

GWR Coaling Stage

Jointly produced by

COUNTY ROLLING STOCK MILL LANE SIDINGS

The Prototype

Large enclosed coaling stage buildings were built by all of the 'big four' railways, often with a water tower on top, however, the architectural style used by the Great Western Railway and built at numerous large motive power depots throughout its domain, was truly distinctive and unique. More than just a big elevated shed, the brick built buildings conveyed the kind of solidity that the Great Western believed was at its core. The large water tank atop the coaling stage had its distinguishing curved roof of corrugated iron while the side panels were painted in the characteristic light and dark 'stone' shades that were found on station buildings and signal boxes – a complete corporate image before image consultants were even dreamt of. The intricate wooden steps at the side seem delicate compared to the brute size of the main building, and who would fancy climbing the iron ladder to the top to check the water in the tank? The glazed square pane windows and substantial panel brickwork give the impression more of a factory than a humble coal transshipment facility – only the age of the Great Western and cheap labour could have done this.

Of course, steam locomotives are voracious consumers of coal, and so motive power depots needed substantial facilities for keeping tenders and bunkers supplied. Despite being the steam age, cheap and plentiful unskilled labour meant that the simplest way of achieving this was manual labour – at least the coaling stage put the coal above the locomotive so that gravity would do some of the work. The coaling stage was situated at the end of a long siding that was on an incline to get coal wagons above the height of locomotives. Once inside the coaling stage, man and shovel would empty the wagons into loading carts that were wheeled out the front and tipped into the locomotive.

The classic Great Western coaling stage is a monument to another time long since passed, but thankfully, the Great Western Society at Didcot have preserved the infrastructure as well as the rolling stock of this bygone age. This model is based on the surviving example at Didcot (a design that was used with subtle variations throughout the GWR) and the whole Didcot site is well worth a visit if you get the chance. Details of the Didcot Coaling Stage and other typical examples can be found in *Great Western Architecture* by Adrian Vaughn.

Getting Started

Please *read the instructions* thoroughly all the way through and be sure you are confident that you have identified all the parts – there are a lot of them!. It is recommended that you adhere to the suggested order of assembly, though with experience, you may choose to deviate. In many cases, a following step can be carried out while the glue dries on parts in the previous step. *Some details are omitted from some diagrams for clarity.* Refer to the Parts List and the part numbers on the laser cut Plates supplied.

Tools Required

Only a few basic tools are required – a sharp craft knife; wet 'n' dry sandpaper; emery boards; metal file; cyano (superglue); PVA Glue; fine paint brush (OO); machinist's square; metal ruler; tweezers; clamps (Bulldog clips are ideal; avoid very strong clamps as they can mark or damage the thin plywood parts); paint.

Parts List

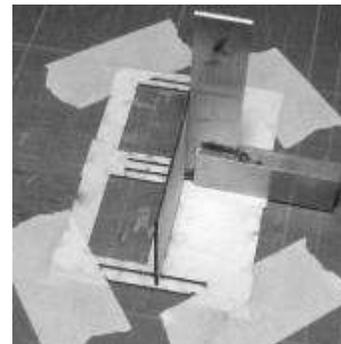
Please check that all parts are present and correct before starting construction by using the *Plate Diagrams* to identify the 7 Plates as follows: GWN01P32N; GWN02P32N; GWN03P32N; GWN04P64A; GWN05P32N; GWN06P32A; GWN07S31A. Hereafter in the instructions, each Plate is referred to by the numbers (between N and P) 1 to 7. Plates 4, 6 and 7 have a self adhesive backing.

There are also : a sheet of corrugated metal for the roof; a sheet of clear plastic for glazing; white metal castings for the steps, loading carts and track (for the loading carts); brass etch for the ladder; plastic tube for the tank roof vents; two printed warning plates. Be very careful when removing the brass etch from the packing as it is very fragile!

Please note that spare parts are not available, though some of the Plates do contain spares of some of the smaller or more fragile parts.

General Notes On Construction

- This kit is mostly made from thin plywood. As wood is a natural material, it may warp very slightly. Be sure to check that parts join at right angles and that any slight warping is compensated for when joining parts. If parts do have a slight warp, use *low tack* masking tape to temporarily fix them to your work surface while a second part is glued to it. This will keep the first part flat, and the addition of the second part will ensure that the first one stays flat. When laminating parts (such as the main walls of the building), if they start to warp as the glue sets, place the parts under a weight and leave overnight as this will usually flatten them again. Do not worry if the resulting building is slightly out of true here and there – real buildings are not built to mechanical engineering tolerances and are thus rarely perfectly square!
- Each *Main Part* is identified by a letter / number combination (e.g. B1). The letter refers to a particular section; the number refers to a specific part within that section.
- Each *Detail Part* is identified by a letter / number / letter combination (e.g. B1A). The first letter refers to a particular section; the number refers to a Main Part within that section; the final letter refers to a specific Detail Part within that section. Detail Parts are fitted over Main Parts (e.g. B1A fits over B1 to form one end of the water tank).
- Refer to the Plate Diagrams to find parts. The location of each part on the model is shown on the Labelled Elevation Diagram at the end of the instructions. Do not remove parts from the Plates until you are ready to use them. You may find it useful to write the part code on the rear of the part using a soft pencil. The parts on Plate 7 have the same part identifiers as parts on Plates 1, 3, and 5 because these are brick sheet overlays for those parts, so they are logically the same. A small number of parts on Plate 7 with one part identifier are actually two parts (A2, A2A, A2B) but they logically overlay a previously fitted part in the same part labelling sequence.
- If the instructions refer to the 'rear' of a part, the rear is as per the back of the Plate (the front of the Plate is always the side with additional etched detail and the letters of the full Plate code, as printed at the end of these instructions). Many of the parts, like the building itself, are symmetrical in one or more planes, so this is not always critical.
- Use a sharp knife to cut the tabs that join the parts to the Plate and then use some fine wet 'n' dry sandpaper if necessary to sand off any remaining pips. When removing delicate parts, such as windows, place a steel ruler over the part to prevent any distortion of the part while cutting the tabs.
- Always test the fit of parts before gluing. Paint may slightly swell openings, slots and tabs; these will need to be trimmed or sanded before gluing. Inexpensive emery boards can be cut into thin strips to sand inside small openings such as for windows and doors.
- Plates 6 and 7 have a self-adhesive backing – use the tip of a knife to ease this back at a corner and then peel it off. Where there is only slight contact with the self-adhesive backing (mostly small parts), it may need some extra glue adding to ensure a strong joint; use the self-adhesive glue to position the part and then brush some PVA glue over and around it which will strengthen the joint when it sets.
- When gluing corner parts together, apply a thin bead of glue from the inside. Wipe off any excess glue immediately. Small strips of low tack masking tape can be used to hold parts while the glue dries.
- When adding details (windowsills, arches, etc.,) to window and door frames, brush glue around the inside of the frame to strengthen the bond of the self-adhesive parts.
- Use a good quality PVA glue or balsa cement for wooden parts, and cyano (superglue) for etched brass.
- The double ended arrow on the waste on part A1 on Plate 7 indicates the direction of the of the brick courses for laser cutting reference and has no bearing on construction.



- Clean any flash from the white metal castings using a metal file (note that white metal is a very soft metal, which will clog the teeth on fine files very quickly). White metal is a lead/tin alloy, so be sure to **wash your hands after handling**. Wash the castings in warm soapy water, rinse in clean water, and leave to dry. Prime the castings with an aerosol 'automotive' primer and once this is dry, apply the final colour.
- Any gaps between tabs and slots can be filled with a wood filler; when dry, sand flat and touch up any paint finish, or disguise with weathering.. Small gaps or cracks can be filled with PVA – apply with a cocktail stick and capillary action will draw it into the gap.
- When removing etched brass parts from the fret, place a steel ruler over the part while cutting the tabs as this prevents distortion. Also, cut tabs in the middle, then trim them back once the part is removed. Hold the part in pliers and file off any remainder of the tab.

Location of External Steps

This kit and the instructions are designed so that the steps locate on the left-hand side (when looking at the front of the building). However, the only difference between the sides is the inset brick panel (door/window on left; two windows on right). These panels can be swapped so that the steps can be fitted on the right (Fit A1A to A3 and A3A to A1). Note also to swap the two main stair pieces S4 and S5 as only one has a rail for the middle landing.

As the steps are fragile, you may wish to consider building them *in situ*. Alternatively, mount the building of a piece on thin plywood before building the steps – this will allow the completed model to be planted on your layout when it is finished.

The steps build as a complete unit, but in reality, the coaling stage would have been reached by wagons on an inclined embankment into which the steps would have been built. You may wish to consider building the steps into the embankment or build a retaining wall behind the steps using wastage from the brick sheet of Plate 7.

Painting

You may find it easier to paint parts prior to or during assembly. As construction uses self-adhesive backing, PVA and superglue, paint finishes will not be damaged by glue when assembling. Solvent-based paints produce the best results. If using water-based or latex-based paints, it is recommended to first prime the wooden parts with a matte solvent-based paint (grey or white aerosol 'automotive' primer – **use all aerosol paints in a well-ventilated area!**). If you are painting the building after construction, try to build sections (such as building, water tank, steps) and remember to leave doors and windows off until the end (remember to leave off the ceiling, part A11 for access to add the windows!).

