RATIO PLASTIC MODELS Ltd.

INSTRUCTIONS FOR THE ASSEMBLY OF KIT

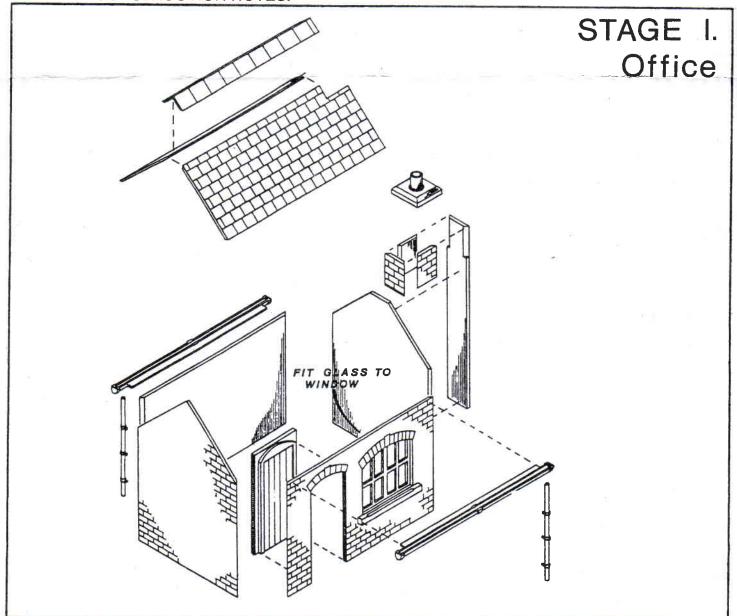


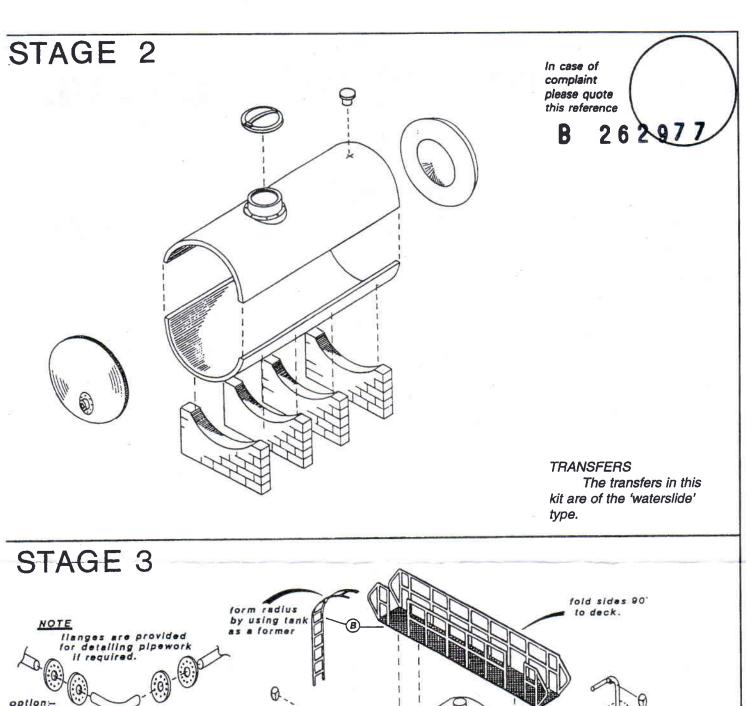
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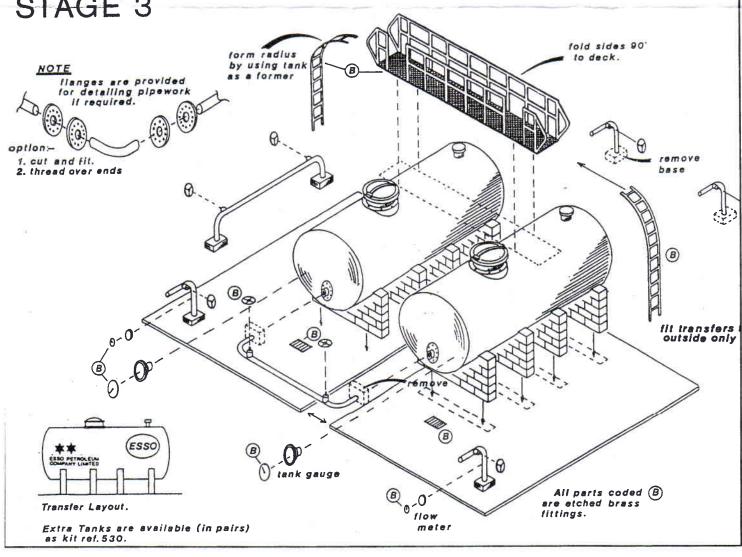


