RAGSTONE MODELS

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BR Carflat Kit

Diagram 1/133

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26 Wadham Close
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BR dia 1/133 Carflat A

History

During the 1960's many redundant pre-nationalisation coaches found further use converted to carflats. This kit is of those converted from GWR Hawksworth design coaches during 1966. Similar conversions of Collett underframes were made but these were of varying lengths, depending on the donor vehicle. Conversions on LMS standard 57' underfame were also common.

Their capacity was 4 cars or 3 vans, secured with chocks spiked to the wooden deck. Due to diminished traffic (and newer, air braked conversions using Mk 1 underframes) most were withdrawn during the 1980-85 period.

Numbers

B745816-845
TOPS code FVV

Livery

The conversions were originally painted Bauxite (sides and ends), with black underframes and bogies although some all black vehicles have been observed.

Further Information

Information and photographs are available as below:

See plate 114 of 'An illustrated history of BR wagons vol 1' (OPC) for a photo.

Other useful sources of pictures are:

British Rail Wagon Photographs by Paul Bartlett at: http://paulbartlett.zenfolio.com/

Introduction to kit building

Etchings

Cut the brass parts from the fret using a *sharp* craft knife (or similar) on a firm surface rather than using tin snips as these can distort the delicate etchings. The etching process leaves a small 'cusp' on the edge of the parts which should be gently filed to remove, along with any remains of the tab. This is essential to enable the parts to locate accurately as well as providing a smooth edge, which as well as looking better, provides a better surface for the paint to stick to.

Castings

These are supplied either attached to sprues or loose, if the former carefully cut from the sprue and (in both instances) clean up the remaining feed and any area you intend to solder to. If the casting forms a moving part, the relevant surfaces will need smoothing to ensure free running. Using fine files and emery cloth or other fine abrasive sheet to give a polished finish will pay dividends in reliable operation.

Folds

Generally all fold lines are on the inside of the bend, if not this is stated in the instructions. Folding can be performed in a number of ways, such as using smooth jawed pliers up elaborate folding bars. Clamping the part to a flat surface with a steel rule and using a second one to perform the folding action can be very effective. Long folds are ok as they are, but any shorter than about 10mm, and especially very small ones (less than 3mm), will benefit from a reinforcing fillet of solder.

Solder

This kit is designed for solder assembly using either 188 degree solder (brass to brass), 145 degree (brass to whitemetal) or 'lowmelt' 70 degree for whitemetal only joints. Where the term 'solder' is used in these instructions it will refer to any of these methods. It is up to you to decide the appropriate type and use the correct flux and iron for the job.

Glue

Some small parts can be added with glue. Use a good quality product and follow the manufacturers' instructions.

Cleaning

Keeping the model clean is a vital part of a good final finish. Flux residues and metal filings build up so always wash this off at regular intervals, especially at the end of a modelling session when you are not going to resume for a day or two. Occasionally I will wash the model during a session if it gets particularly bad. Several products such as lime scale remover or scouring cleaners can be used, but some, such as most washing up liquids do contain chemicals to give added shine which then need to be removed before painting.

Paint

Before painting the model should be thoroughly cleaned to remove any remaining flux, dirt or other construction debris. Allow to dry completely before painting. It is best to use some sort of etch primer, but providing the model is completely grease free, acrylic grey primer (car paint in spray cans) will provide a good base for the final livery

Photographs

These instructions are a guide to assembling the kit, but in order to get an accurate model, reference photographs are essential - see references section on page 2

Assembly

General – cut all parts carefully and clean off tabs with a fine file. All etches have a cusp on the edge from the etching process and this should be carefully filed smooth before assembling a part.

Note: All fold lines are to the inside of the fold. Due to the length of some parts it helps to score the fold lines to make the folding process easier.