The following is a guide only, as the actual colours of the building may have varied during its lifetime. For example, it is not clear what colour the GWR painted the window frames of coaling stages, and they may not have been white. If required, paint the window frames before removing from Plate 4. However, the 'off-white' colour of Plate 4, often with a little soot from the laser cutting process gives nicely pre-weathered window frames that require no further work!

Choose a suitable brick colour for the majority of the brickwork – there are specific brick paints available, alternatively BR early freight bauxite, medium rust and leather (or a combination of some or all of these). The brick line that goes round the middle of the building (from Plate 5) and the top under the tank (from Plate4) appears to be a dark engineer's 'blue brick' although a dark grey would be suitable. Arches over doors, windows and the wagon entrance may not have been a different colour brick to the main building, although to use the 'blue brick' colour again would accentuate these nice features.

Doors would have been painted GWR light stone with frames painted GWR dark stone. The sides of the tank were mostly painted GWR light stone; in some cases, the 'framing' (as depicted by parts B1A, B5A, B6A, B7A) would have been painted GWR dark stone. The roofs of the tank and loading shed on the front would likely have started as dark grey and developed rust and grime over time.

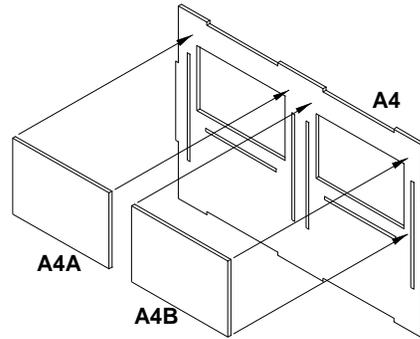
The loading shed at the front would have been painted GWR light stone inside and out. The floor would have been wood colour but soon black with coal dust. The loading carts and their track would have been black.

The stairs may have been creosoted like sleepers or simply painted, though this would have faded over time, therefore a colour from brown to light grey (or in-between) would be suitable.

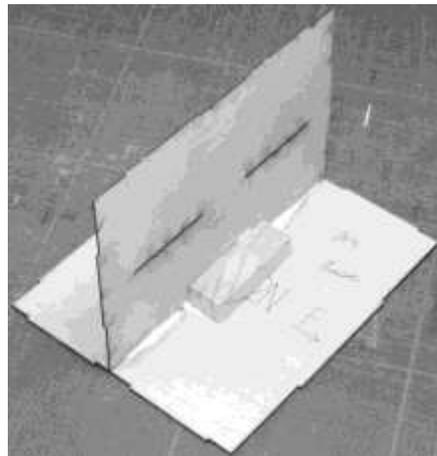
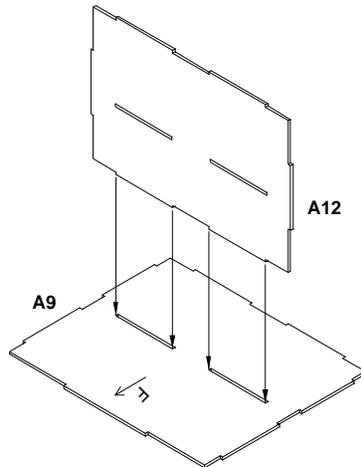
The ladder to the tank would have been black apart from the bottom 6 feet which would have been white as a safety feature.

Construction

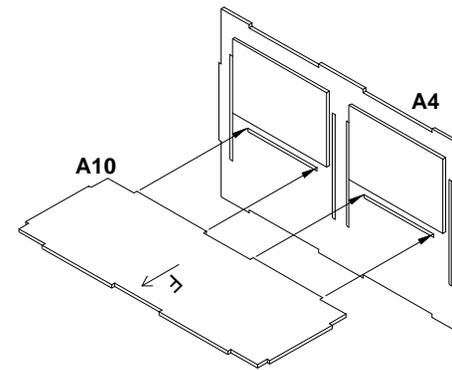
1. Glue **A4A** and **A4B** from Plate 5 to the rear of **A4** from Plate 1 to form the recessed panels. Note that **A4A** and **A4B** have an inner etched line which matches the gaps at the top of **A4** – use these etched lines as a guide for positioning.



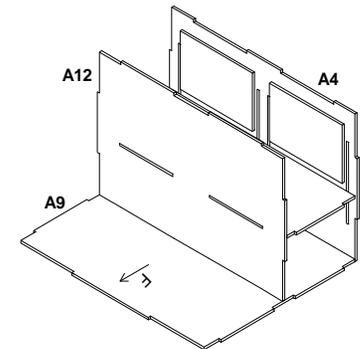
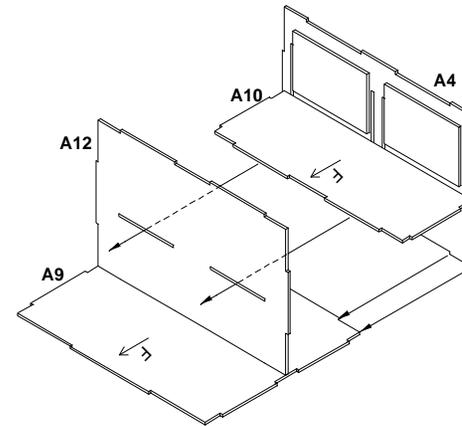
2. Attach brick sheet **A4A** and **A4B** from Plate 7 into the recesses on the back of the building (**A4**).
3. Glue **A12** from Plate 2 to **A9** from Plate 2. Make sure that **A12** is the correct way up – the two horizontal slots in the middle are closer to the bottom and will match the horizontal slots in **A4**. It is important that **A9** is flat and that **A12** is at a perfect right angle to it, as the rest of the building forms around these two parts. Use an engineer's square to make sure, or glue a piece of square wood either side, as in the photograph.



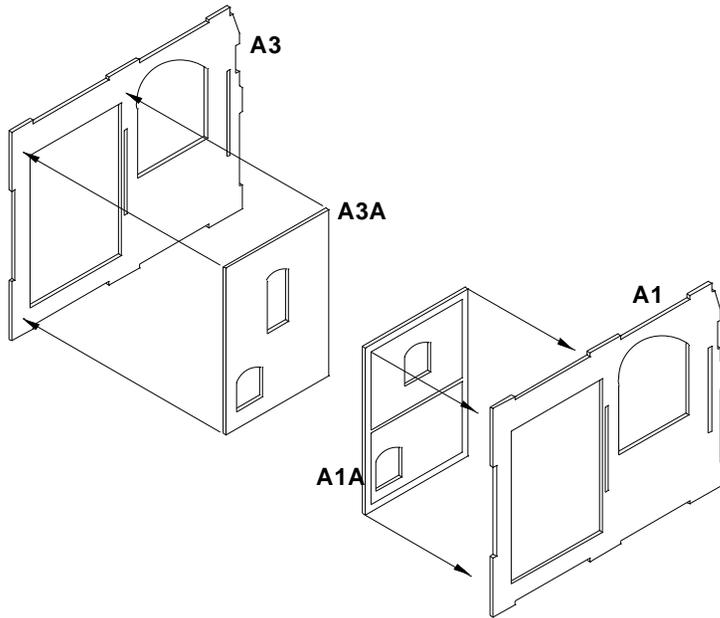
4. Glue **A10** from Plate 2 to the rear of **A4**. Note the arrow on **A9** which points to the front of the building.



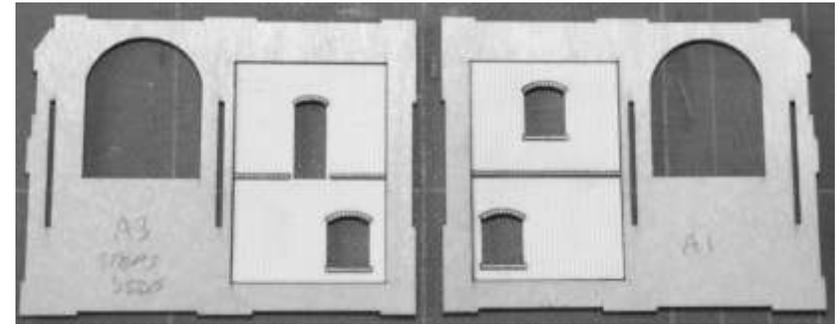
5. Glue **A10/A4** to **A9/A12**. The tabs on **A10** insert into the slots on **A12**. The bottom of **A4** sits onto the top of **A9** – make sure that the slots and tabs on **A4/A9** engage properly.



