

4mm Scale - Ref. 4043 NER/LNER diagram VI "Birdcage" Brake Van



INTRODUCTION

Prototype Information

The North Eastern Railway had a liking for "birdcage" lookouts on its brake vans, both passenger and freight. Indeed, until the advent of the well known V4 10 tonner of 1908 with two verandahs and side duckets, the "birdcage" V1 was the "standard" NER brake van, although normally designated "Goods" or "Mineral" van rather than brake.

The V1's were built mainly between 1897 and 1902, although it is not possible to be specific about the dates. It is probable that prior to about 1900 they were built with horizontal planking, where as after this the planking was vertical as in our kit. About 1907 some vans were fitted with side duckets, although less than half were converted. Some of these vans also had the "birdcage" removed, although it is not known how many. The NER wagon register does not show which vans did or did not have the duckets and the only evidence is photographic. Commencing in 1905, some vans were fitted with vacuum or Westinghouse pipes and / or brakes for working fitted freight trains. In 1906 there were 27 fitted with Westinghouse pipes, 4 with Westinghouse brakes, 3 with vacuum brakes and 22 with vacuum pipes. Vans so fitted also received screw couplings in place of the normal 3 link variety.

The V1's were used widely on the NER and later LNER. In the 1920's and 30's they were withdrawn in ever increasing numbers, although 10 of them, including 3 vacuum braked examples, were still in service at least until 1938. There is a preserved one at the Beamish Museum, though some details of both fittings and livery are believed to be incorrect.

We are indebted to members of the North Eastern Railway Association for their invaluable help with the research for this kit.

Parts required to complete:

1. 3 link coupling as/if required Slater's ref 4155 will suit
2. 1 Pair of 3'6" 10 spoke wagon wheels. Alan Gibson produces suitable wheels.

Livery Details

Basically there were 5 livery variations, although within each category there were inevitably exceptions and detail differences. We have provided transfers suitable for the later period and figure 3 shows typical positioning for the transfers. Note that the figures are only a guide as to positioning of the transfers and are only approximate with regard to lettering size and style.

MODEL INFORMATION

This kit will enable you to build an accurate replica of **NER/LNER diagram VI "Birdcage" Brake Van** in original condition,

Tools Needed

The following tools are needed, most of which will already be in the toolkit of the average modeller.

"Stanley" type knife for removing polystyrene parts from their sprue.

Assortment of small files for finishing removal of tabs, and general cleaning up.

Cyanoacrylate (Loctite Superglue or similar) for fixing of brass parts to polystyrene mouldings.

Liquid Polystyrene Cement (not the tube type) for joining plastic parts together. Naturally, we recommend our own MekPak which is applied with a fine brush (which we can also supply).

a. NER to 1904

During this period the van bodies were painted chocolate or vandyke brown, the ends were vermilion and the roof lead grey. The solebars, and all the ironwork below the solebars, were black, as were the buffers and possibly the handrails. It is possible that early in the period the wheel tyres were white. The interior was white and lettering yellow. The vehicles were designated as either "Mineral" or "Goods" vans and the district allocation, northern (N.D), central (C.D) or Southern (S.D) together with the vans home station, appeared below this. It is impossible to list here every van, but we offer some examples of the designation, district and home station to assist the modeller.

Figure 3a illustrates the lettering layout of a typical V1 of this period.

No.	Designation	District	Home Station
5	Goods	SD	York
6	Mineral	ND	Hartlepool
7	Goods	SD	Castleford
11	Mineral	CD	Stockton
14	Mineral	CD	Shildon
17	Goods	SD	Selby
25	Mineral	ND	Tyne Dock
30	Goods	SD	York
32	Mineral	SD	York
33	Mineral	ND	West Hartlepool
39	Mineral	CD	Middlesbrough
48	Goods	SD	Hull
49	Mineral	CD	West Auckland
56	Goods	CD	Darlington
58	Mineral	CD	Haverton Hill
64	Mineral	ND	Gateshead
91	Mineral	ND	Percy Main
4790	Goods	SD	Hull
4872	Goods	NO LETTERING	Middlesbrough
10356	Ballast	CD	Middlesbrough
14932 (to 4.8.21)	Mineral	SD	York
04980 (from Mess & Tool 5.8.21)			Percy Main Loco Dep
16604	Goods	ND	Newcastle
17075	Mineral	SD	Leeds
20100	Goods (passenger)	NO LETTERING	Pickering
21297	Mineral	CD	Darlington
21313	Mineral	SD	Hull
25005	Goods	SD	Leeds
44815	Mineral	CD	Shildon
44838	Goods	ND	Washington
97878	Mineral	ND	Seaham
97883	Goods	ND	Seaham

b. NER to 1922

From about 1904 to the end of NER as an independent company the colour of the van body was changed to red oxide and the lettering was white. Up to about 1911 the lettering layout is shown in figure 3b. The lettering size were:

NER 7 1/2"

Numbers 6"

Designation 4"

Home Station 4" initial followed by 3" letters.

