various Colors of Clump-Foliage
- Buff Fine/Medium Talus
- Harvest Gold Field Grass
- Hob-e-Tac Adhesive
- Foam Tack Glue
- Plastic Cup & Sifter Lid

Household

- Scissors
- Hobby Knife

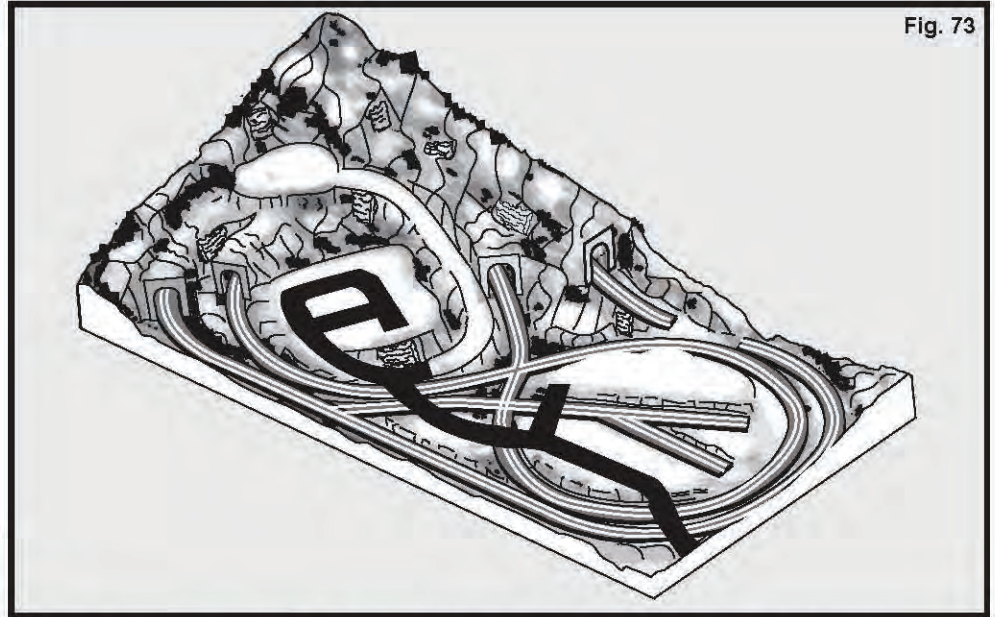


Fig. 73

Landscape adds depth, color, texture and realism to your layout. From ground cover and foliage to bushes and trees, the complete Landscape System offers versatile materials that blend and mix together, for ultimate realism. These easy-to-use, fail-safe materials are perfect for beginner to advanced modelers.

Apply landscape materials using the box photos and **Fig. 74** as a guide or place where you wish. The instructions explain how to use the different materials.