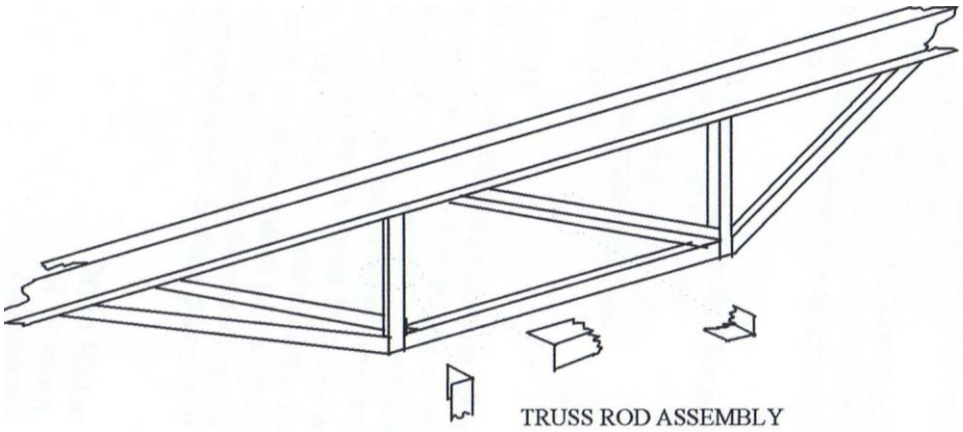
1. Take the floor/ends (1), fold down sides and ends up.

2. Rivet solebars (2&3) and fold flanges. Note rivets marked R are only present on underframes from non corridor thirds, so you may not need these. Take care and file the top flange (the one that runs full length) to give a snug fit to the floor but don't fix yet. Form rivets and fold queenposts (4), fold bogie cross channels (5) and cross channels (6&7), use the queenposts (which may be slightly wider) to check the solebars are a snug fit to body and all the parts fit between the solebars. File the top flange slightly if too tight

3. The queenposts locate outboard of the four lines nearest the centre. When happy attach these parts using lines etched on the rear of the solebars to locate the vertical part of the cross members. The queenpost & cross angles all have the open end/flanges facing outwards towards the buffer beam.

4. Fit V hangars (8) to the outer edge of the queenposts (marked with two parallel lines with 4 rivets between them) and the extra V hangar (9) in between the two lines with a V between them. Note washers and morton clutch (parts 13 & 14) are attached to these, keep them safe till later.

5. Truss angles (16) can be folded and the outer pair fitted now, the inner pair are best left until after the vacuum cylinders have been added, the ends fit in the slots in outer cross channel (6), fold and fit cross angles (15) between and against the queenposts as per the diagram below.



TRUSS ROD ASSEMBLY

6. Fold bottom flange and fit outer ends (24), to inner ends with the flange located in the cut outs in the bottom solebar flange. There is a small amount of overlap at the top to allow for adjustment which can be filed off after final fixing. Now add buffer plates (25), end strapping (21, 22 &23), and lamp irons (27). To fit doorstops, drill a 0.7 mm hole in the outer hinge (and end) where it crosses the plank joint. Solebar end plates (28) fit in the channel, against the buffer beam, two vertical columns of rivets.

7. Use the 1.5mm wire to form the vacuum pipe along one solebar, between the two outer holes. The two inner holes are where the branches to the actual brake cylinders are joined to the main pipe.

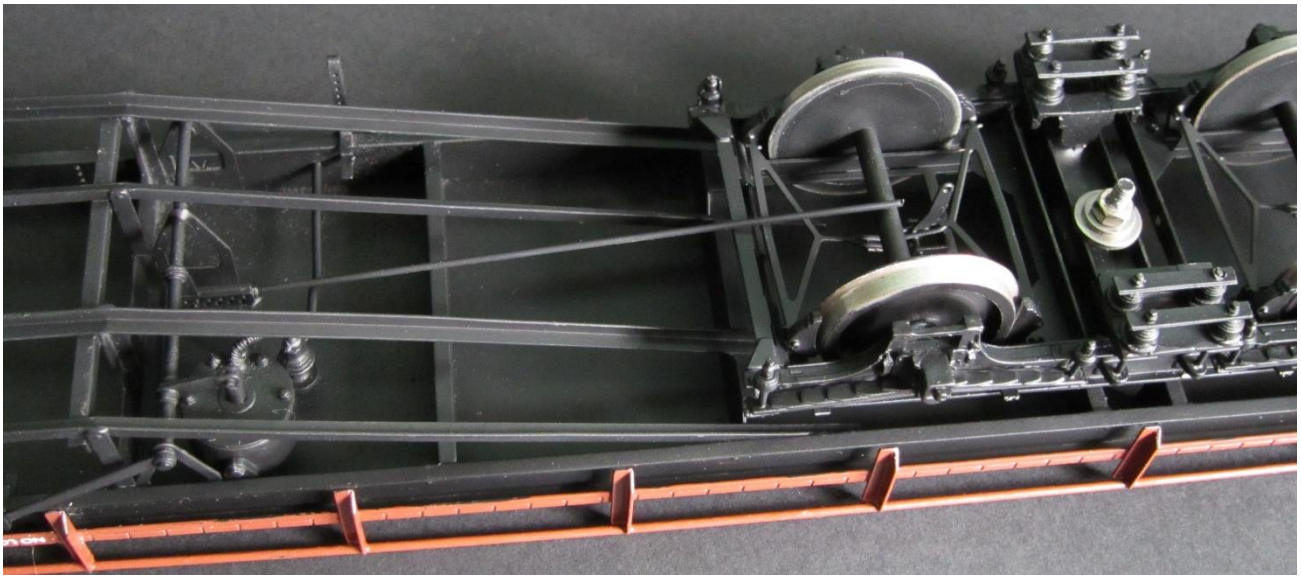
8. Fit corner angles (17). Fit side angles (18) to marked positions on the body side; match the orientation with the nearest corner, changing at the centre of the vehicle. Fit thick wire along the top of the angles ensuring it is level.