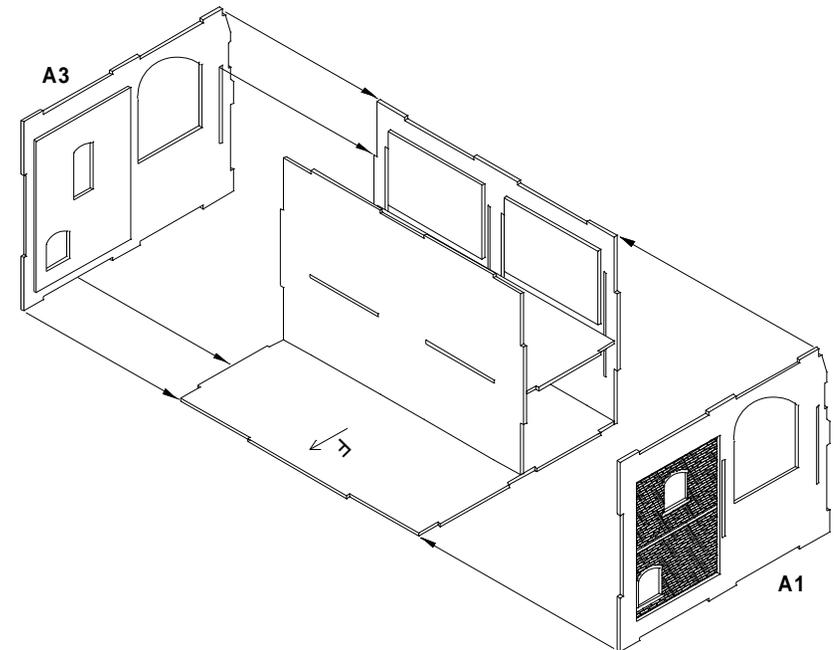
6. Remove the sub-plates within **A1** (**S6**, **S7**) and **A3** (**S2**, **S3**) on Plate 1 and store safely for later.
7. Glue **A1A** from Plate 3 to the rear of **A1** and glue **A3A** from Plate 3 to the rear of **A3** to form the recessed panels on the sides. Parts **A1A** and **A3A** have an inner etched line which matches the rectangular 'holes' in parts **A1** and **A3** – use these etched lines as a guide for positioning. Note that if you wish to place the steps on the opposite side of the building, this is the place to swap parts **A1A** and **A3A**.



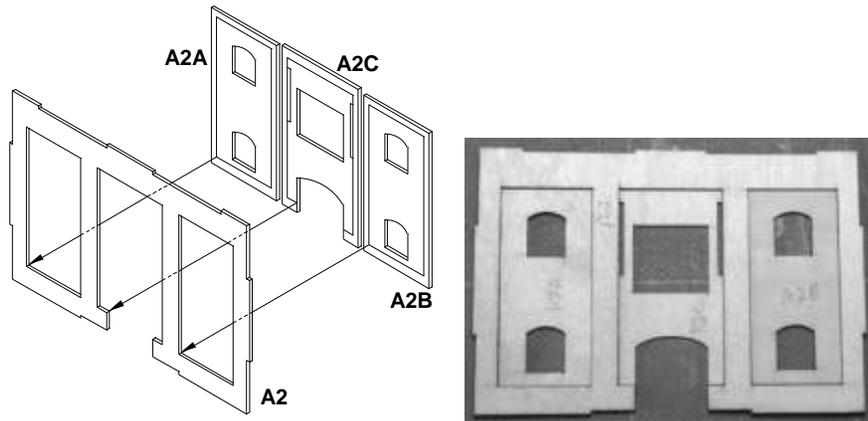
8. Attach brick sheet **A1A** from Plate 7 into the recess on the left-hand side of the building (A1). Note that A1A removes from Plate 7 as separate upper and lower pieces; when attached, there should be a gap between them that matches the etched lines across the middle of the recess (A1A).
9. Attach brick sheet **A3A** from Plate 7 into the recess on the right-hand side of the building (A3).
10. Attach a **W3** brick arch from Plate 6 to the top of each of the windows on the sides (A1, A3).
11. Attach a **W1** windowsill from Plate 6 to the bottom of each of the windows on the sides (A1, A3).
12. Attach a **D7** brick arch from Plate 6 over the door on the left-hand side (A3).
13. Attach an **A1** brick row from Plate 6 into the gap between the two halves of the brick sheet A1A.
14. Attach a pair of **A3** brick row from Plate 6 into the gaps either side of the bottom of the door frame on A3A.



15. Glue the sides (A1, A3) to the building. It is advisable to do a couple of dry runs to make sure you know where all the tabs and slots connect.



16. Glue **A2A** from Plate 3, **A2B** from Plate 5 and **A2C** from Plate 3 to the rear of A2 to form the recessed panels on the front. Parts A2A, A2B and A2C have an inner etched line which matches the rectangular 'holes' in A2 – use these etched lines as a guide for positioning.

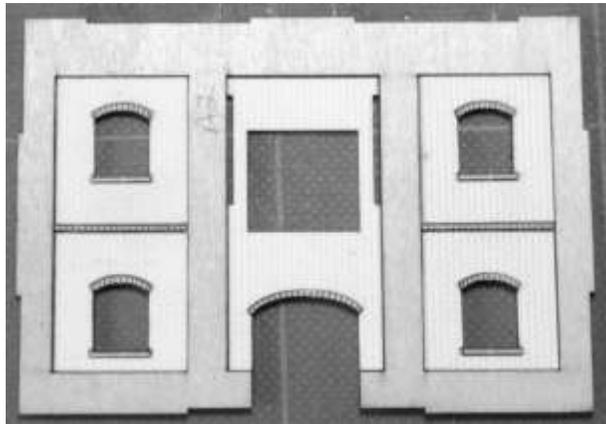


17. Attach brick sheet **A2A** from Plate 7 into the left-hand recess on the front of the building (A2) and brick sheet **A2B** into the right-hand recess. Note that A2A and A2B remove from Plate 7 as separate upper and lower pieces; when attached, there should be a gap between them.

18. Attach brick sheet **A2C** from Plate 7 into the middle recess on the front of the building (A2).

19. Attach a **W3** brick arch from Plate 6 to the top of each of the windows on the front of the building (A2).

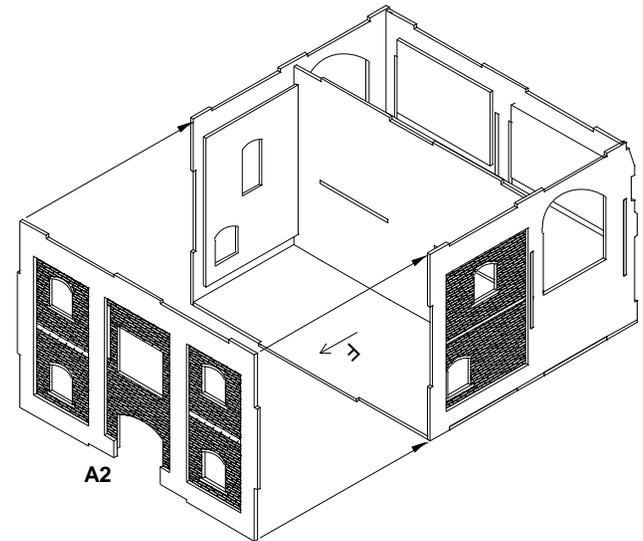
20. Attach a **W1** windowsill from Plate 6 to the bottom of each of the windows on the front of the building (A2).



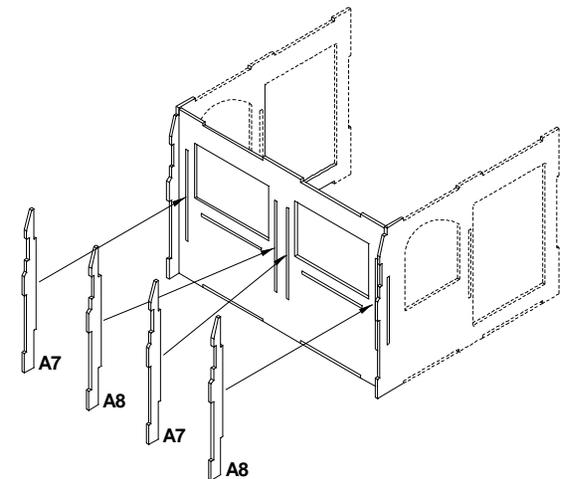
21. Attach a **D4** brick arch from Plate 6 over the double door on the front of the building (A2).

22. Attach a **A2** brick row from Plate 6 into the gap between the two halves of the brick sheet A2A and A2B.

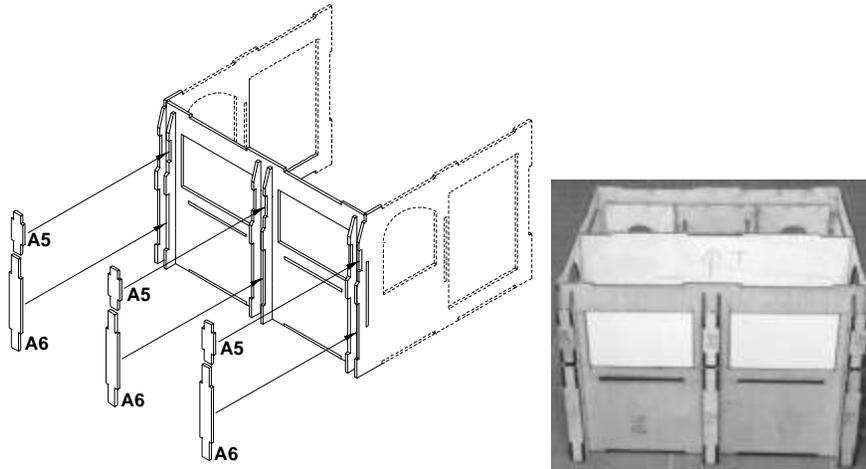
23. Glue the front (A2) to the building. It is advisable to do a couple of dry runs to make sure you know where all the tabs and slots connect.



