PN143
N Scale Single Track
TUNNEL ENTRANCE

INSTRUCTION SHEET 1

READ THROUGH ALL THE INSTRUCTIONS BEFORE YOU START.

To construct this kit you will need the following:

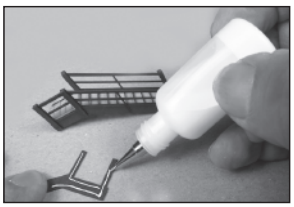
1. A Modellers knife.
2. A pair of sharp pointed scissors.
3. A steel ruler.
4. Glue - UHU Clear Adhesive is our favourite.
5. Ultra Fine Tip Glue Applicator, see right.
6. A cutting surface - a sheet of card or a cutting mat.
7. Fine point tweezers to hold the smaller components.
8. Water colour paints and a very fine brush, for painting the edges and corners.

CHECK LIST

This kit pack should contain the following:

1 x SHEET A - Printed Tunnel Parts
1 x SHEET B - Internal Tunnel Stonework
2 x PLAIN GREY CARD - Interior strengthening parts.
1 x INSTRUCTION SHEETS.

The METCALFE Ultra Fine Tip Glue Bottles are essential for gluing the smaller components in this kit.



Tiny strips or spots of glue can be accurately laid down with precision.

Always replace the pin after use and store the bottles upside down to keep the glue moist.

UHU All Purpose Adhesive Glue
Is available in standard and solvent free. Both types are fine for use in our glue bottles, even though the instructions on the back of the packs warn against solvent based glues, we have tested the UHU solvent based glue and it works fine. The solvent free glue doesn't string as much, but can be a little harder to clean off if it drips onto unwanted areas.

Speed Bond by Deluxe Materials
This is an excellent PVA. based glue that dries quickly, but also allows time to get parts into position. It has the added advantage that it dries clear leaving little evidence if it oozes out of joints etc. Used in our fine glue applicator bottles a 112g bottle lasts for ages.
www.deluxematerials.com

GETTING STARTED

1 EXTRACTING COMPONENTS FROM SHEETS.

To stop the components from falling off the sheets, they are held secure with scorelines. These are cuts that only go about 75% of the way through the card.
To release them simply run the point of your knife along the scorelines and they will come seamlessly away.
These scorelines are indicated with blue arrows: →
WARNING, Cut with care using a knife that is not too sharp, this will reduce the risk of the blade running out of the score and cutting the kit components.

2 MAKE YOUR 'BUILDERS YARD'.

This is an area kept away from your working surface, where you store ALL components extracted from the base sheets until needed.
Use a piece of thick card or a tray to make your builders yard.

Cut out all the components from sheets A, B & the grey strengthener sheet and place inside your builders yard.

NOTE: The above photo shows all the components for only one of the two tunnel entrances.

Your **WORKING** area should have a clean flat surface, and should only contain the kit parts you are actually working on.

EVERYTHING ELSE SHOULD BE KEPT NEATLY ARRANGED IN THE BUILDERS YARD, UNTIL NEEDED.

PLEASE NOTE: Don't throw anything away. Keep all the waste card in a box until the kit is finished, just in case you can't find anything. The chances are that it will be there.

Fig. 1. STRENGTHENER GUIDE

There are 2 strenghner cards in this kit. One for each tunnel entrance.

A - End support inners
B - Top wall ends
C - Buttress supports
D - Wing wall supports
E - Side wall supports
F - Top wall back support
G - Top wall former
H - Main tunnel support