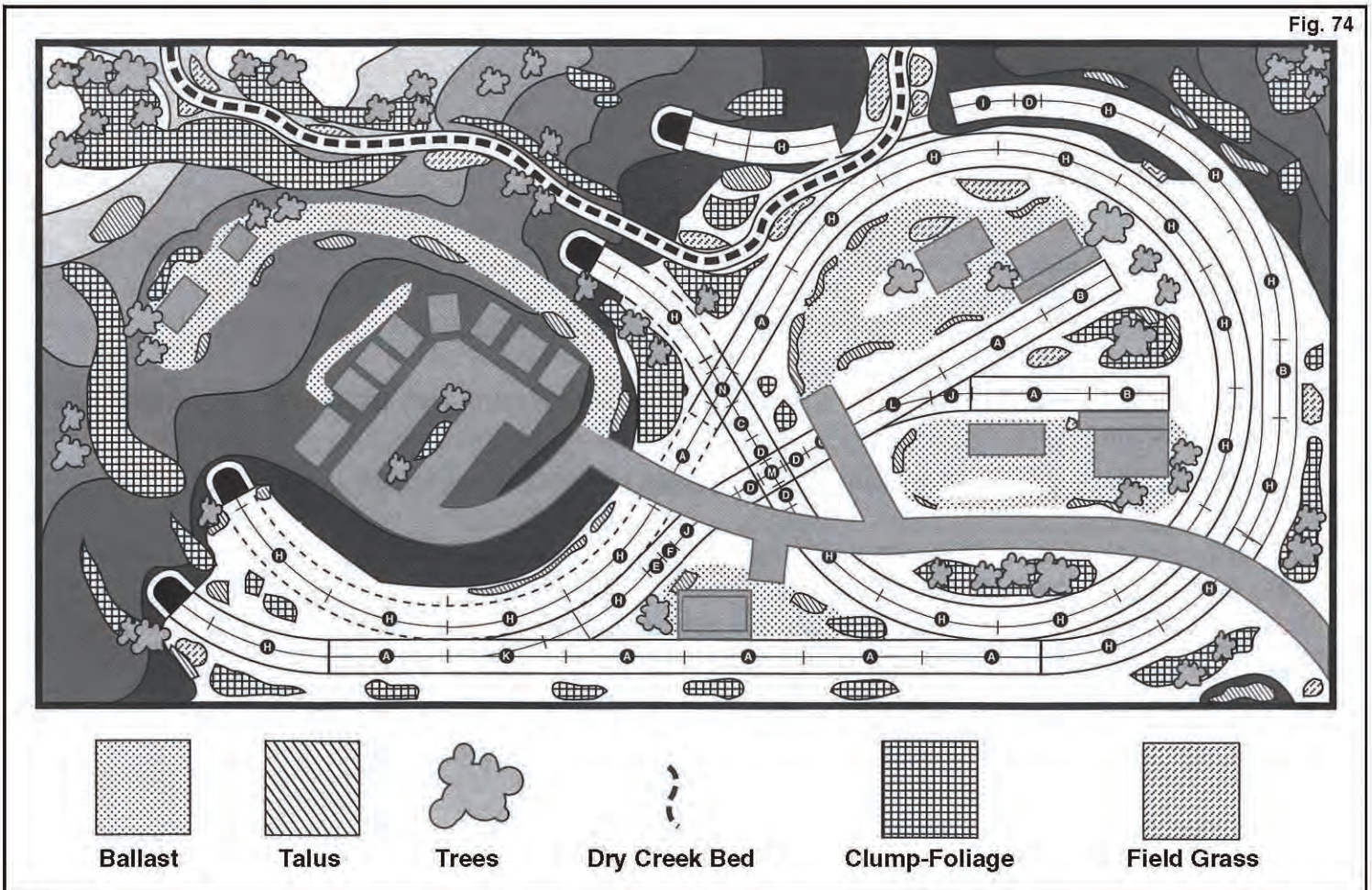


Fig. 74

Low Ground Cover

Low ground cover is dirt and soil and the smallest plants and grasses. After a base layer of Blended Turf, add Fine Turf to blend in additional colors for realism. Turf colors should be subtly blended together as they are in nature.

Blended Turf

1. Fill Plastic Cup with Green Blend Blended Turf and attach Sifter Lid.
2. Spray terrain with Scenic Cement using the Scenic Sprayer set to spray (**Fig. 75**).
3. Sprinkle Green Blend Turf onto wet adhesive, covering the terrain (**Fig. 76**). Leave a few areas of Earth Undercoat visible.
4. When happy with coverage, spray with Scenic Cement to seal in place.

Fine Turf

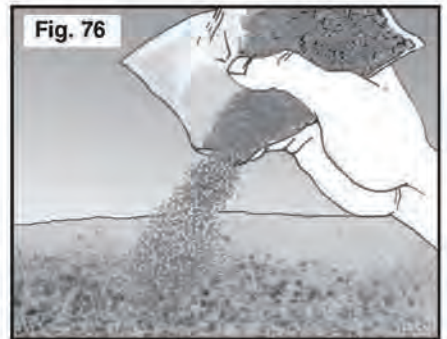
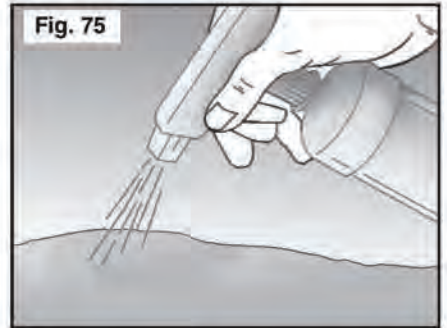
1. Use the Plastic Cup & Sifter Lid to apply Fine Turf or sprinkle on with fingers.
2. Sprinkle on various colors of Fine Turf, spraying Scenic Cement between each layer. Blend colors to model nature's color variances.
3. When satisfied with coverage, spray on a final coat of Scenic Cement to seal.