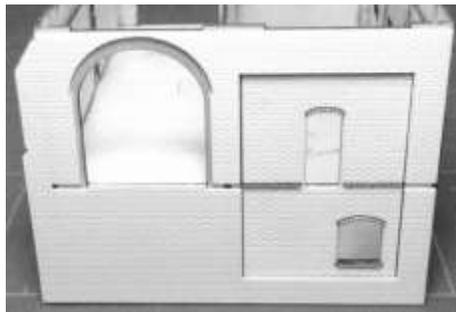
24. Glue **A7** and **A8** (2 of each – 1 A8 on Plate 1, both A7 and 1 A8 on Plate 5) to the rear of the building to form the 3 buttresses.



25. Glue **A5** (upper) and **A6** (lower) to the rear of the buttresses. There are 2 of A5 and A6 on plate 2 and 1 of A5 and A6 on Plate 3. Note that the top of A5 is 1mm longer than the bottom part, corresponding to the position on A7/A8.



26. Attach brick sheet **A1** and **A3** to the sides of the building. Do several dry runs before removing the backing paper to be sure that you know where to attach the brick sheet. It may be necessary to trim a little from the top of brick sheet A1/A3; ensure that there is 1.5mm clear above them to allow for later fitting A1C and A3C (steps 99 and 101). Be careful when removing the backing sheet not to damage these parts – their weakest point is the thinnest width at the top of the main archway. Line up the bottom of the part with the bottom of the building and the bottom of the main archway with the floor of the first floor. Place on *very* gently – this allows some room for manoeuvre. Note that the upper storey beside the main archway will have a tendency to sag down where it is thin at the top, so affix this top quarter last of all.



27. Attach brick sheet **A2** to the front of the building. This is actually three parts (upper, lower left, lower right). Make sure to leave a gap to attach brick row pieces as per the recesses.



28. On the rear of the building, attach brick sheet **A7** and **A8** from Plate 7 to the sides of the central buttress. Attach brick sheet **A7** and **A8** from Plate 7 to the inner faces of the end buttresses.

29. Attach brick sheet **A4** (2 of) between the buttresses on the rear of the building.

30. Attach brick sheet **A6** (3 of) to the faces of the lower half of the 3 buttresses on the rear of the building.

31. Attach **R3** from Plate 4 (3 of) above A6 on the 3 buttresses – these sit on the angled section half way up the buttresses. R3 has a self-adhesive backing, however, it is advisable to reinforce the bond with additional glue.

32. Attach brick sheet **A5** (3 of) to the faces of the upper half of the 3 buttresses on the rear of the building above R3.



33. Attach **R2** from Plate 4 (3 of) above A5 on the 3 buttresses – these sit on the angled section at the top of the buttresses. R2 has a self-adhesive backing, however, it is advisable to reinforce the bond with additional glue.

34. Attach **A2 ENDS** brick row from Plate 6 into the gap between the two halves of the brick sheet A2 at both ends of the front.

35. Attach **A2 MIDS** brick row from Plate 6 into the gap between the two halves of the brick sheet A2 next to the first floor opening at the front of the building.

36. Attach a **D1** from Plate 6 to each of the archways on the sides.

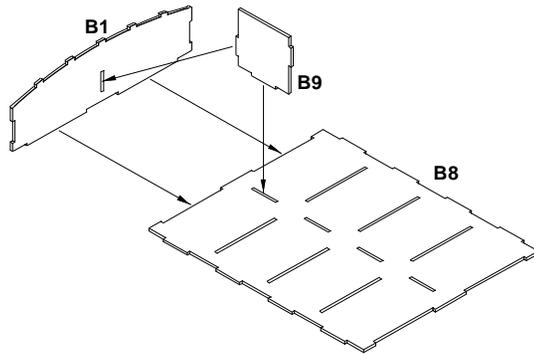
37. Attach the shorter **A1** brick row from Plate 6 into the gap between in the middle of the brick sheet A1. One goes to the front corner of the building while two go under the main archway.

38. Attach the shorter **A3** brick row from Plate 6 into the gap between in the middle of the brick sheet A3. One goes to the front corner of the building while

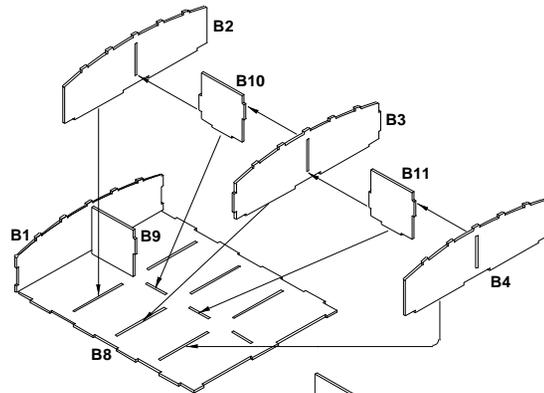
two go under the main archway.

Complete Steps 39 to 42 at the same time as a little flexibility before the glue sets will make it easier to fit slots into tabs.

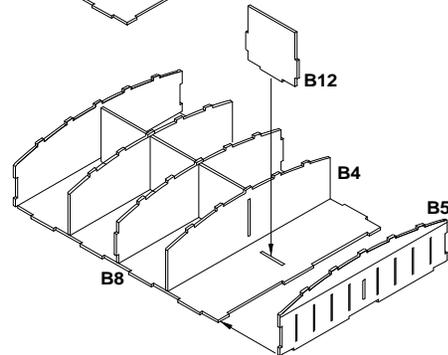
39. Glue **B9** from Plate 2 to **B1** from Plate 3. At the same time, glue **B9/B1** to **B8** from Plate 2. Make sure that **B8** is flat and that **B1** is square to **B8**.



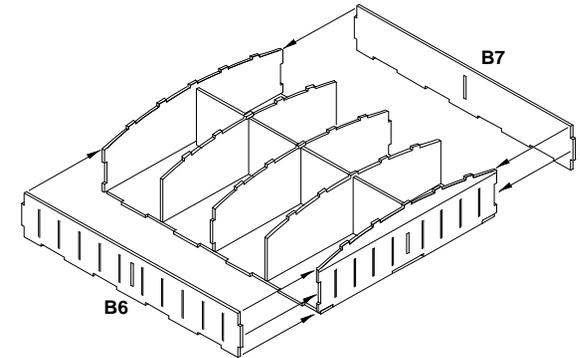
40. Glue **B2** from Plate 3 to **B8/B9**. Glue **B10** from Plate 2 to **B8/B2**. Glue **B3** from Plate 3 to **B8/B10** (note that **B3** has tabs on the end that will slot into the sides so it must go in the middle of **B8**). Glue **B11** from Plate 2 to **B8/B3**. Glue **B4** from Plate 3 to **B8/B11**.



41. Glue **B12** from Plate 2 to **B8/B4**. Glue **B5** from Plate 3 to **B8/B12**

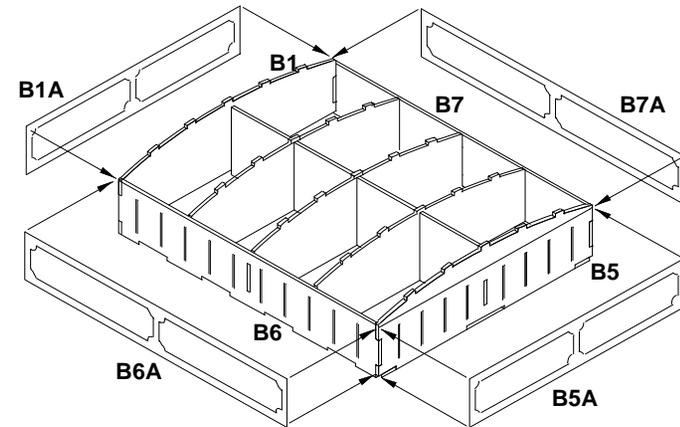
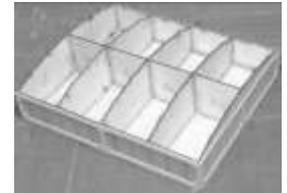


42. Glue on **B6** and **B7** from Plate 1.

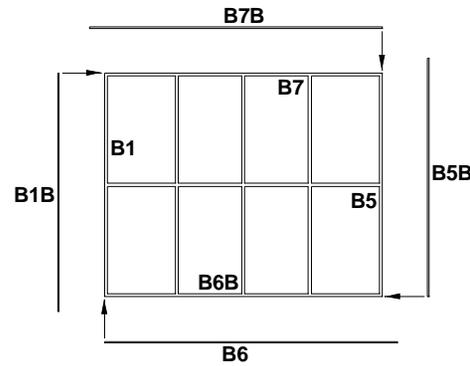


43. Attach **B1A** from Plate 4 to **B1** and **B5A** from Plate 4 to **B5**. Note that there is a line etched near the top of **B1/B5** and the upper face of **B1A/B5A** should align with this line so that the 8 vertical etched lines on **B1/B5** just touch the inner faces of **B1A/B5A**.