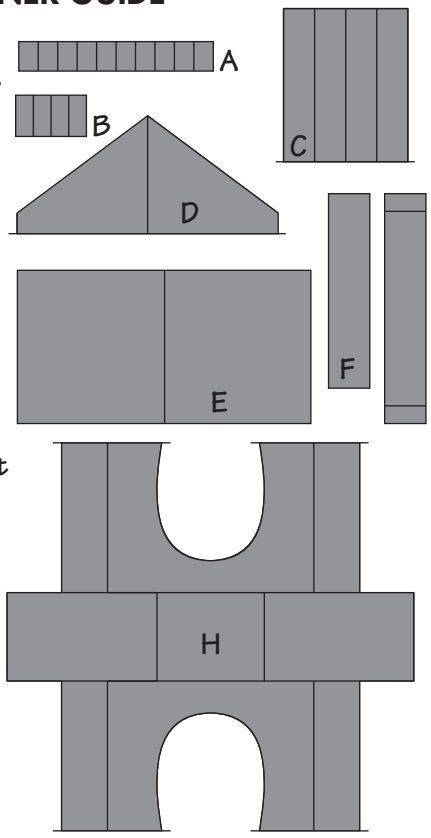
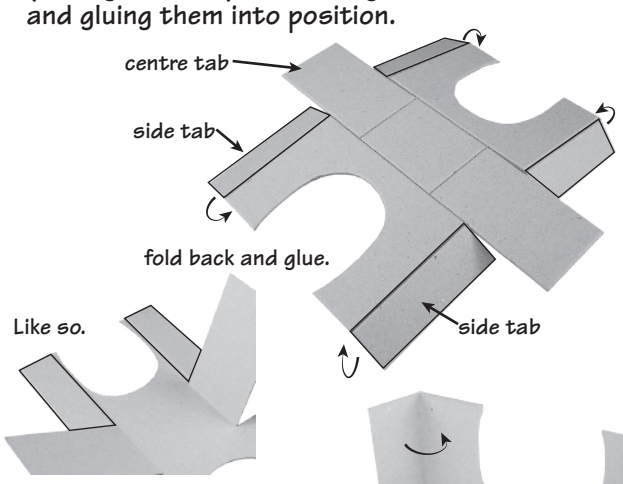
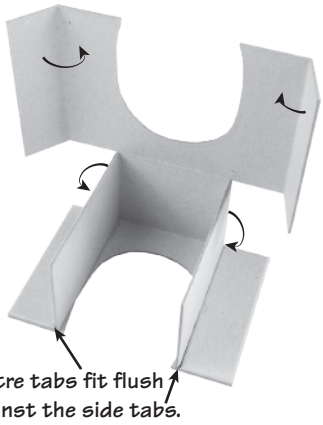


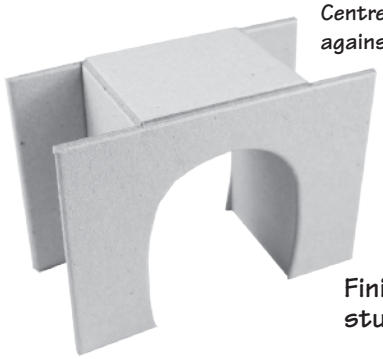
Fig. 2. MAIN TUNNEL SUPPORT

Start off by taking the main tunnel support (strengthener H) and folding back the 4 side tabs and gluing them into position.



Now fold back the 2 large centre tabs and glue into position sitting flush against the side tabs either side of the tunnel archway. Once the glue is dry, repeat with the opposite side.





Finishing with a nice sturdy structure.

Fig. 3. INTERNAL STONEWORK

Carefully fold back 90 degrees the voussoirs on the tunnel internal stonework from sheet B.
Now test the fit before gluing into place.
Slide the stonework into the archway on the tunnel support, keeping the voussoirs flush to the front of the support, and the springers level with the support base.