From 1911 to 1922 there were two different styles of lettering. The exact distribution and chronology of the two variations is not clear. Variation 1 is illustrated by Figure 3c, the lettering sizes being

Designation 6"

Numbers 6"

N.E 12"

Home station 4"

Variation 2 is illustrated by Figure 3d. Note that the number was above the E on each side. Lettering sizes were:

Numbers 5 1/2"

N.E 12"

Home station 4" Initials followed by 3" letters

c. LNER post 1923

The LNER painted the entire van dark grey with white lettering as shown in Figure 3e. The lettering sizes were:

N.E 18"

Numbers 5"

10 tons 4"

The exceptions to the above vans fitted with automatic brakes or pipes which were authorised on 31.10.24 to be painted red oxide with white lettering. The LNER dispensed with the home station indication except for the following:

Blaydon Mineral

Kirkby Stephen

Blyth

Ferryhill

Middlesbrough

Percy Main

Bishop Auckland

Consett

Hartlepool Mineral

Monkwearmouth

Sildon

South Dock

Washington

West Hartlepool Mineral

Tyne Dock Mineral

Wear Valley Juct

Tyne Dock Goods

West Auckland

Port Clarence

Rosedale

Gateshead (Mineral)

Waskerley

Haverton Hill

South Dock (Goods)

South Dock (Mineral)

Gateshead (mineral) was deleted on 14.2.27

Annfield Plain, Barnard Castle and Newcastle Quay were added to the list on 30.10.30

West Auckland was deleted from the list on 23.3.31 as the marshalling yard there had closed.

Throughout their lives the vans appear to have had their weight painted in white above the left hand axleboxes on the solebars, and the cast number plates painted black with white lettering on the right.

ASSEMBLY INSTRUCTIONS

MATERIALS

Many different materials are used in our range of kits and are selected as appropriate for the detail and strength requirements of the individual components they depict. In addition material is also chosen to provide a suitable running weight for the model. These general notes apply to our complete range of kits and may well include superfluous information with regard to some individual kits.

ASSEMBLY NOTES

Before commencing assembly read the instructions carefully and familiarise yourself with the parts. The following general notes are offered to help you construct an accurate and attractive model:

- a. Always cut parts from sprues with a SHARP knife; do not be tempted to break parts from sprues as the risk of damage is high. Clean off small pips with a knife or a fine file.
 - b. Do not remove parts from sprues until the instructions call for it; this will help identification of parts and minimise chances of loss.
 - c. Painting is rarely best left until construction is complete. The latest stage at which it is advisable to paint a model is before small detail, glazing etc. is applied. The suggested order of assembly is designed for this.
 - d. Any flat surface to assemble your model and to ensure squareness and accuracy.
 - e. Use a liquid, not tube, cement. Slater's MEK PAK is ideal and will provide a clean and easy to use adhesive medium.
1. Take the two side mouldings and open out the handrail holes with a No.76 drill (.020"/.508mm). See figure 2 for handrail layout. Take the four end stanchion and drill a No.76 hole laterally through each one 17.5mm from the bottom (wide) end- see Figure 2. These holes will be for rails B and E. In two of the stanchions drill a further hole, to half depth only, 25.4mm from bottom end in the outside face- see figure 2. These holes are for rails D. In the same two stanchions drill No.76 hole centrally in the front face of the stanchion 32mm from the bottom for rail C - see figure 2. Take the tall end moulding which includes the "birdcage" section and drill out No.76 the holes for rails D at the points marked- see figure 2.
 2. With a fine file gently chamfer the small corner strapping overhangs on the sides and ends so that they are flush with the main chamfer see figure 1. Take one side and one end and glue together so that the lower edge of the side sits on top of the non-chamfered portion of the headstock - see figure 1. Repeat with the other side and end, ensure that the two sub-assemblies are at 90° and leave to set.
When thoroughly dry, glue the two sub-assemblies together to form the basic body shell.
 3. Invert the body shell and drop in the floor so that it rests on the longitudinal ribs moulded on the outside faces of the sides. Ensure that the mouldings on the floor are to the outside and glue into place
 4. Glue in place the small birdcage end.
 5. Take the two end stanchions in which you have drilled only one hole each and glue them in place on the non-birdcage end. Glue the other two stanchions in place on the birdcage end ensuring that the holes drilled for rails D are to the outside
 6. Glue one solebar in place between the headstocks with the inner face against the lateral ribs under the floor and the end lugs against the lower edges of the headstocks.
 7. Put wheelsets and bearings in position with the other solebar and, when satisfied everything is true, glue it in place. Whilst the glue is still drying, stand the model on a sheet of glass and ensure all four wheels are touching it.
 8. Slide one of the small annular mouldings onto each buffer head, insert into buffer housing and glue in place.
 9. Glue the footstep mouldings in place. The recesses in the lower footboards glue onto the lower edges of the axleboxes for strength.
 10. Paint the model and apply your chosen transfers. The transfers are of the waterslide type and should be applied as follows:

- These transfers work best on a gloss or semi-gloss paint finish. There is a glossy carrier film which will be virtually invisible on a gloss surface, but on a matt surface it will be visible and the transfer will not adhere so well. Ensure the surface is clean - dust and finger prints will prevent proper adhesion.
- Cut the transfer from the sheet; usually around the glossy carrier film. Some groups of figures are printed on a common piece of carrier film, most are individual figures which have to be applied separately.
- Immerse the transfer in a saucer or other container of warm water for a few seconds. The container should be large enough to accommodate the full, flat transfer. The transfer will initially curl up and then partially flatten out. Test whether the transfer has become loose from the backing sheet and will slide off smoothly, by gentle pressure with a finger. In cold water, the separation will take longer, but never use very hot water to try to speed it up.
- When separation has occurred, position the transfer and backing paper as one item to the required location retaining the transfer in position whilst gently sliding out the backing paper. Remove excess water.
- Make final adjustments to the position, at the same time dabbing off further excess water with an absorbent cloth or blotting paper. If there are any air bubbles trapped under the transfer, remove these by a gentle outward stroking of the cloth or blotter to the edges of the transfer.
- Allow to dry completely for several hours, such as overnight. When all transfers have been applied and allowed to dry, a protective coat of a suitable varnish in gloss, satin or matt finish should be applied over the transfer. Most varnishes sold for model painting should be suitable and should not damage the transfer, but you must ascertain this for yourself.

11. Cut pieces of platiglaz about 1mm larger all round than the window openings and fix in place by applying a thin smear of contact adhesive such as Evostick around the edges.

12. Glue in place the main and birdcage roofs. Note that the chimney base is closer to the birdcage than to the end of the van. Cut a piece of 40thou brass wire 7mm long and fix into the chimney mounting on the roof.

13. Slide the brake shoe mouldings under the axles and glue into place so that they line up both the wheel treads.

14. Glue the longitudinal timbers between the lower end stanchion extensions. Note that "00" modellers will have to take care that they are clear of the inside wheel faces.

15. Referring to figure 2, make the handrails from .020" brass wire and fit as follows:

- a. Cut two pieces 13mm long for rails B and slide them through the transverse holes in the end stanchions. We recommend a spot of cyanoacrylate adhesive to secure rails in place.
- b. Bend rail C to the dimensions shown and fit.
- c. Cut two pieces 11mm long, make a 90° bend 3.5mm from one end of each and fit as rails D.
- d. Cut four pieces 35.5mm long and make 90° bend 11mm from one end of each. These pieces form rails E.
- e. Make a 90° bend 3mm from the end of the remaining wire and lay it in the bending jig on one of the side and end sprues. Pull the wire round the "open" end of the jig and cut 3mm from this bend. Repeat seven more times to form rails A.

f. Solder two rails A to each rail E as shown. One recommended method is to coat each rail with solder paint at the required points, grip the bent end of each in a sprung wooden clothes peg and lay on a flat surface (not the kitchen table!) Adjust the position of each until they are all in the correct relationship (some pencil lines on the wood will help) and solder the joints using a small gas or spirit blow lamp. Alternatively, gently touch each joints with a hot, clean iron which has been well tinned beforehand. Fit the composite rails as shown in the diagram.

16. Paint the handrails. From the photographic evidence it appears that the handrails were variously painted, black or to match the body colour.