44. Attach **B6A** from Plate 4 to **B6** and **B7A** from Plate 4 to **B7**. Note that there are etched near the top and bottom of **B6/B7** and the upper face of **B6A/B7A** should align with this line so that the 10 vertical etched lines on **B6/B7** just touch the inner faces of **B6A/B7A**.



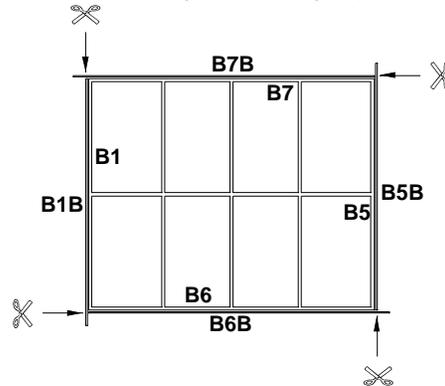
45. Attach **B1B** from Plate 4 to B1 directly under B1A (this is designed this way so that if you choose to paint the parts before assembly, there is a distinction between the light and dark stone colours used on the tank). B1B is longer than the width of the tank – attach it at the left-hand corner (flush with the side) and leave the excess length extending beyond the right-hand side for now.



46. Attach **B6B** from Plate 4 to B6 directly under B6A. Butt this part up to the excess of B1B and again, there will be an excess length extending beyond the right-hand side.

47. Attach **B5B** from Plate 4 to B5 directly under B5A. Butt this part up to the excess of B6B and again, there will be an excess length extending beyond the right-hand side.

48. Attach **B7B** from Plate 4 to B7 directly under B7A. Butt this part up to the excess of B5B and again, there will be an excess length extending beyond the right-hand side.



49. Trim the excess lengths of - B1B flush with the face of B6B; B6B flush with the face of B5B, B5B flush with the face of B7B; B7B flush with the face of B1B.

50. Attach **B1C** from Plate 4 to the front top of B1A. B1C is longer than the width of the tank – attach it at the left-hand corner (flush with the side) and leave the excess length extending beyond the right-hand side for now.

51. Attach **B6C** from Plate 4 to the front top of B6A. Butt this part up to the excess of B1C and again, there will be an excess length extending beyond the right-hand side.

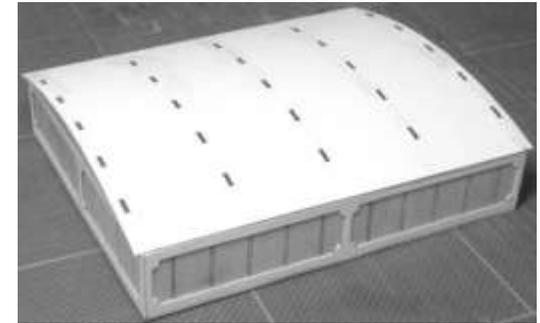
52. Attach **B5C** from Plate 4 to the front top of B5A. Butt this part up to the excess of B6C and again, there will be an excess length extending beyond the right-hand side.

53. Attach **B7C** from Plate 4 to the front top of B7A. Butt this part up to the excess of B5C and again, there will be an excess length extending beyond the right-hand side.

54. Trim the excess lengths of - B1C flush with the face of B6C; B6C flush with the face of B5C, B5C flush with the face of B7C; B7C flush with the face of B1C.

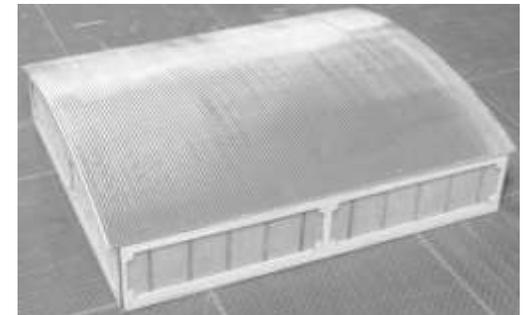
55. Use **R1** from Plate 4 as a template to cut the silver corrugated sheet to the size of the roof. Add 0.5mm extra to allow for curvature on the two sides that face to the front/rear of the building. Make sure you are aware which way R1 orientates on the roof (the 25 slots match to the 25 tabs on the roof formers) and then that the corrugations run from the front to the rear of the building.

56. Shape **R1** from Plate 4 to the curve of the roof of the tank (make sure you curve it the correct way!). Use a piece of dowel or similar and gently roll it on the back of R1 (the face with the backing sheet) over something soft like a towel until it has the correct curvature.



57. Attach **R1** to the tank – while the piece has a self-adhesive backing, it is advisable to also use glue in case the curvature of the part causes it to peel back at the front and rear edges.

58. Shape the corrugated sheet to the curve of the roof of the tank (make sure you curve it the correct way!). Use a piece of dowel or similar and **very** gently roll it on one side of the corrugated sheet over something soft like a towel until it has the correct curvature. Take your time with this step as the corrugated sheet will easily mark or crease with too much incorrect pressure.



59. Glue the corrugated sheet to the roof of the tank.

60. Glue a piece of plastic tube 3mm long to the roof to form the vents. These are centred 5mm from the edge of the roof on each side, along the apex of the curve of the roof.

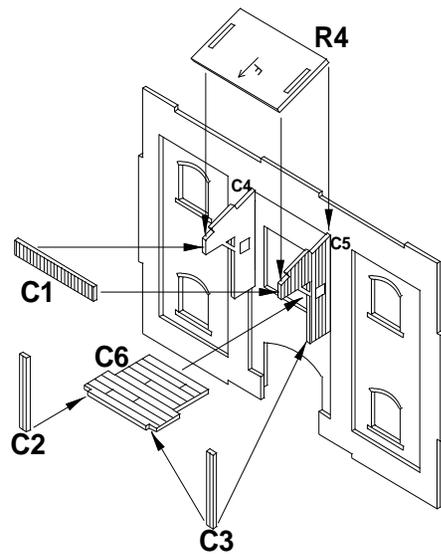
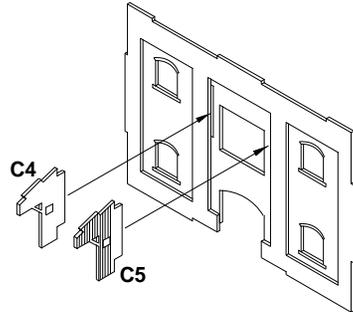
61. Glue **C4** and **C5** from Plate 3 into the slots in the front on the building.

62. Glue **R4** from Plate 3 to C4/C5. Make sure that the arrow points to the front.

63. Glue **C6** from Plate 3 between C4/C5 so that it rests on the opening in the front of the building. The front of C6 should be parallel with the front faces of C4/C5.

64. Glue **C2** from Plate 3 to C4 and **C3** from Plate 3 to C5. Both C2 and C3 fit into the inset at the front of C6 so that they are flush with the inner edge of C4/C5 respectively.

65. Glue **C1** from Plate 3 to the top of C4/C5 under R4.



66. Cut a piece from the remainder of the corrugated sheet to cover R4. Allow 0.5mm overhang at the front. The corrugations run from the building to the front of the canopy. Glue the piece of corrugated sheet to R4.



67. Attach **T1** from Plate 6 to **T3** from Plate 1.

68. Attach **T2** from Plate 4 to T3 directly under T1.

69. Glue T3 to the rear of **T4** from Plate 1 noting that the etched lines are on the opposite side.

70. Glue **T5** from Plate 1 to the front of T4.

71. Attach **T6** from Plate 4 to the front of T5 noting that it aligns with the rectangle etched on the front of T5.

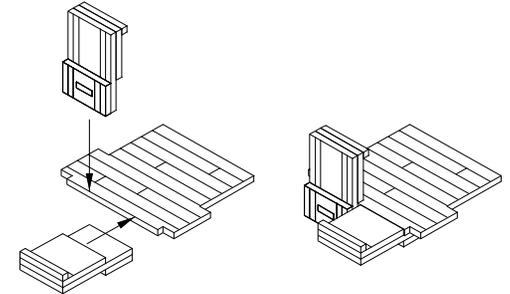
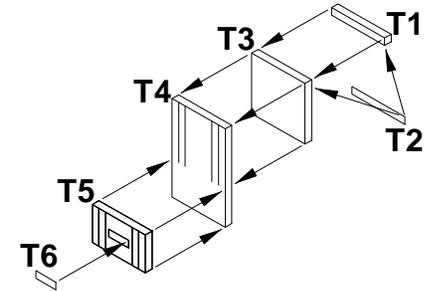
72. Repeat steps 67 to 71 to complete the second loading ramp.

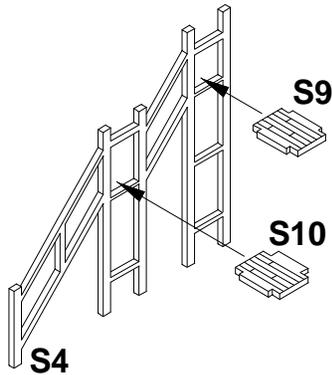
73. The loading ramps can be installed either up, or down, or one of each. Glue the ramps to the floor (C6) in the loading shed.

74. Glue the white metal track onto the floor/ramp and glue the white metal loading carts to the track, positioned as required.