9. Fit buffer castings to holes in buffer beam, make sure the buffer heads are an easy fit in the buffer bodies. Clip top of the buffer castings level with the top of the buffer beam. Fit the heads and retain with a small length of 0.7mm wire through the hole in the tail. Fit the spring and retaining stop over the end of the shaft and adjust so that

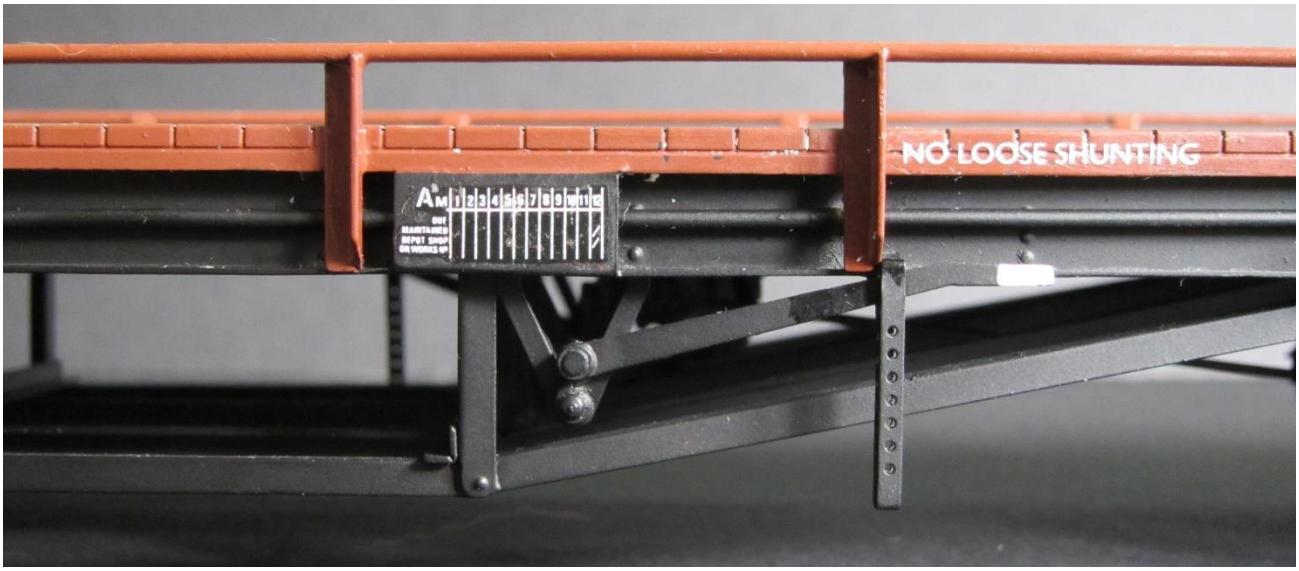
the buffer will compress fully and smoothly. Make up and fit the couplings and vacuum pipes.