Fine Turf Colors

Burnt Grass – Add highlights to Blended Turf and model drier areas.

Soil and Earth – Use for modeling weeds, paths, dirt roads, streambeds, eroded areas, drainage ditches, etc.

Yellow Grass – Model areas that do not get a lot of water or sprinkle lightly on top of Turf to add sundrenched look.



Medium Ground Cover

Medium ground cover is low grasses, leaves and weeds. It is the natural rise and fall of plants that are different sizes, shapes and colors and growing in random patterns. This section also includes Talus or rock debris. Landscape materials start to overlap.

Coarse Turf

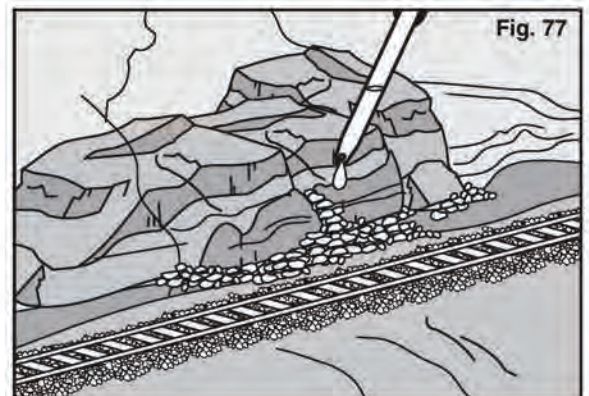
Medium Green Coarse Turf models texture variation and weeds, coarse grass and small plants.

1. Spray landscape with Scenic Cement, avoiding rock faces.
2. Sprinkle Coarse Turf lightly onto wet adhesive.
3. When satisfied with coverage, spray with a coat of Scenic Cement to seal.

Talus

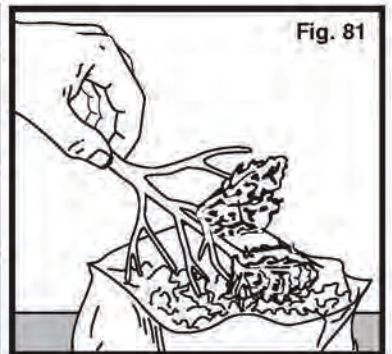
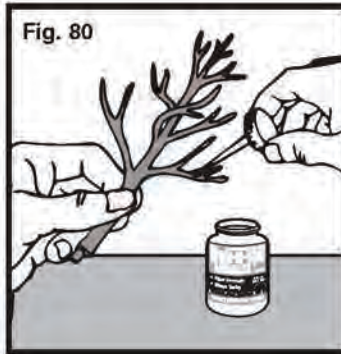
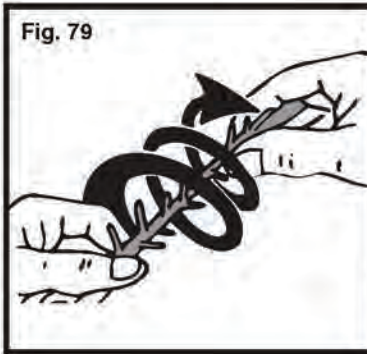
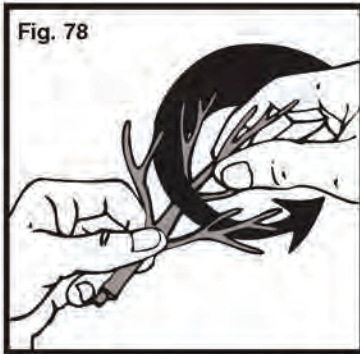
Talus is rock debris that collects beneath cliffs, around base of mountains, in erosion ruts and at base of rock outcroppings.

1. Shake bag to mix rock sizes. Sprinkle Talus at base of rock outcroppings and cliffs, around tunnel portals, and in creek beds and drainage ditches.
2. Use the Scenic Sprayer or an eyedropper to saturate Talus with Scenic Cement (**Fig. 77**). Let dry and apply an additional coat to seal in place.



High Ground Cover

High ground cover is bushes, shrubs, tall grasses and trees.