75. Glue **S9** from Plate 3 to the top landing of **S4** from Plate 5. Note that S9 fits so that it is slightly proud of the outer edge of S4 – place S4 over a waste Plate while the glue sets.

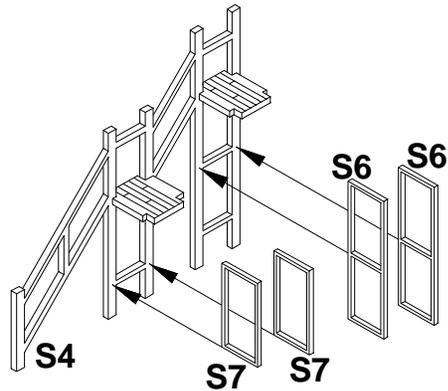
76. Glue **S10** from Plate 3 to the middle landing of S4. Note that the rear of S10 is slightly longer than the front – this is to support the treads. S10 fits so that it is slightly proud of the outer edge of S4 – place S4 over a waste Plate while the glue sets.



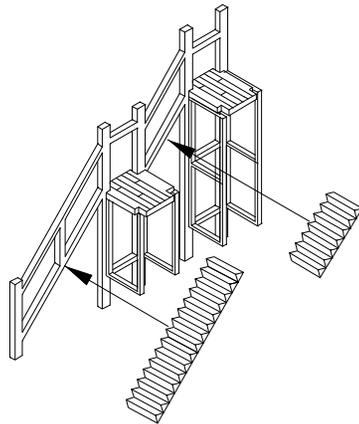


77. Glue **S6** (2 of) from Plate 1 to S4 directly under the top landing.

78. Glue **S7** (2 of) from Plate 1 to S4 directly under the middle landing.



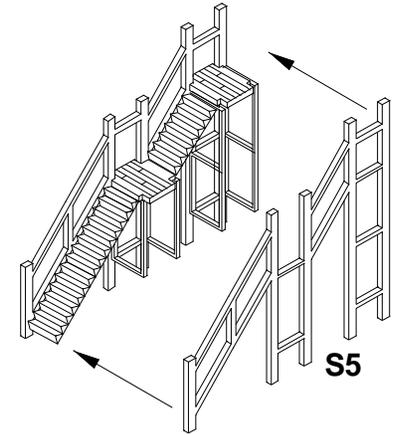
79. Cut the white metal steps to the required length. The lower flight requires 15 steps. The upper flight requires 7 steps. Cut the white metal steps at the top of a step – white metal is a soft enough alloy that half a dozen cuts with a craft knife are sufficient to cut it. Check for fit between the upper and middle landings, and between the middle landing and the bottom of the stairs, and file the white metal stairs as required until they fit.



80. Glue the white metal steps to the stairs.

81. Glue **S5** from Plate 5 to the stairs, making sure that the edges of the landings fit correctly (slightly proud of the outer edge of S5).

82. Attach **S1A** (2 of) from Plate 4 to the outside face of the posts at the bottom of the stairs. This thickens the posts so that the handrail is thinner than the post. It may be necessary to trim the top of each S1A flush with the top of the post.

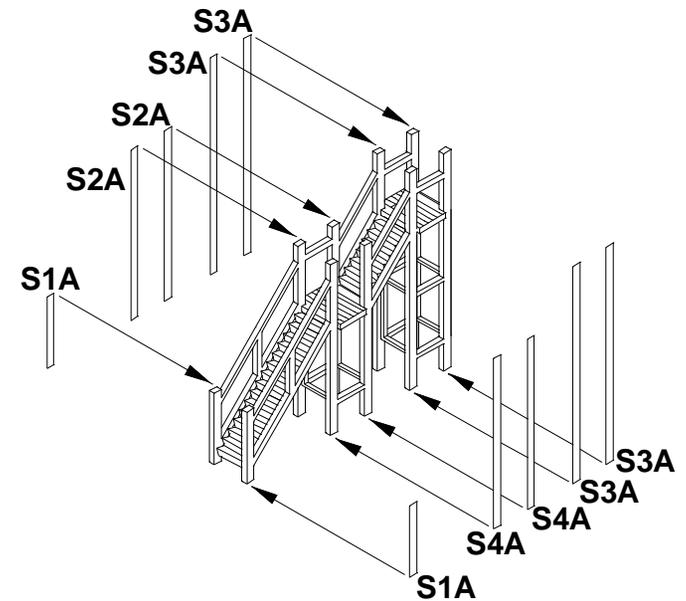


83. Attach **S2A** (2 of) from Plate 4 to the outside face of the pair of middle posts which have the rail at the top.

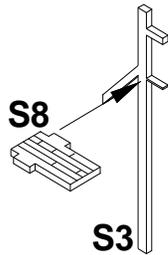
84. Attach **S4A** (2 of) from Plate 4 to the outside face of the pair of middle posts which do not have the rail at the top.

Trim the top of each S4A flush with the top of the post. *Note that there is a small mistake on Plate 4 in that there should have been 5 of S2A and 3 of S4A; fortunately, the extra S4A are long enough to substitute for S2A!*

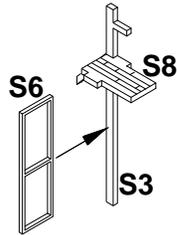
85. Attach **S3A** (4 of) from Plate 4 to the outside face of the 4 posts at the top of the stairs.



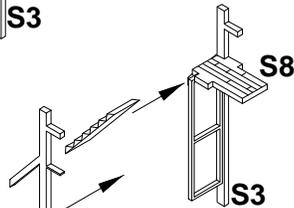
86. Glue **S8** from Plate 3 to **S3** from Plate 1. Make sure that S8 sits on top of the lower of the right angle projections.



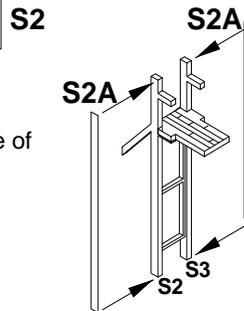
87. Glue **S6** from Plate 1 to S3/S8.



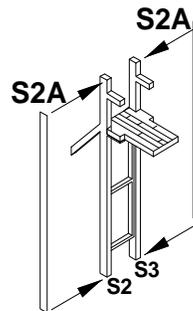
88. Cut the white metal steps to the required length of 6 steps and glue to S3/S8.



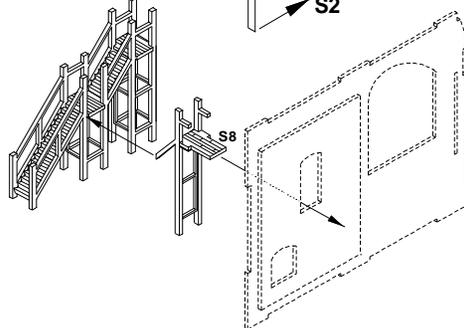
89. Glue **S2** from Plate 1 to S3/S6/S8.



90. Attach **S2A** (2 of) from Plate 4 to the outside face of the S2/S3.



91. Glue S8, the landing of the side staircase into the upper doorway on the left-hand side so that the railings touch the wall. The landing extends into the building in case you wish to model the door in an open position.



92. Glue the main staircase to the short staircase so that the middle landing of the former connects to the bottom of the steps of the latter.

93. Attach 7 of **W2** windows from Plate 4 to the clear plastic glazing sheet. Cut the windows from the clear plastic sheet allowing 10mm all round the W2 – this will give an area to apply glue to when attaching the windows (without getting glue on the windows themselves).

94. Glue the 7 windows into the building once all the painting is complete.

95. Attach **D5** from Plate 4 to the clear plastic glazing sheet. Attach **D6** from Plate 4 to D5. Cut the door from the clear plastic sheet allowing 10mm at the sides and top (but flush at the bottom) to glue the door into the frame. If you wish to model the door in an open position, only allow 10mm on just one side and score the clear plastic sheet at the edge of the door, fold to the required angle, and then glue inside the building.

96. Attach **D3** from Plate 4 to the clear plastic glazing sheet. Attach **D2** from Plate 4 to D3. Cut the double doors from the clear plastic sheet allowing 10mm at the sides and top (but flush at the bottom) to glue the door into the frame.

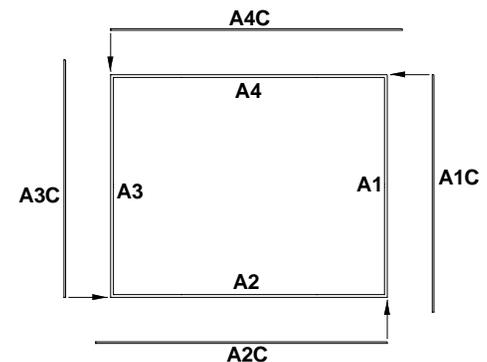
97. Glue the 2 doors into the building once all the painting is complete.

98. Once all the parts are fitted and painting completed that require access to the inside of the building, glue **A11** from Plate 3 to the top of the building. It is advisable to do a couple of dry runs to make sure you know where all the tabs and slots connect. It may be necessary to sand some of the tabs or slots to make an easy fit.