GENERAL INSTRUCTIONS

- 1. STUDY THE DRAWINGS CAREFULLY AND FAMILIARIZE YOURSELF WITH THE FIT OF EACH PART.
- 2. CUT DO NOT BREAK PARTS FROM RUNNERS.
- 3. USE A LIQUID CEMENT FOR ASSEMBLY.
- 4. SEE SEPARATE SHEET FOR FULL PAINTING AND CONSTRUCTION NOTES.







CONSTRUCTION AND PAINTING HINTS



FOR RATIO PLASTIC MODELS

Ratio Plastic Models are made from the finest available materials and contain all the detail necessary for you to produce a first class model. Here are a few hints and tips to help you on your way.



TOOLS

A few basic items are required for the assembly of our kits. Listed below are the ones we use ourselves and highly recommend.

HOBBY KNIFE - X-ACTO for all heavy cutting work.

SCALPEL - SWANN MORETON No 3 handles and C10, 10a, 11 & 15 blades are probably the best knife a modeller can get. Used for all trimming and light cutting work on plastic, wood or paper. Indispensible!

RAZOR SAW – X-ACTO for all heavy cutting and kit conversion work.

TWEEZERS/SMALL JEWELLERS PLIERS — for holding and placing small parts etc.

PIN CHUCK AND DRILLS – the most useful sizes are nos. 80 - 50 (0.34 - 1.78mm) inclusive.

NEEDLE FILES – Flat, Round, Half Round, Square and Triangular are all you should need. Cut 4 is best for our type of plastic.

In addition to the items in this list, there are many more that can be added if you wish, such as small power tools, vices etc. However, most of these tools are quite expensive and not really necessary to build a good plastic kit.

ADHESIVES

LIQUID CEMENT — For all our plastic kits we recommend that you use a good liquid polystyrene cement such as our own POLSOL or EMA PlasticWeld. In addition to styrene they will also work on ABS and acrylic plastics. We never recommend the use of a tube type cement on any of our plastic kits.

PVA WHITE GLUE — For all scenic work and attaching small or clear parts without spoiling the paint finish of your masterpiece. It can also be used for filling small gaps.

CYANOACRYLATE -- LOCTITE SUPERGLUE EXTRA is the best we have found. Used to attach metal parts in our kits and will also fill small gaps.

FILLERS - Not really an adhesive as such but essential for filling gaps in kit conversions and prominent joint lines.

We recommend: HUMBROL model filler, PLASTIC PADDING (hard type) car filler and MILLIPUT.

CONSTRUCTION HINTS

Try to avoid the temptation of rushing into the construction of your model.

- 1. Read the instructions.
- 2. Study the parts list carefully and read any notes several times to familiarise yourself with the assembly procedure.
- 3. **CUT** do not break the parts from the runner. All cutting should be done on a firm FLAT surface. If there is any flash on the mouldings, this too can be trimmed whilst the parts are still on the runner. It is also often easier to drill out holes and clear slots at this stage.
- Before cementing any parts together have a dry run first. Do not rush, be patient and you will find your kit goes together much more smoothly.

PAINTING

This will be the most time consuming part of building your model. Please read these notes carefully before any painting is started. WHICH PAINT? —The main types of paint available for finishing your model are cellulose, enamel and acrylic. In addition you can

use inks, chalks and felt pens.

UNDERCOATS - All parts should be painted with an undercoat. Use matt white for all reds, yellows, light blues and greens. Use grey for all other colours.