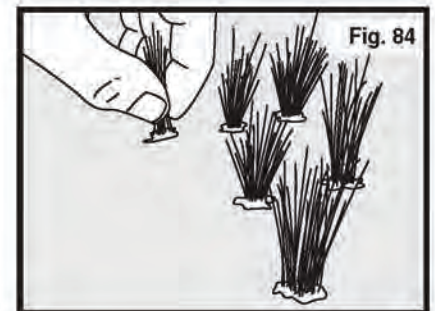
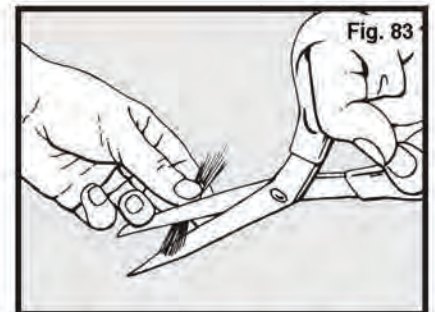
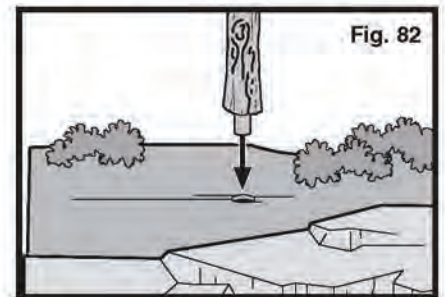


Model and Plant Trees

Deciduous and Pine Armatures are included.

1. Remove optional bases from Tree Armatures.
2. Deciduous Armatures: Bend and twist into realistic, three-dimensional shapes (Fig. 78). Pine Armatures: Twist in a spiral fashion until branches point in different directions (Fig. 79).
3. Brush Hob-e-Tac on both sides of all branches (Fig. 80). Avoid trunk area where foliage does not grow naturally. Let adhesive dry until clear and tacky.
4. Break Clump-Foliage into approx. 1/2" pieces. Use Light, Medium or Dark Green Clump-Foliage for Deciduous Armatures and Conifer Green for Pine Armatures.
5. Dip Armatures into Clump-Foliage bag (Fig. 81), then pinch foliage firmly on branches. Spray foliage with Scenic Cement to secure in place.
6. To plant trees, use a hobby knife to poke a small hole in layout where tree is desired. Place a drop of Foam Tack Glue over hole and insert base pin in hole (Fig. 82).

TIP! Sprinkle various colors of Fine Turf on Clump-Foliage to add highlights and texture.



Field Grass

Use Field Grass to model weeds and tall grasses.

1. Pour a small amount of Foam Tack Glue onto a piece of scrap paper.
2. Roll a small clump of Field Grass between fingers to produce an uneven look. Cut to desired length (Fig. 83). Shorter clumps look more realistic.
3. Dip cut end in adhesive, place on layout and hold until setting begins (Fig. 84). Trim if necessary.

Clump-Foliage

Model bushes and shrubs with Clump-Foliage. Bushes tend to grow in groups of one color, so place individual colors in separate locations and arrangements.

1. Break Clump-Foliage in desired size pieces.
2. Apply Foam Tack Glue where bushes and shrubs are desired (Fig. 85).
3. Press foliage into glue (Fig. 86). Spray top of bushes and shrubs lightly with Scenic Cement and sprinkle with Fine or Coarse Turf to add highlights.