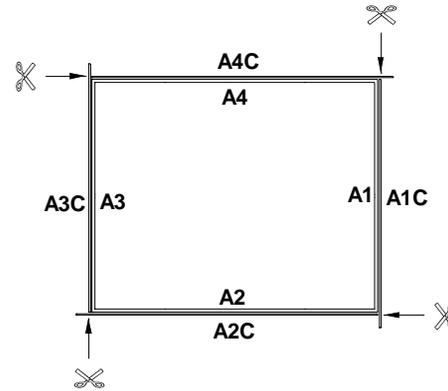
99. Attach **A1C** from Plate 4 (with the brick to the bottom) to A1 above the brick sheet. A1C is longer than the width of the building – attach it at the right-hand corner (flush with the side) and leave the excess length extending beyond the left-hand side for now.

100. Attach **A2C** from Plate 4 (with the brick to the bottom) to A2 above the brick sheet. Butt this part up to the excess of A1C and again, there will be an excess length extending beyond the left-hand side.

101. Attach **A3C** from Plate 4 (with the brick to the bottom) to A3 above the brick sheet. Butt this part up to the excess of A2C and again, there will be an excess length extending beyond the left-hand side.



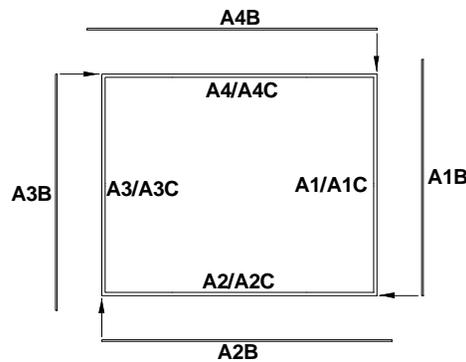
102. Attach **A4C** from Plate 4 (with the brick to the bottom) to A4 above the brick sheet. Butt this part up to the excess of A3C and again, there will be an excess length extending beyond the left-hand side.



103. Trim the excess lengths of – A1C flush with the face of A2C; A2C flush with the face of A3C, A3C flush with the face of A4C; A4C flush with the face of A1C.

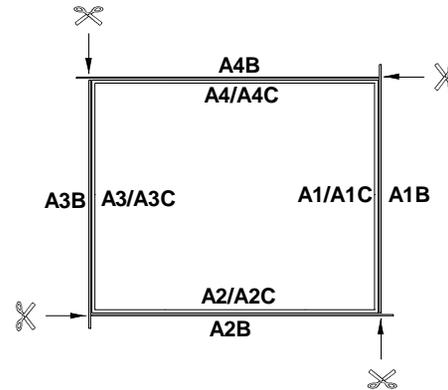
104. Attach **A1B** from Plate 4 to A1C above the brick. A1B is longer than the width of the building – attach it at the left-hand corner (flush with the side) and leave the excess length extending beyond the right-hand side for now.

105. Attach **A4B** from Plate 4 to A4C above the brick. Butt this part up to the excess of A1B and again, there will be an excess length extending beyond the right-hand side.



106. Attach **A3B** from Plate 4 to A3C above the brick. Butt this part up to the excess of A4B and again, there will be an excess length extending beyond the right-hand side.

107. Attach **A2B** from Plate 4 to A2C above the brick. Butt this part up to the excess of A3B and again, there will be an excess length extending beyond the right-hand side.



108. Trim the excess lengths of – A1B flush with the face of A2B; A2B flush with the face of A3B, A3B flush with the face of A4B; A4B flush with the face of A1B.

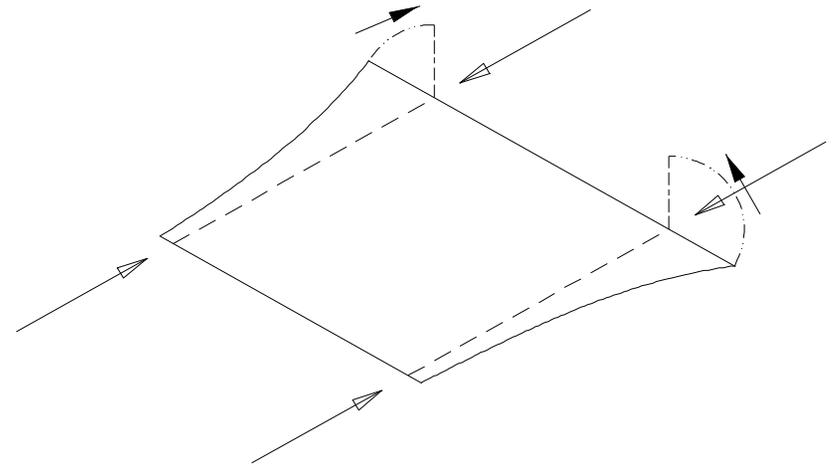
109. Glue the tank to the top of the building. Make sure that the tank is square with all corners of the building.

110. Detach the etched frets from the backing card by cutting the tape that holds them on. These frets are very fragile and can bend out of shape, so handle them very carefully.

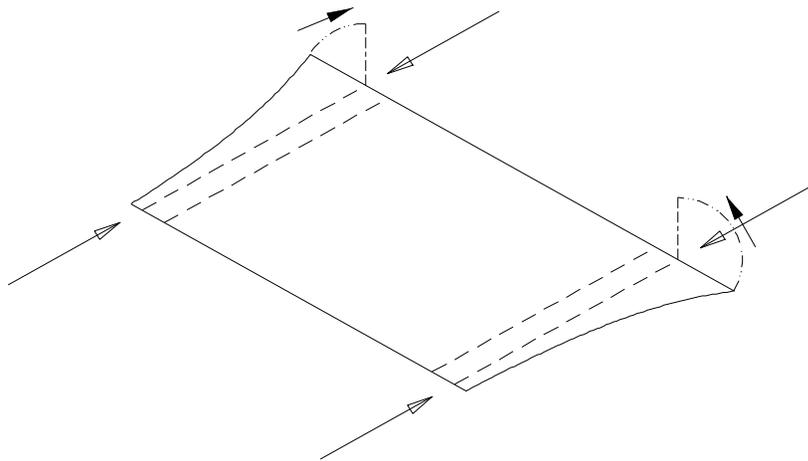
111. Cut the ladder from the smaller of the two frets and glue it the back of the ladder on the larger fret. This is to strengthen the ladder.

112. Cut the ladder/platform from the fret. Bend up the railings to ninety degrees. Bend the 4 supporting struts towards the building and then bend the ladder down (not quite ninety degrees) from the platform until the platform and struts touch the building. It may be necessary to trim back some of the overhang on the corner of the roof in order to get the platform to fit correctly.

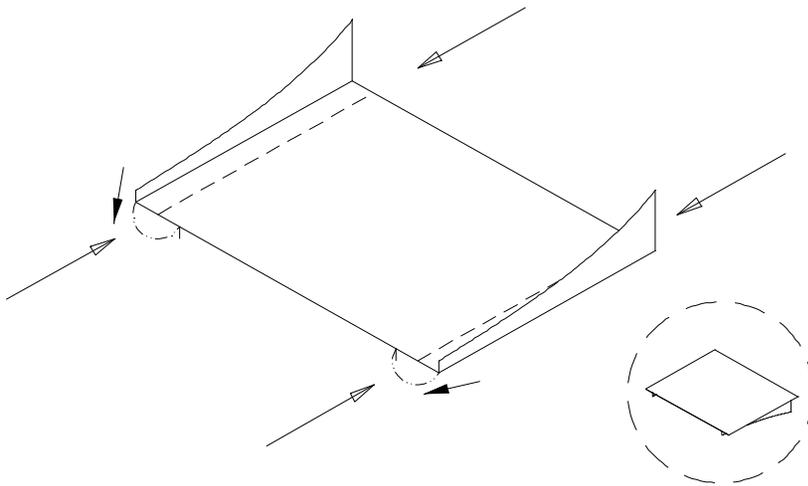
113. There are two bracket/base parts on the larger fret. The smaller one simply requires the sides to be bent to ninety degrees and is easier to bend. It is possible to make the bends with pliers, however, using a vice to clamp the part on the etch line and then folding from behind with a steel ruler will ensure a clean bend.