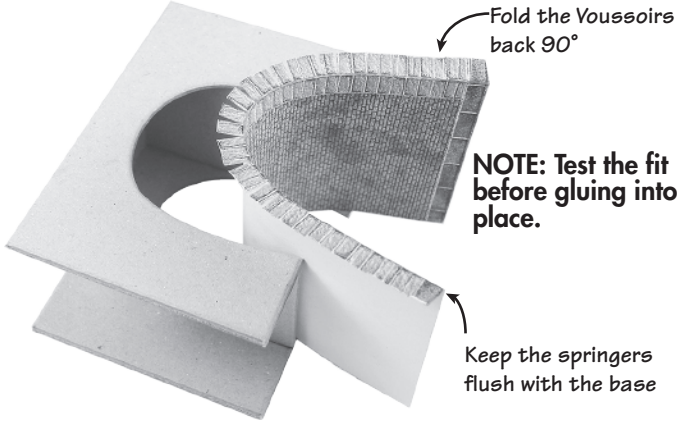
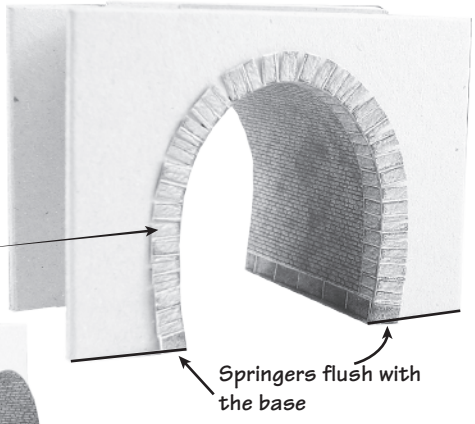
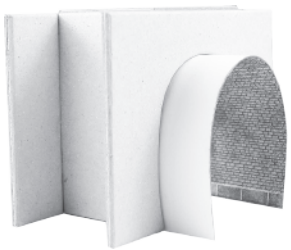


Fig. 3. INTERNAL STONEWORK cont..

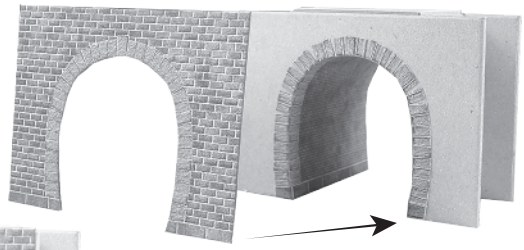
Once you are confident with the fit, apply small spots of glue to fix the stonework into place.

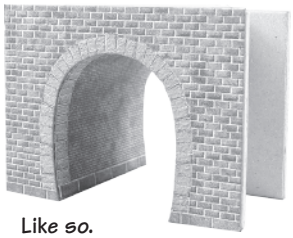




The stonework continues past the support strngthener.

Next carefully align and fix into place the tunnel face against the support.

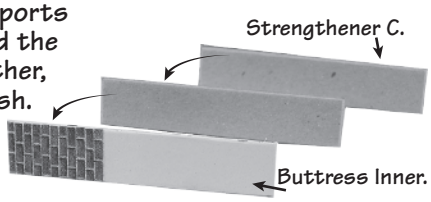




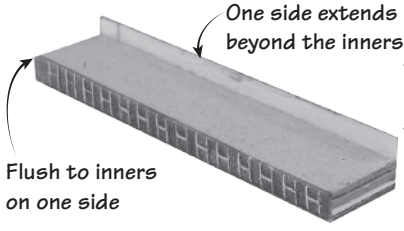
Like so.

Fig. 4. BUTTRESSES

Glue 2 buttress supports (strengthener C) and the buttress inner together, keeping all edges flush.



Now wrap the left/right buttress around the combined inners, keeping the top and bottom edges flush and the inner stone artwork facing through the hole in the main buttress artwork.



The buttress will now have one edge flush to the inners and one longer, the left buttress the left edge and right buttress the right edge.

Fig. 4. BUTTRESSES cont.

Next, glue the buttresses to the tunnel face, the longer edge butts up flush with the edge of the tunnel face.