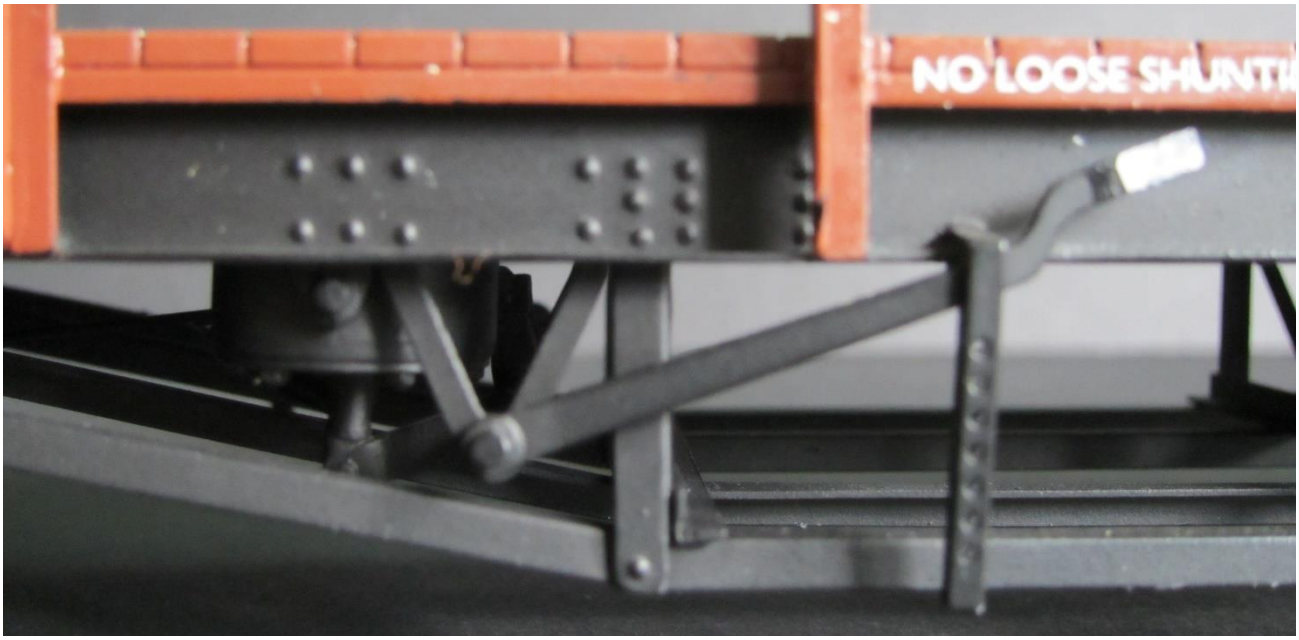
10. Two types of number board (19 & 20) are supplied; some wagons also had a data board which can be made by trimming the unused number board. Fit to sides at the left hand end. The label clip (29) fits just to the right of the first stanchion.

11. Fit vacuum cylinder and associated castings, using the short 1.2mm rod for shafts and with the 13 hole adjusters (pointing towards the bogie!) above the shaft when the wagon is the correct way up. The 13 hole adjusters should be drilled 0.9mm and a length of wire added after the bogies have been fitted. One end has a full width shaft for the handbrake



12. The handbrake shaft is the full width of the wagon, fit 2 washers (13) to the vac cylinder end (to represent the clutch) and reversing clutch (14) to the side opposite the vacuum cylinder having laminated the two parts. The remaining two washers should be fitted to the ends of the brake levers. Fit brake lever (11) and ratchet strip (10) to the vacuum side and lever 12 with a small piece of wire to the upper hole in the morton clutch





13. Fit the bolster castings, with 6ba bolt soldered in to the cross support, ensuring it is central and the wagon is level when standing on its bogies.