114. The larger bracket/base part requires two bends on each side. Bend the outer etch lines to ninety degrees.



115. Bend the inner etch to 180 degrees in the opposite direction.



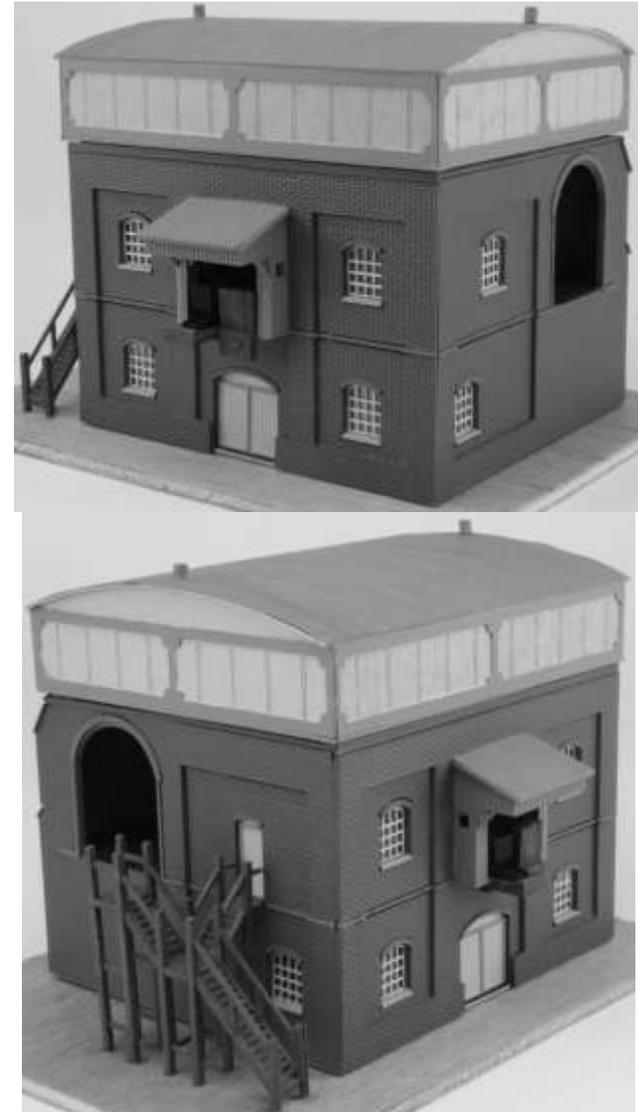
116. Glue the bracket/base under the platform.

117. Glue the platform/ladder in to place.

118. Two sizes of warning plate (which read 'Caution – Engines Must Not Pass This Arch') are supplied. Choose the size you wish to use and glue it above

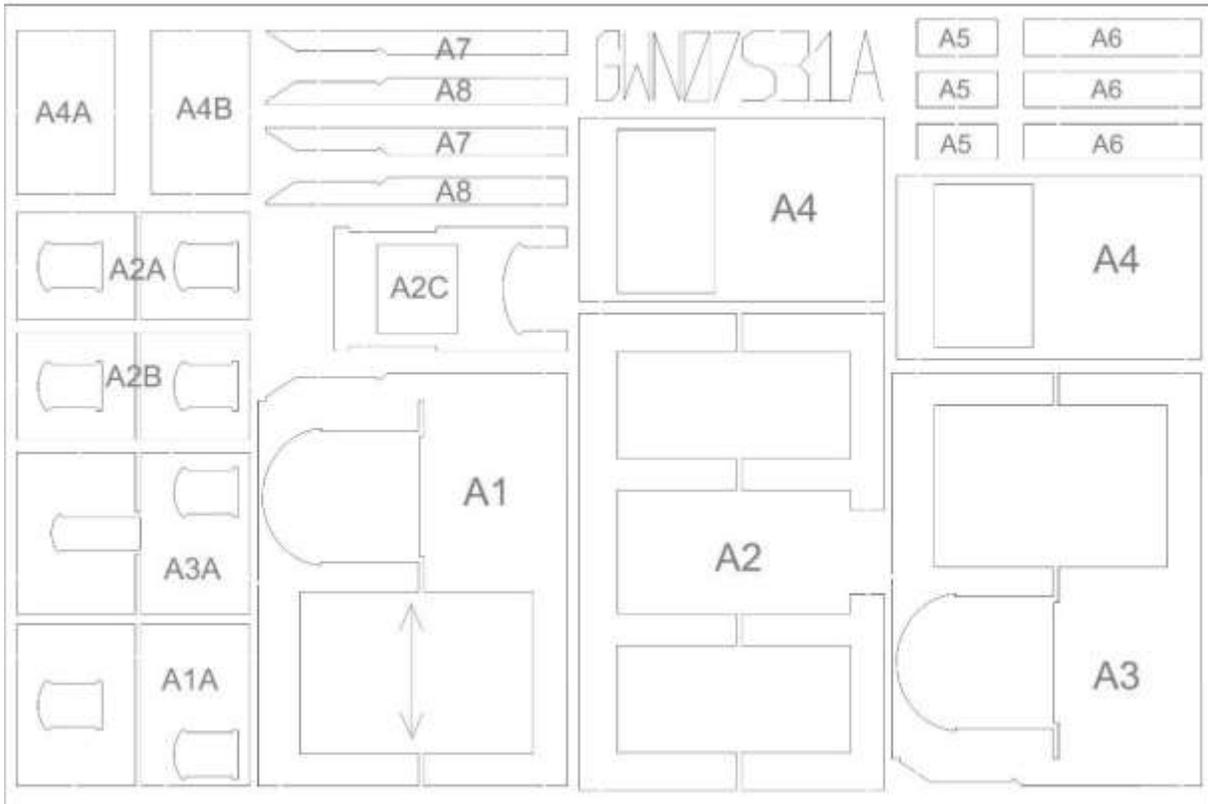
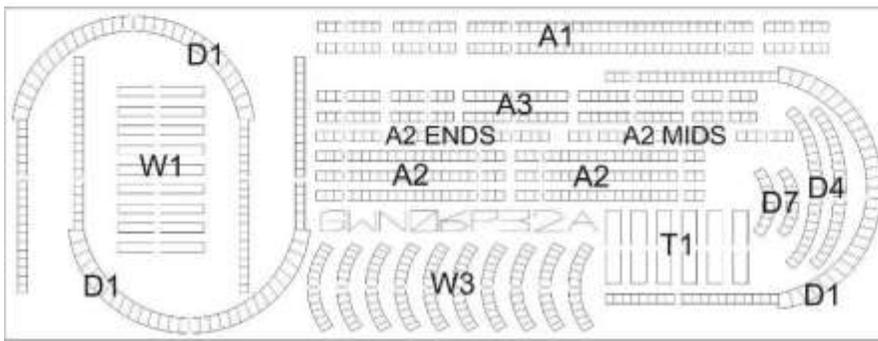
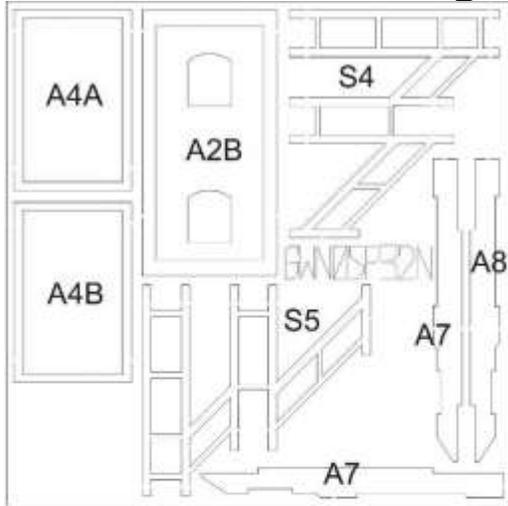
and to the side of one of the entrances arches over the buttress at the rear – choose the side from which wagons will enter on your model.

Your model is now complete!

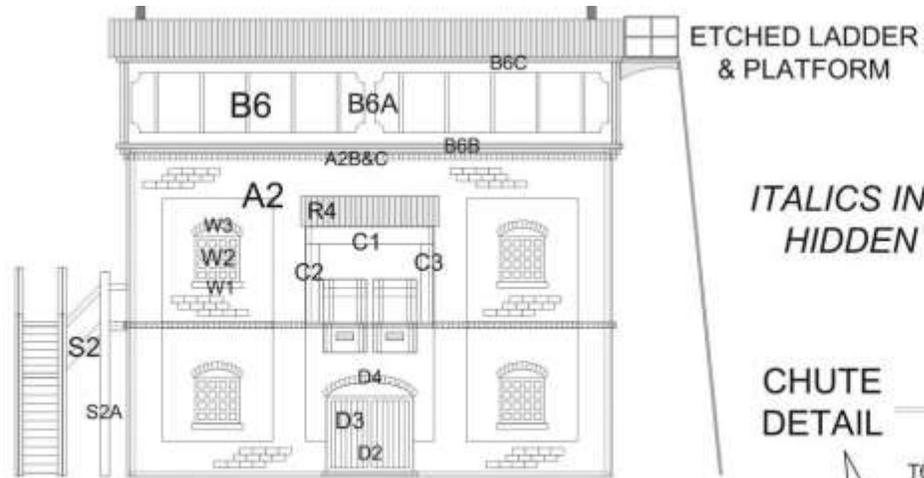
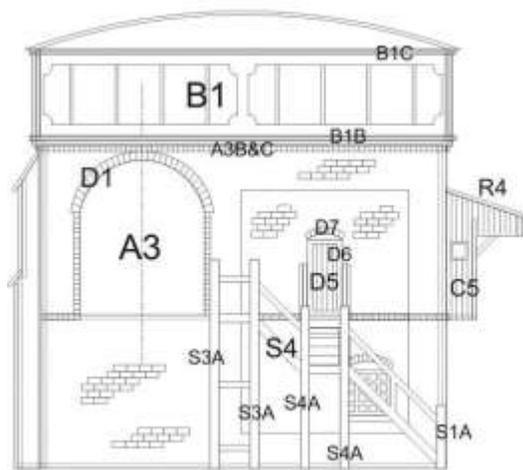


Please note that the photographs show the test model used to write these instructions and that several design improvements have been made to the production run model.

Plate Diagram 2 (Plates 5 to 7)



Labelled Elevation Diagram



ITALICS INDICATE HIDDEN PART