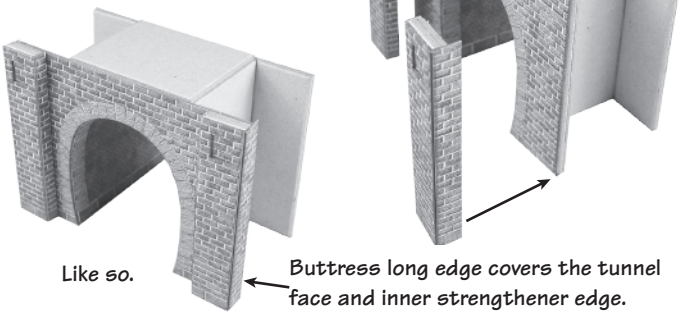
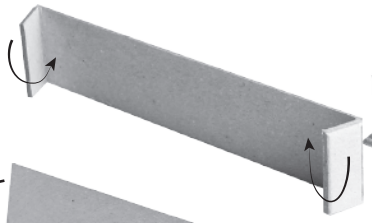
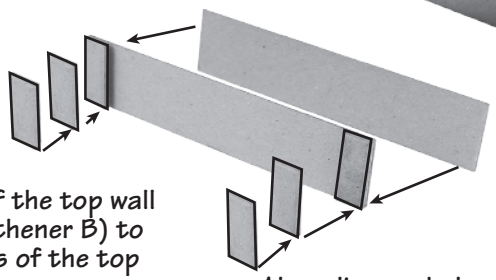


Fig. 5. TOP WALL

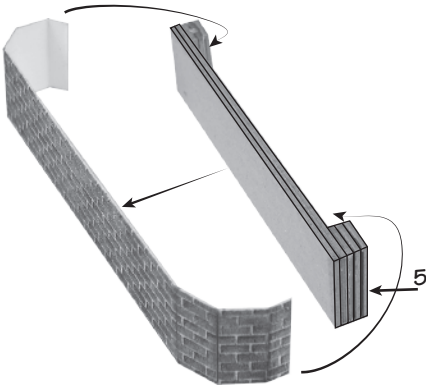
Take the top wall former (strengthener G) and fold back the end tabs and glue flush.



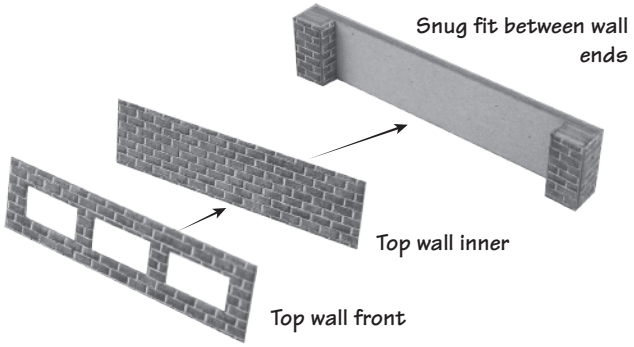


Next glue 2 of the top wall ends (strengthener B) to both end tabs of the top wall former.

Also align and glue the top wall back support (strengthener F) flush to the back of the wall former.



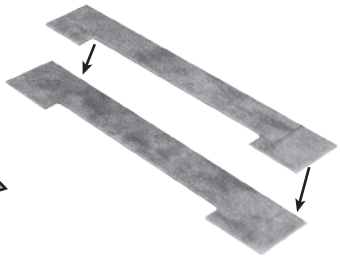
Align the top wall back flush to the strengtheners and wrap the ends around the top wall ends.

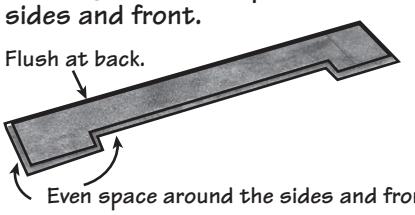


Now align and glue together the top wall front and front inner so that the stonework shows through the holes, then fix them both to the gap between the end stones on the top wall.

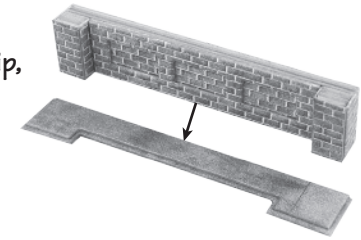
Fig. 6. STONE STRIPS & CAPPING

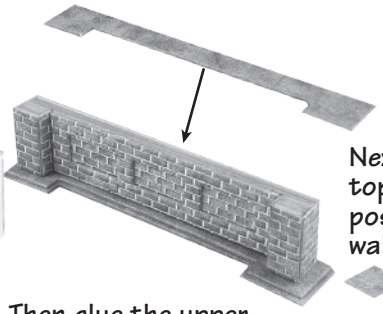
Fix the upper tunnel top stone strip to the lower strip, keeping the back edges flush together, creating an even step on the sides and front.