Paint Sides of Layout

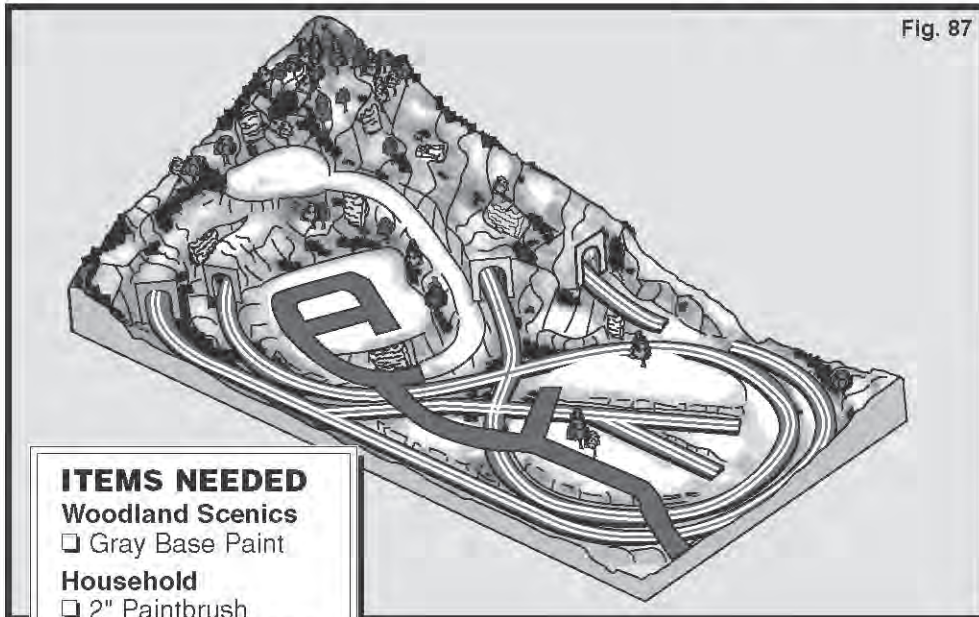


Fig. 87

ITEMS NEEDED

Woodland Scenics

- Gray Base Paint

Household

- 2" Paintbrush
- 220-grit Sandpaper

Paint the sides of the layout to give it a finished look.

1. Use 220-grit sandpaper to remove rough areas from sides of layout.
2. Use a 2" paintbrush and Gray Base Paint to paint sides of layout. Begin at the front and paint all sides (**Fig. 88**).
3. Be careful to avoid edges where landscape begins.

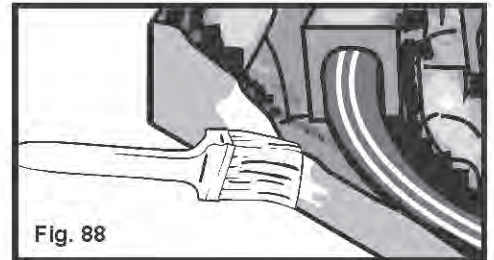


Fig. 88

Finishing Touches

The final step is detailing. Most techniques use the same materials with only slight variations in modeling principles as other steps. Let each step dry completely before moving on to the next.

Drybrush Turf

Add color variety to Turf, cover up bare spots or change the look of landscape. **IDEAS:** To model dirt collected along embankments, apply Soil or Earth Fine Turf on top of Talus or along edges of Ballast. To model weeds and grasses, apply Burnt Grass Fine Turf around bottom of trees.

1. Dip a dry paintbrush in selected color Fine Turf and brush onto layout where desired.
2. When satisfied with look, spray lightly with Scenic Cement to seal in place.

Flyspecking

Flyspecking is a technique that models dirt and soil collected around rocks.

1. Spray rock casting with water.
2. Bend a sheet of paper into an "L" shape. Place a small amount of Soil Fine Turf on the horizontal section of the paper.
3. Hold the paper near the rock castings and gently puff onto the vertical sections of the paper. This will blow specks of Soil onto the rock castings. If you apply too much Soil, brush it off with a dry paintbrush.
4. When satisfied, secure with Scenic Cement.

Adding Additional Landscape Material

To add more variety in texture, color and realism or cover gaps in terrain, apply additional landscape material where desired. **IDEAS:** Burnt Grass and Yellow Grass Fine Turf provide color variations for bushes, ground cover and trees. Coarse Turf adds texture.

1. Spray Scenic Cement where additional Turf is desired on landscape.
2. Sprinkle Fine or Coarse Turf onto wet adhesive.
3. Spray again lightly to seal Turf in place.

Buildings and Details

Now that the layout is finished and finishing touches and details have been added, it is time to place buildings. If you purchased the companion **City & Industry Building Set (S1486)** or have existing HO scale buildings, install completed buildings on layout in their prearranged locations. Add pieces of Clump-Foliage around base of buildings to help them blend into the landscape. Attach with Foam Tack Glue.