17. If using the Slater's tension lock couplings supplied, place the coupling hook in the bearing of the coupling bar unit then cement to the carrying plate. Make sure that no cement comes into contact with the hook or it will not pivot freely. Glue the assembly in place under the floor. Figure 4 will help clarify assembly. Glue the dummy coupling hooks in place in the headstocks. If using 3 link coupling fit them in accordance with manufacturer's instructions (which we sell Ref 4155).

FIG1

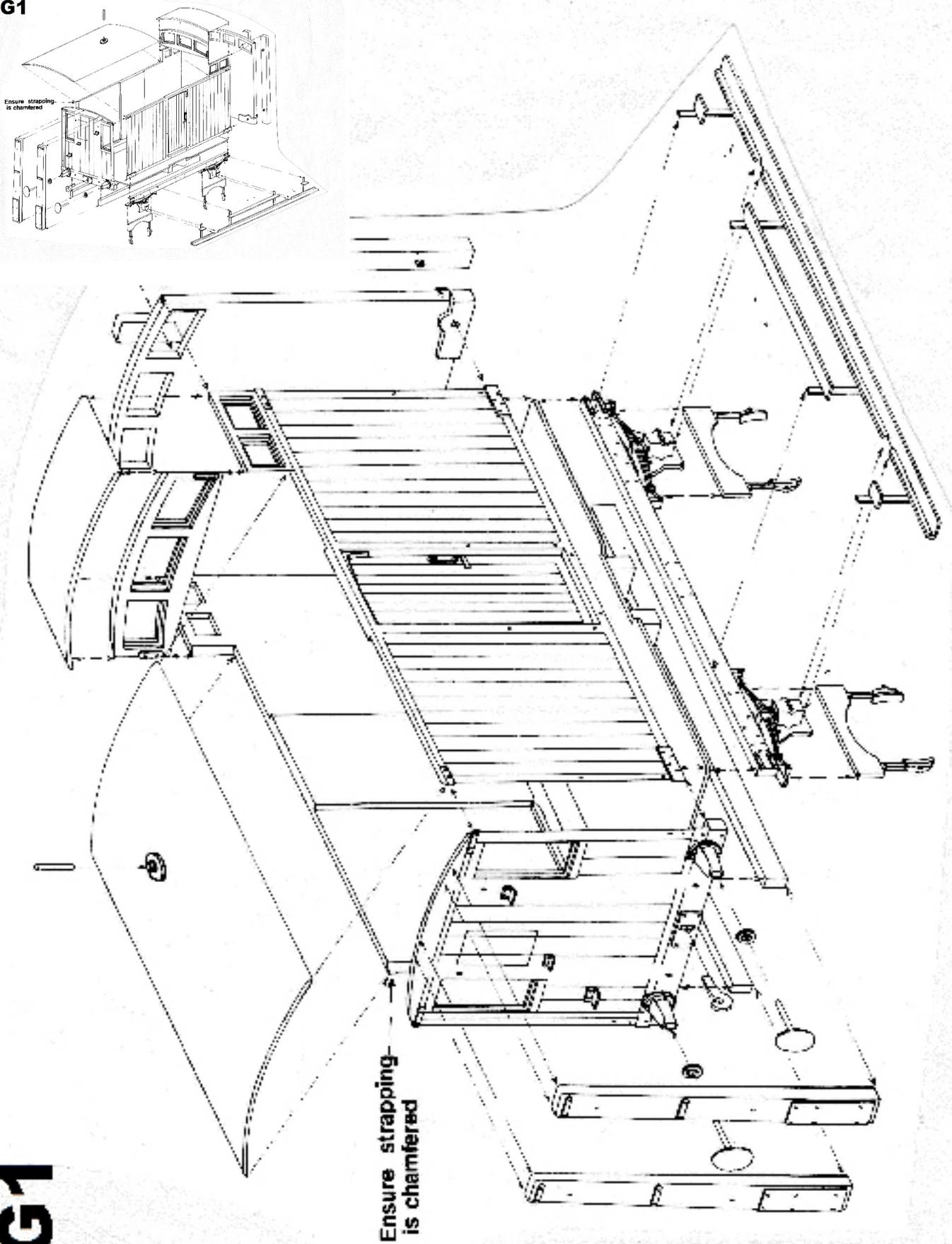


FIG1

FIG.2

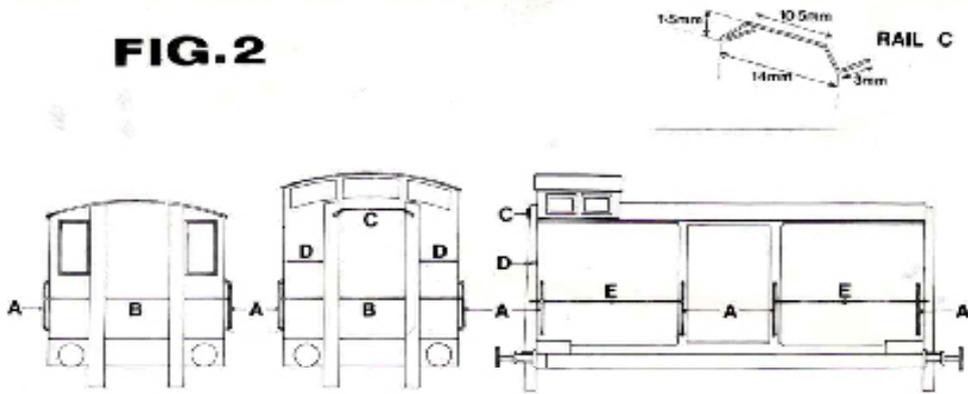


FIG.3a - NER to 1904

YELLOW LETTERING



FIG.3b - NER to c.1911

WHITE LETTERING

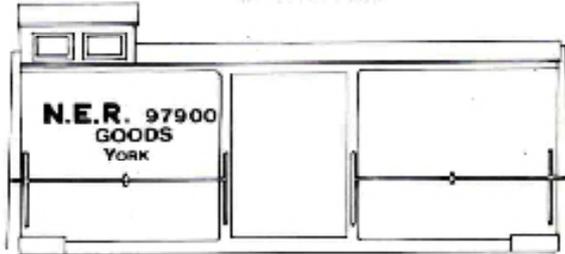


FIG.3c - NER to 1922 version I

WHITE LETTERING

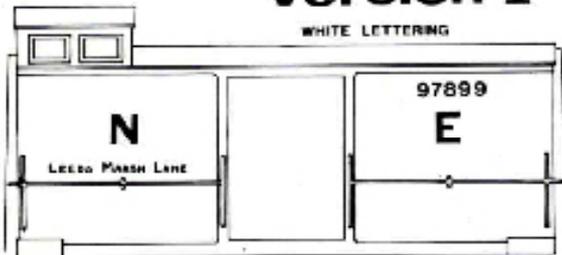


FIG.3d - NER to 1922 version II

WHITE LETTERING

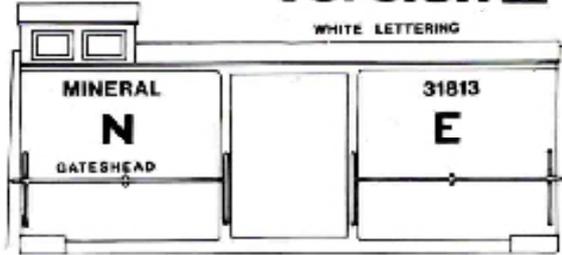