CELLULOSE - Normally applied from aerosol cans, (car touch up type). The most useful colours are matt white, matt black, grey primer and red oxide primer.

WARNING: These paints will attack and craze styrene plastic if applied too heavily. However, they are quite safe to use if you are very careful and spray only light coats letting each coat dry before recoating. These paints have very fast drying times. DO NOT USE OVER ENAMEL PAINT. ENAMEL - We recommend Humbrol enamels. Follow the instructions on the tin. An undercoat is recommended for all

ACRYLIC - Water based paint, very good for weathering and painting small areas. An undercoat is recommended, paint becomes waterproof when fully dry.

INKS, CHALKS & FELT PENS - Used mostly for special effects such as highlights, washes or dusting etc. Usually the last to be applied to a model.

PAINTING INSTRUCTIONS

IMPORTANT: READ THIS FIRST

Preparation. Wash all parts in warm soapy water to remove any grease. Allow to dry.

Paints. For all main painting we recommend Humbrol enamels or any of the special railway colours now available.

Dry Brushing. Use an old brush for this. After brush has been dipped in paint remove most of the colour by gently wiping on paper or a tissue. Now gently flick the tip of the brush across all the detail on your model. You will find that the paint clings only to raised detail giving realistic highlights. For all dry brushing we recommend acrylic paints, Tamiya or Humbrol. These are water based so will not disturb the enamel colour in any way and any mistakes can be removed while they are still wet.

Washes. These are a thin mixture of paint diluted to 75% water or more. For washes we recommend acrylic paints. Inks can also be used for washes but ensure they are water and not spirit based. Brushes. Use the best you can afford. Sable or squirrel are best. 'Cheapies' can be used for weathering, but watch out for stray hairs! Glass Frosting. Rub both sides of 'glass' with 400 grade wet 'n' dry paper. Do not use a circular motion, wipe the abrasive in one direction only. Dip the sheet into clean cellulose thinners or liquid plastic solvent (Daywat or Polsol are suitable). Dry immediately under hot air (hair dryer). Your window will now be pleasantly frosted. The degree of frosting can be varied by the length of time you leave the plastic in the solvent.

You are now ready to start painting. Be patient. Follow paint manufacturers' instructions. Drying times are very important — do not expect to paint your kit in a couple of hours. Follow these simple steps and you will have a model of which you can be proud.

STONEWORK

- Choose your base colour and give all stonework a thin single coat. Let paint dry.
- 2. Mix a few darker and lighter shades of your base colour and pick out individual stones until you achieve a nice natural look. Let paint dry.
- 3. Now use a water based paint (Rowney acrylic) to lay in the mortar. Thin your chosen colour to about the consistency of milk

and give a wash coat all over the stonework so that all dips and hollows fill with paint. Leave to dry for about 3 to 4 minutes, then wipe off with a clean dry rag. This should leave paint between the stones and in hollows. Let paint dry.

- 4. Drybrush just a few of the darkest stones with white and a few with green to represent chips and moss.
- 5. Finally drybrush around the bottom of the base with matt earth and black to represent dirt and grime.

BRICKWORK

Follow the procedure for stonework using brick reds and oranges, omitting stage 5. Window sills can be painted in concrete or sandstone colour if desired.

STONE LINTELS

- 1. Paint overall in sandstone colour, then drybrush with foliage green, dark brown and black. Let paint dry.
- 2. Wash overall with a dirty brown/black mix (80% water: 20% paint).
- 3. Drybrush again with foliage green.

ALL CONCRETE SECTIONS

- 1. Paint these with Humbrol concrete with a little yellow and light grey added. Introduce these colours a little at a time until you obtain a shade that looks right to you.
- 2. When this coat has dried (at least overnight) very lightly drybrush over the whole surface with light earth colour, pay more attention to the lower half of the model. Once you are happy with the appearance, let the paint dry (again at least overnight).
- 3. Now the whole model can be given a wash of grimy mix, as follows: Use about 80% water with a dash of dark green and black. Paint down from the top of the model, let the paint run into all joints and gaps. When dry this should give a very convincing dirty look to the model. This stage can be repeated as often as you like until you are happy with the appearance.