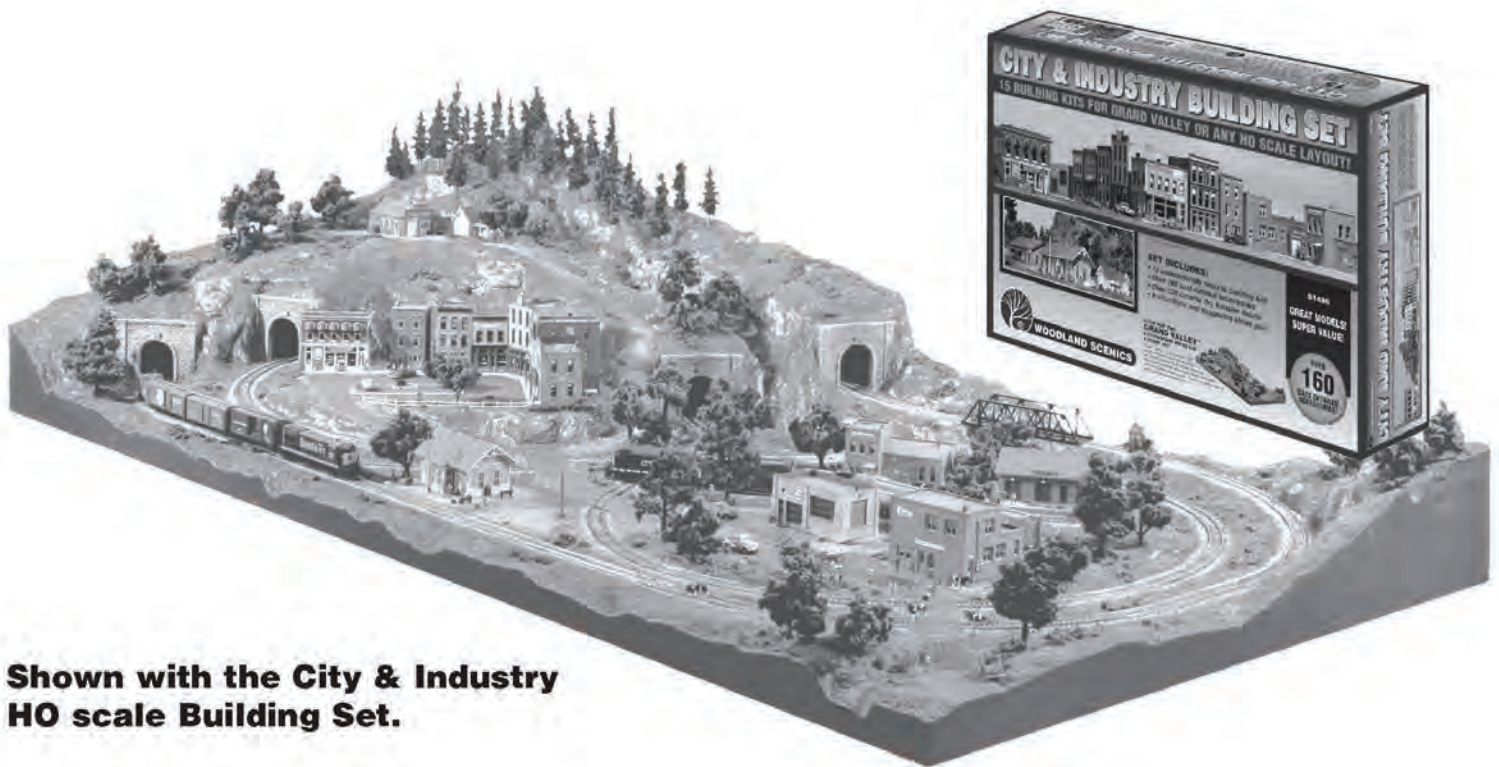
ITEMS NEEDED

Woodland Scenics

- Various Fine Turf
- Scenic Cement
- Scenic Sprayer

Household

- Paintbrush
- Spray Bottle
- Sheet of Paper



Shown with the City & Industry HO scale Building Set.

Other Possibilities

Although Grand Valley is a complete 4x8-foot layout, with advance planning and modifications to the track plan, you can integrate it an existing layout, expand it at a later time, or build it as a planned module for a larger modular system.

A Final Word

Woodland Scenics offers additional lightweight layout systems and companion kits designed to work together or separately with other N and HO scale layouts.

N scale Scenic Ridge® Layout Kit (ST1482) – Includes the SubTerrain, Terrain and Landscape components modelers need to build a complete 3x6-foot layout. Just add the track, train and buildings. N-scalers can use **Town and Factory Building Set (S1485)** to economically add buildings to their Scenic Ridge or other layout. The set contains 13 individual buildings and 70 detailed accessories.

Build the complete HO scale River Pass™ layout using three easy-to-assemble kits.

River Pass Layout Kit (ST1484) – Includes the revolutionary SubTerrain System foam components- Risers, Inclines, Profile Boards, Foam Sheets, Plaster Cloth and Track-Bed-everything you need to create a 4x8-foot terrain base.