14. Make up bogies as per bogie instruction sheets (pages 8-10). The carflat's did not have footsteps so carefully cut these off the sideframe castings during assembly

Parts List

Etch

1	Floor/inner ends
2	Solebar
3	Solebar
4	Queen posts
5	Bogie cross channel
6	Outer cross channel
7	Inner cross channel
8	V hangar
9	Handbrake V hangar
10	Handbrake ratchet strip
11	Handbrake lever - vac side
12	Handbrake lever
13	Washer
14	Morton clutch
15	Truss cross angle
16	Truss rods
17	Corner angles
18	Side angles
19	Lettering board
20	Number board
21	Left hinge
22	Middle hinge
23	Right hinge
24	End
25	Buffer plate
26	Coupler plate
27	Lamp iron
28	Solebar end plate
29	Label clip

2x Bogie etch

Castings/Other

Whitemetal

4x	Buffer bodies
2x	2 off Buffer spring base
4x	Door stops
2x	Vacuum cylinder
2x	Vacuum cylinder bracket
2x	Vacuum cylinder pipe
2x	Vacuum cylinder crank
2x	Brake adjuster crank
2 sets	9ft bogie castings

Lost wax brass

2pr	Couplings
2x	Vacuum pipe
4x	Buffer heads

Other parts

2x	Coupling springs
4x	Buffer spring
2x	Split pins
2x	6ba screws/nuts
2x	1.2 wire – 500 mm
1x	1.5 wire – 500 mm
1x	0.7 wire – 300 mm
1x	0.9 wire – 300mm

Parts required

4x 3’ 7” Disc coach wheels (2 packs Slater’s 7128)

Transfers for your chosen livery

GWR 9' Pressed Steel Bogie

The following books are recommended for anyone building GWR coaches:-

Great Western Coaches 1903 - 1948	J. H. Russell	OPC
Great Western Coaches Appendix One	J. H. Russell	OPC
Great Western Coaches Appendix Two	J. H. Russell	OPC
Great Western Coaches	M. Harris	David & Charles Ltd

Notes on construction

All brass parts should be soldered together using Carr's or similar 180°C, or 145°C solder. The "cusp" should be removed from the edges of all etchings. Rivets can be pressed out using an automatic centre punch or preferably a rivet tool. Clean up excess solder as you go. White metal castings can be glued, or soldered to brass with "low melt" solder (Carr's 70°C) if the brass is tinned first with 180°C solder. Alternatively the more experienced modeller could use just 145°C solder but care must be taken not to melt the castings. Metal parts should be glued to the wooden floor using an impact adhesive (Evostick etc.). All half etched fold lines are to the inside unless stated otherwise. Before painting the model should be thoroughly cleaned with Carr's Acidip or similar.

Parts List

Etched Parts	**Nº Req**
1, Bogie Frame	1
2, Bogie Frame Ends	2
3, Bogie Mounting Strengthener	1
4, Spacer Washers	4
5, Compensation Cross Beam	1
6, Spacer Washers	2
7, Spacer Washers	2
8, Compensation Beam Retainer	1
9, Brake Link	2
10, Brake Pull Rod (short)	2
11, Brake Pull Rod (long)	2

Cast Parts Body	**Nº Req**
1, Side frame	2
2, Bolster	2
3, Bolster Spring Keeper Plate	4
4, Brake Shoe (left hand)	8
5, Brake Shoe (right hand)	8
6, Mounting Plate	1

Miscellaneous Parts	**Nº Req**
8BA Bolts & Bolts	2
1/16" rod	

note: steps and springs are now included with the side frame

Construction (NOTE:- the bogie can be built with or without compensation)

1, Remove frame (part 1) from etch. If building a bogie with compensation, remove the shaded sections as shown in the drawing. (At the end that also contains the etched washers).

2, Fit bearings using spacing washers (part 4) behind the flange if required. If fitting compensation the two bearings at that end need not be fitted, but do provide location for the side fame casting.

3, Fold up the bogie frame (part 1) starting with the inner folds, leave the side and corner bracket folds until later.

4, Fold up the side frames with the wheels in place. If compensation is to be fitted, then do not fit the wheel set at that end yet. Fold up corner brackets and fit bogie Strengthener (part 3).