ASBESTOS SECTIONS

Roof, barge boards, vents, canopy, gutters, downpipes etc.

- I. Paint all of these parts in a slightly lighter colour than you used for the main building. Let paint dry. If you wish, individual panels can be painted in very slightly different shades.
- 2. Drybrush all these parts very carefully, starting with a mid grey, then a medium green. Do not overdo the green. Let paint dry.
- 3. Apply a thin overall wash, using the same dirty mix as for the concrete parts. When dry, re-drybrush the green adding a small amount of brown.
- 4. When the paint is really dry and hard, any bolt fixings can be picked out and a thin rusty mix dribbled down towards the ground.
- 5. Finally add a few greeny-yellow stains, working from the apex downwards.

STEEL/IRON PLATE

This can be painted any colour you wish, the following tips apply whichever colour you choose.

- 1. Give the model a primer coat of rust colour. Let paint dry thoroughly.
- 2. Mask off small areas around corners and down any rivetted seams by stippling on white glue over the paint. Let glue dry.
- 3. Paint the model in your chosen colour overall.
- 4. When the paint is hard (about 12 hours will be needed) pick off the white glue masking with the tip of a knife blade, any stubborn spots can be removed by soaking in warm (NOT HOT) water. You should now have rusty patches showing through your paint.
- 5. Use a dirty orange mix and dribble it around all the patches and seams inside and out, also paint a few streaks from the top of the platework downwards. Let paint dry.

METALWORK, LADDERS, PIPES etc.

Colour choice is up to you. Matt greys, black, steel look best. Dribble a thin rusty wash around all seams, nuts, bolts etc.

PAINTED METAL - valve wheels etc.

Paint in chosen colour, drybrush with steel or aluminium paint.

CHIMNEYS.

- 1. Paint overall with cement colour. Paint the pots dull red/orange. Let paint dry.
- 2. Drybrush overall with light brown then mid grey. When dry, apply a dirty wash mixed up from black and green.
- 3. Add a few dirty yellow/green streaks from the top cap downwards, then brush a sooty black colour around the top of the pots.

ROOFS - slate/felt.

- 1. Paint overall in dark grey/green.
- 2. When dry, use a large soft brush and drybrush overall progressively lighter shades of this colour. (5 or 6 times will give a nice effect).
- 3. Working from the apex of the roof, dribble a thin mix of dirty green/black down to represent weather stains. Pay particular attention around chimney bases and skylights.

NATURAL WOODWORK

- 1. Mix a few shades of brown and grey and paint planks in the direction of the grain. Blend the colours together as you go so that there are no hard edges between shades. Aim for a subtle blend of the grey and brown and try to avoid a streaky appearance. Let paint dry.
- 2. For old timber, drybrush planks with light grey.
- 3. For damp or rotting wood apply a thin (75% water: 25% paint) wash of black/green.

DOORS, DOOR FRAMES

Doors and frames can be painted to the colour of your choice, we recommend that you paint the frame a darker colour than the door. Paint lock plates, door handles etc. brass or black.

WINDOW FRAMES

Paint any colour you like to suit your model. Paint before adding glass. May be weathered to taste.

VALENCING

Paint in colour of your choice or in regional colours. When dry give a dirty brown wash, followed by drybrushing with light grey.

DETAILS

FIRST AID BOXES. When paint is dry, run a thin brown wash overall. Let paint dry. Drybrush with light grey. When dry scrape paint from raised lettering and paint handles brass.

TELEPHONE BOX. Repeat above process, but colours of boxes vary. Suggest either white or light grey.

BELL BOX. Paint woodwork brown. Drybrush with grey. Bell can be red or brass, clapper should be brass.

NOTICE BOARDS. Paint in regional colours or whatever you like. Borders were usually a darker colour than background.

GUTTERS, DOWNPIPES. Paint to match woodwork of model or black. Drybrush with light grey. Let paint dry. Apply a rusty colour wash overall. Finally run a dirty green wash down the drain channel.

These are only suggestions and the methods above can be applied to any model you build, including rolling stock. We hope you enjoy building this kit and will try others in our ever increasing range.

Ratio Plastic Models

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