River Pass Scenery Kit (S1488) - All the materials you need to cover the River Pass Layout Kit or any 4x8-foot layout – Z through O scales. Kit includes more than 40 products, such as materials to cast rocks, pigments and textures to cover your terrain, the Road System, low to medium and high ground covers, Tree Armatures and foliage products for making trees, water modeling materials and loads of other great scenery products.

River Pass Building Kits (S1487) - Fifteen HO scale building kits, created with architectural authenticity and fine detail. Includes more than 210 detailed accessories, 110 Dry Transfer Decals and signs and posters.

City & Industry Building Set (S1486) is another option for HO-scalers wanting to economically add buildings to their layout. The set includes 15 individual buildings and 160 detailed accessories.

Modelers can use any track in the proper scale on the Grand Valley, Scenic Ridge or River Pass layouts, but the Atlas® Model Railroad Company Inc., has put together convenient track kits that include realistic prototypical brown ties and nickel silver rail snap-track – **Scenic Ridge Track Pack (ST1182)**, **Grand Valley Track Pack (ST1183)** and **River Pass Track Pack (ST1184)**. For more information about the complete line of Woodland Scenics products, stop by your favorite hobby shop or visit us online at woodlandscenics.com.

Products

Below is the list of Woodland Scenics' products used to construct the Grand Valley Layout. If you would like to build a new layout or add landscape to your Grand Valley Layout, refer to the item name and number, then purchase at your favorite hobby store. Woodland Scenics complete systems make it easy.

Item Number	Description
SUBTERRAIN ITEMS	
ST1407.....	1" Riser 4/pkg
ST1408.....	2" Riser 4/pkg
ST1411.....	4% Incline Set
ST1422.....	1/4" Foam Sheets
ST1419.....	2 Profile Boards and 2 Connectors
ST1423.....	1/2" Foam Sheets
ST1431.....	Foam Pencil
ST1432.....	2" Foam Nails
ST1444.....	12 fl oz Foam Tack Glue
ST1452.....	1 qt vol Smooth-It
ST1453.....	Top Coat Asphalt
ST1454.....	Top Coat Concrete
ST1455.....	1/4" x 30' Paving Tape
ST1474.....	24' HO Scale Track-Bed Roll

