2mm Scale Association Wagon Underframe Kit Part No. 2-333.

This kit represents a typical 10ft wheelbase, 17'6" over headstocks, wooden chassis fitted with 8-shoe vacuum brakegear. It is based on the standard LNER design but this was later adopted and used on many BR built wagons. It is also quite similar to some brakegear designs used by the other Companies. It conforms to dimensions recommended on Drg. WS34 published in the Association Yearbook. In order to complete, it requires 2 pairs of wheels on 12,25mm lg. axles, (3 hole disc 2-205, 8-spoke 2-209 or open spoked 2-213), a set of 4 wagon buffers 2-441 or 2-443, 4 top hat bearings 2-041, a set of 4 cast axleboxes e.g. 2-413 or 2-415, couplings if required e.g. BB or DG 2-110 and approx. 40mm of .010" or .012" diam. brass or P/bronze wire. A turned brass vacuum brake cylinder is supplied.

The kit can be constructed with the following variations.-

* Etched buffer beams constructed as part of the chassis.
* Etched buffer beams discarded where beams of 1,75mm thk. are built integral with the body.
* Coupling support platforms need not be formed up unless required.
* Coupling hooks are provided but may not be applicable.
* Underchassis brakegear may be simplified if preferred.
* Can be converted to represent metal chassis versions by using separate accessory kit Code 2-338.

Separating the parts. Place the fret on a hard surface with the 1/2 etch side of the component retaining tabs downwards. Cut the tabs by pressing down firmly with a sharp curved scalpel blade. The separation should occur with a 'click'. Turn the component over and remove any remaining witness of the tabs pressing the blade down close to the edge of the component. Do not separate the solebars from their backing strips or separate the three components of the buffer beams.

General Notes. Generally all 1/2 etch bend lines are on the inside of the bends. Ensure that all bends are square. The recommended solder is Carrs 188 paste applied very sparingly with a fine paint brush e.g. size 000. Suggested adhesive is Loctite Superglue 3, Attak or similar. Some tiny parts are duplicated in case of loss. Use of appropriate flange bending tools and a brake cylinder soldering jig is recommended.

Chassis/'W' Iron Unit. Cut the joining tabs securing each coupling platform and form them to shape. Locate the platform inner flanges into the slots and solder. Bend down the 'W' irons square. Insert top hat bearings from the inside and solder ensuring that the bearing flanges sit down square in their 1/2 etch counterbores. Bend down the buffer beam supports.

Brake Unit. Insert the brake cylinder into its location hole from the 1/2 etch line side and solder. Bend the brake shoe flanges down square. Note that eight location tabs will will stand proud of the flat surface that mates with the underside of the chassis/'W' iron unit. Bend the two brake yoke supports down square.

Solebars. Concertina the solebars and their two backing strips to a 'Z' shape. Apply a little solder paste between the layers keeping clear of the brake lever location holes. Gently squeeze the three layers flat in a vice and adjust their alignment using a small pair of pliers along the edges. Apply heat on the inside working along from one end. Trim off the 1/2 etched temporary 'hinges' and carefully smooth the edges.

Brake Handles. Note the small notches along the edges of the brake handles indicating the exact position of the bends. Using tweezers make the bends in the order shown in the sketch. Check the brake handle form by aligning it with the template slot in the waste part of the fret.

Buffer Beams. Again concertina the three thicknesses into a 'Z' shape with the 1/2 etched 'hinges' on the outside of the bends. Apply a little solder paste between the layers keeping clear of the buffer and coupling hook holes. Carefully squeeze the beam flat aligning the buffer holes if necessary using 0,8mm dia. pins or drill shanks. Apply heat to the inside of the beam (the side with the larger coupling slot). Remove the temporary 'hinges' and smooth the edges.