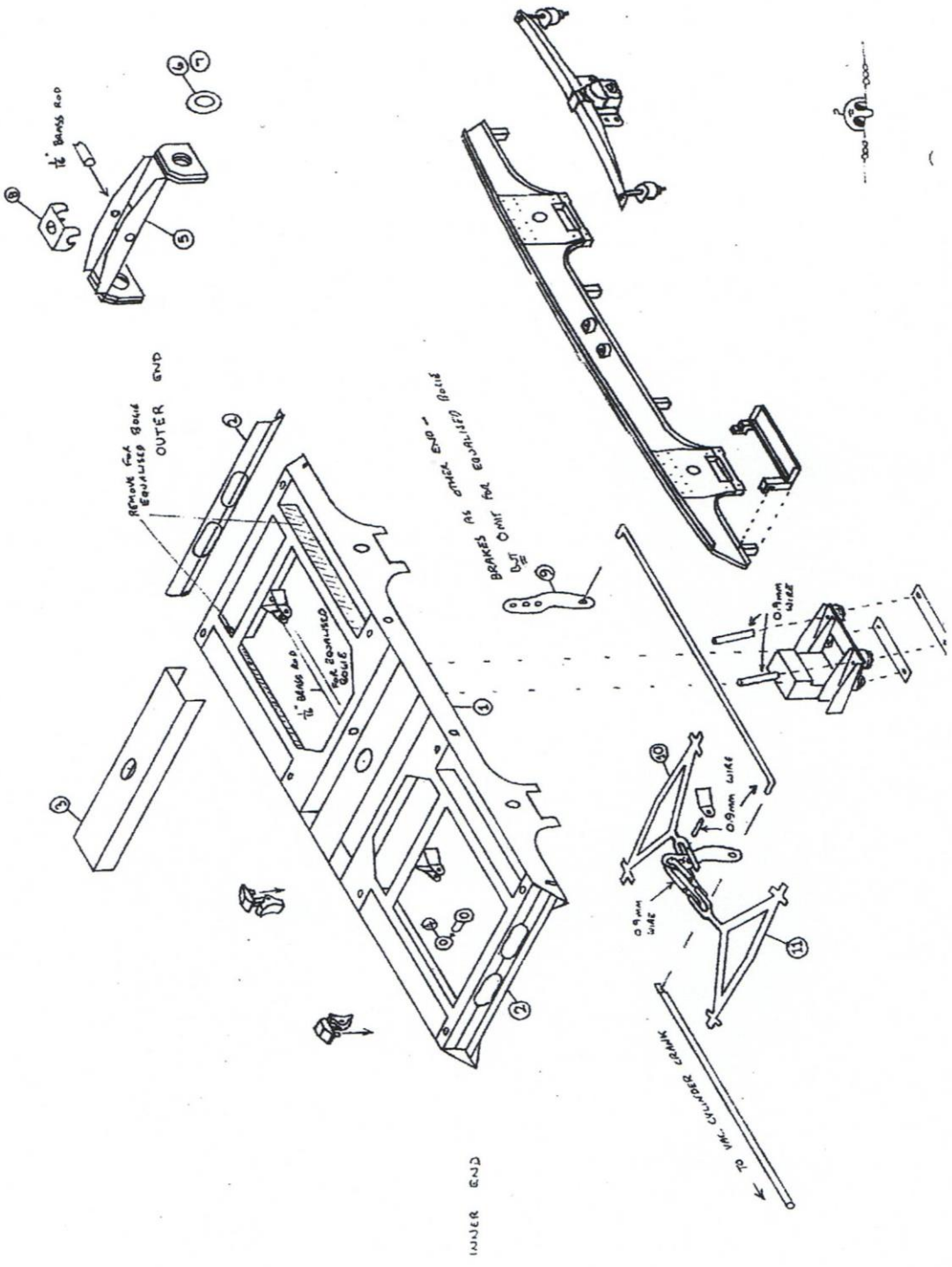
5, This step is only required if building a compensated bogie. The extended axle ends will need to be removed.
If using 1/8" axles the cross beam can be built up as shown in the drawing. If using 3/16" axles then the holes should be opened out to the etched line. Fit wheel set using appropriate spacing washers (Part 6 or 7). Using 1/16" rod fit the beam in place, retain with the retainer etch (part 8), wheels in line with bearings, being careful not to lock it tight with solder.

6, Fold up and fit ends in slots on side frames.

7, Fit etched brake gear as per drawing. It can be fitted to the compensated end but may require some adjustment.

8, Fit castings in this order:-
a). Side frames.
b). Brake blocks (may need adjustment at the compensated end to avoid shorting).
c). Bolster and Keeper Plates (use 0.9mm wire through holes in side frame and bolster).

Note – remove the cast steps from the side frames before fitting


OUTER END
INNER END
0.9mm wire
0.9mm wire
0.9mm wire