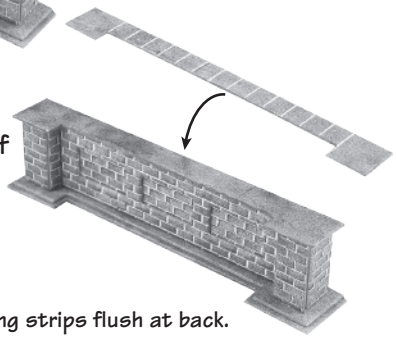
Now position the top wall centrally onto the stone strip, keeping an even space all around the wall.

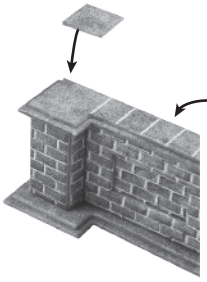




Next, glue into place the lower top wall capping strip, positioned central onto the wall.

Then glue the upper capping strip, as with the tunnel top strips, keep the back edges of the capping strips flush.



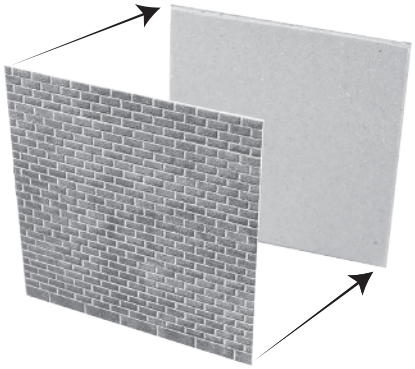


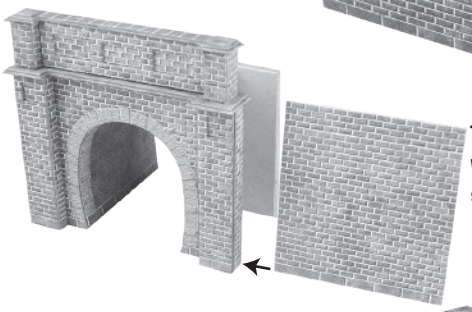
Add the top wall top stones. keeping an even space from capping edges.

Finally attach the whole completed top wall to the tunnel structure, keeping an even spaced overhang over the butresses and tunnel archway.

Fig. 7. RETAINING SIDE WALLS

If you'd like retaining side walls, first glue flush together the side wall to the side wall supports (strengthener E) keeping all edges flush.





Then fix the side wall against the side buttress.

Use a strip of waste card to help keep the wall in place.

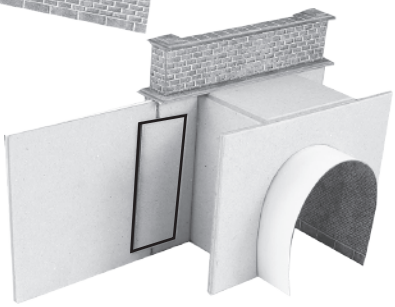
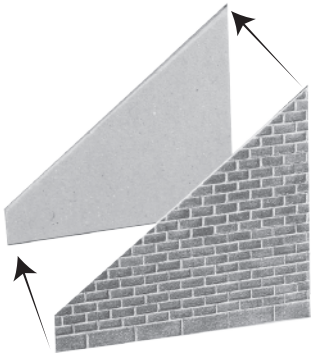


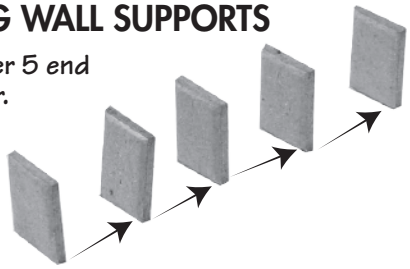
Fig. 8. RETAINING WING WALLS



As with the side walls glue flush together the wing wall to the wing wall support (strengthener D).