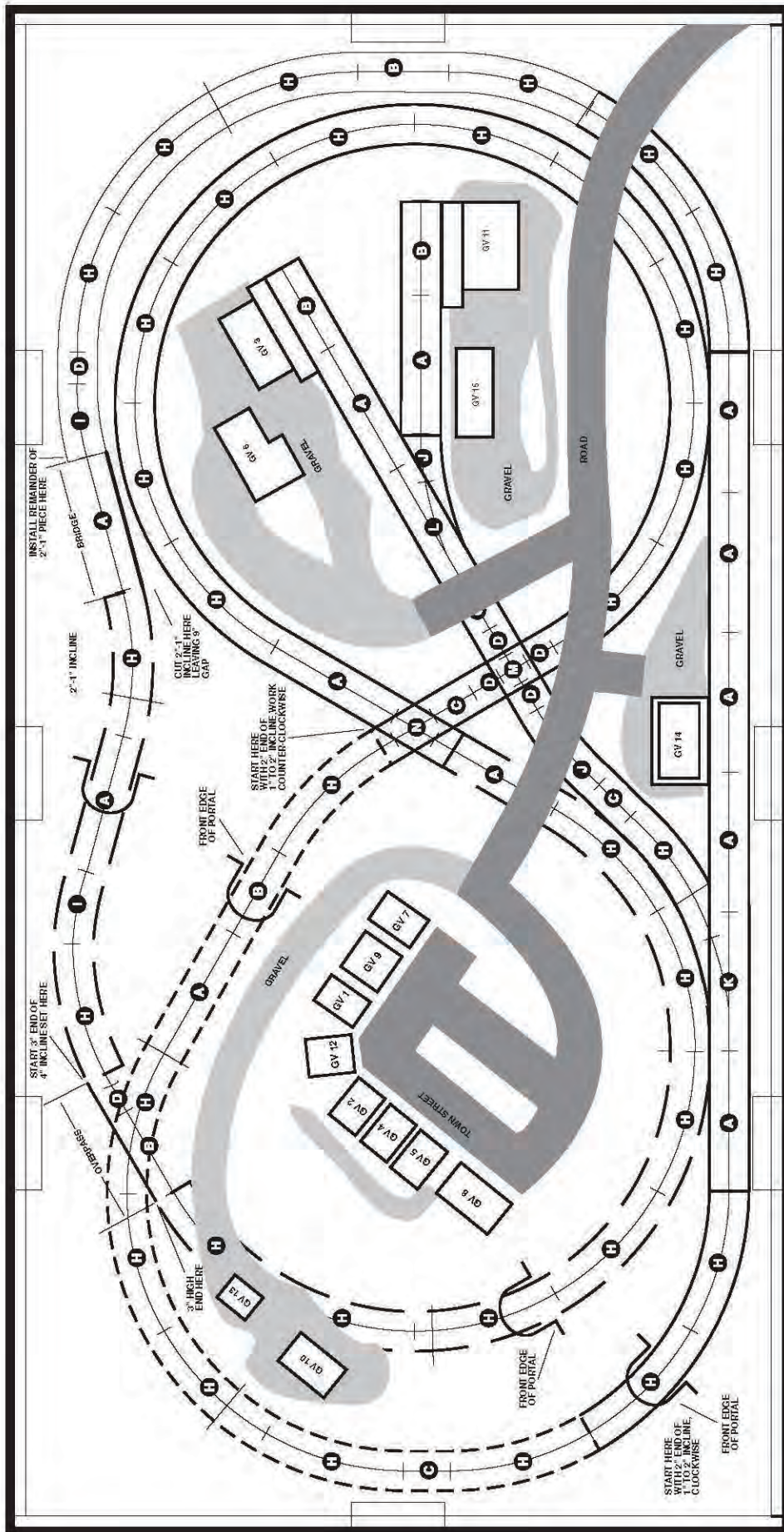
LANDSCAPE SYSTEM ITEMS

B73.....	Buff Fine Ballast
B80.....	Buff Medium Ballast
FC182.....	Light Green Clump-Foliage
FC183.....	Medium Green Clump-Foliage
FC184.....	Dark Green Clump-Foliage
FC185.....	Conifer Clump-Foliage
FG172.....	Harvest Gold Field Grass
T41.....	Soil Fine Turf

Item Number	Description
T42.....	Earth Fine Turf
T43.....	Yellow Grass Fine Turf
T44.....	Burnt Grass Fine Turf
T49.....	Green Blend Blended Turf
T64.....	Medium Green Coarse Turf
TR1120.....	3/4"-2" Deciduous Armatures 114/pkg
TR1121.....	2"-3" Deciduous Armatures 57/pkg
TR1122.....	3"-5" Deciduous Armatures 28/pkg
TR1123.....	5"-7" Deciduous Armatures 12/pkg
TR1124.....	2 1/2"-4" Pine Armatures 70/pkg
TR1125.....	4"-6" Pine Armatures 44/pkg
S195.....	.2 fl oz Hob-e-Tac Adhesive

TERRAIN SYSTEM ITEMS

C1201.....	1/2 gal vol Lightweight Hydrocal
C1203.....	8" x 5 yd, 10 sq ft Plaster Cloth
C1220.....	4 fl oz Black Earth Colors Liquid Pigment
C1222.....	4 fl oz Burnt Umber Earth Colors Liquid Pigment
C1223.....	4 fl oz Yellow Ocher Earth Colors Liquid Pigment
C1229.....	8 fl oz Earth Undercoat Earth Colors Liquid Pigment
C1234.....	Random Rock Mold
C1244.....	Facet Rock Mold
C1253.....	Cut Stone Single Portal
C1270.....	Buff Fine Talus
C1271.....	Buff Medium Talus



FIRST TIER ALL 2" RISERS EXCEPT PIECES INDICATED BY SECOND TIER INCLINES INDICATED BY

A = 9" STRAIGHT	11	H = 18" RADIUS	34	L = RIGHT TURNOUT SWITCH 543.....	1
B = 6" STRAIGHT	5	I = 1/2 18" RADIUS	2	M = 90° CROSSING	1
C = 3" STRAIGHT	4	J = 1/3 18" RADIUS	3	N = 60° CROSSING	1
D = 2" STRAIGHT	6	K = LEFT TURNOUT SWITCH 542.....	1	O = 9" WARREN TRUSS BRIDGE.....	1

*This track plan has been revised.
Atlas HO Code 83 Snap-Track pieces E, F, and G have been discontinued.*