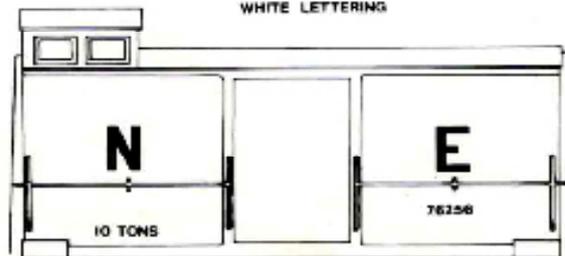


FIG.3e - LNER post 1923

WHITE LETTERING



NOTE : THIS FIGURE IS ONLY TO INDICATE TRANSFER POSITIONING. LETTERING STYLES AND SIZES ARE ONLY APPROXIMATE.

Packing List

Part No.	Description	No in Kit	
Plastic Mouldings			
X4043A	Side And Cage Ends	1	_____
X4043B	Side And Fixed End	1	_____
X4043C	Roof	1	_____
X4043D	Floor	1	_____
X4043E	Solebars.....	2	_____
X4072	Tension Lock Coupling	1	_____
Other Parts			
-	Plastigaz (1"x 4").....	1	_____
-	0.5mm (20thou) brass wire (4in length)	4	_____
-	1.0mm (40thou) brass wire (1/2in length)	1	_____
X407051	Buffers.....	4	_____
40149A	Transfer	1	_____
Instructions	1	_____
Customer Response Form	1	_____

The transfers we have included in the kit are the white lettered transfer, if you require the earlier yellow transfers please send these transfers back to us along with the customer response and we will swap them for the other type.