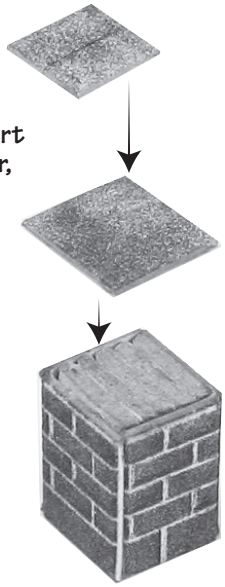
Fig. 9. END WING WALL SUPPORTS

First, glue flush together 5 end support inners together.



Now wrap the end support artwork around the block of 5 inner supports. Check the fit before gluing to make sure the fit is correct.

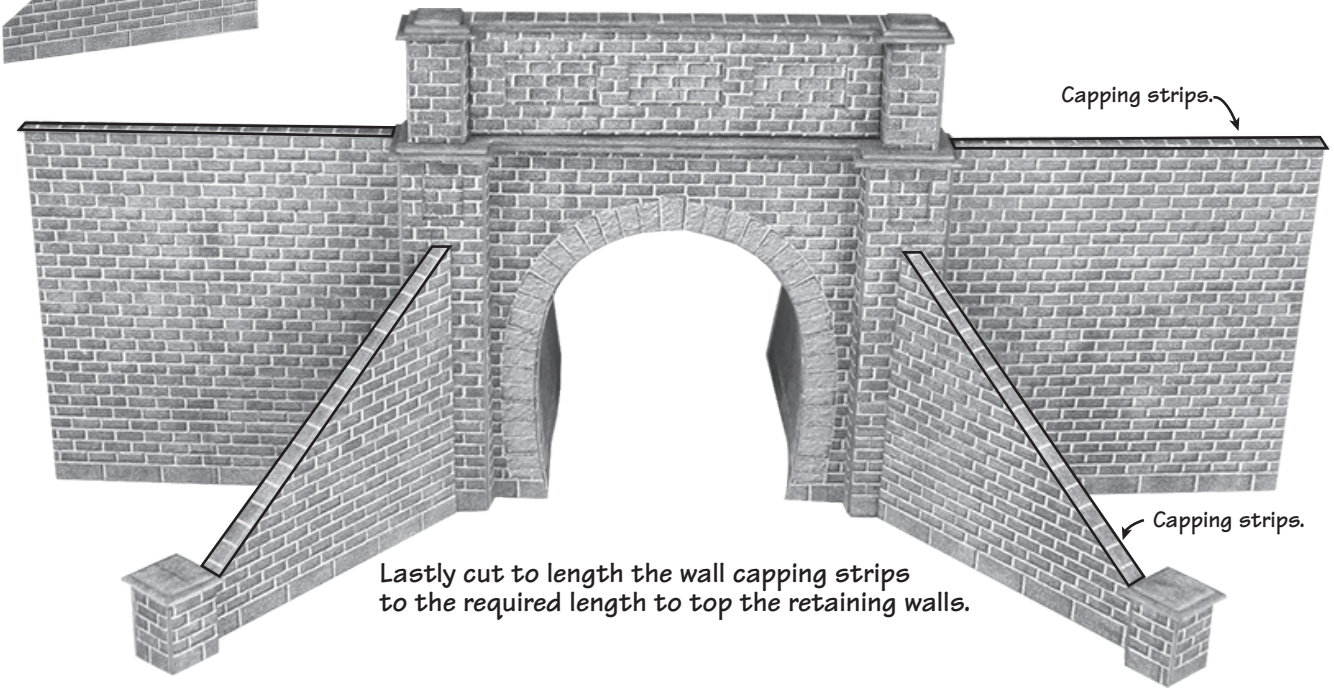
Finally fix the larger end support top stone to the support pillar, then the smaller top stone.



Like so.

Fig. 10. FINISHING TOUCHES

Glue the wing walls to the buttresses at the required angle and then the support pillars to the wing wall.



Lastly cut to length the wall capping strips to the required length to top the retaining walls.