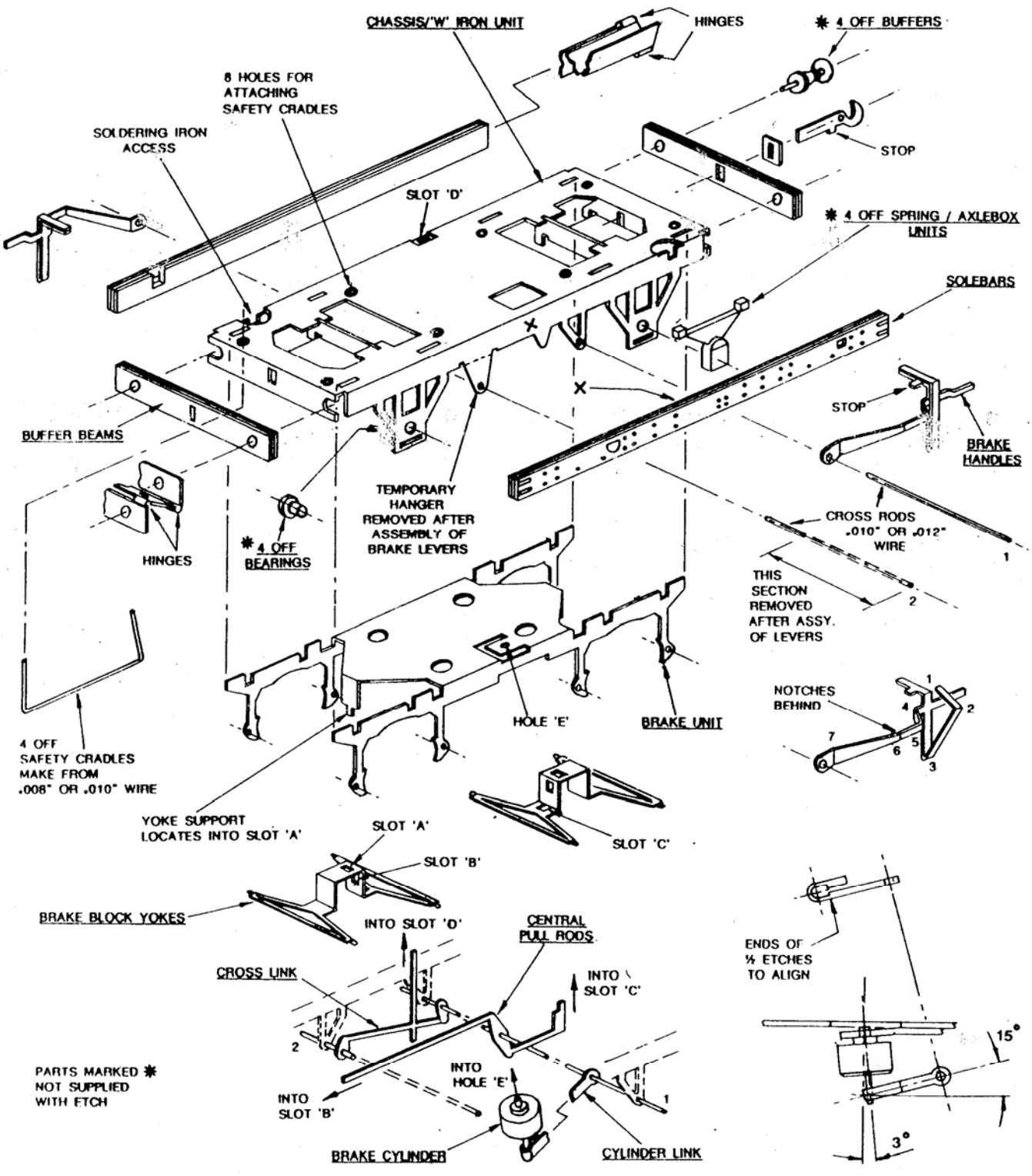
Brake Block Yokes. Bend each yoke unit at its four bend lines making the inner bends first. After bending check that all is square and that the outer struts are parallel.

Cylinder Link Lever. This is a tiny part and care must be taken not to lose it. A spare is provided! Form the end round into a loop with the 1/2 etch section on the inside. It is not necessary to close the loop completely flat at this stage but the ends of the 1/2 etch section must exactly align with each other.

Additional Under-chassis Brake Components. The central pull rods and the cross link need no preparation.

Assembly. Position the brake unit under the chassis/'W' iron unit with the eight location tabs sitting in the slots. Note that the small tab goes into the short slot. Apply a blob of solder paste into each of the four large holes and apply heat. The solder will run between the layers.
Locate a brake block yoke on one of the yoke supports. The small tag at the end of the support goes into slot 'A' in the base of the yoke unit. Spring the brake shoes apart allowing the ends of the yokes to slip into the holes in the brake blocks. Place a small blob of solder paste on the rear of the brake blocks and on the support tag. Solder the five joints. The iron is applied to the rear of the blocks. Assemble the second yoke unit in the same manner.
The chassis has two 'V' hangers on one side and one 'V' hanger on the other. However, a temporary fourth 'hanger' is provided as an aid to assembly. This is removed when the soldering of the brake levers etc. has been completed.
Cut two pieces of .010" or .012" wire approx. 25mm lg. and remove any burrs from the ends. Pass a wire (1) through the single 'V' hanger and the opposite temporary 'hanger' taking in the crosslink. The crosslink is positioned immediately inside the 'V' hanger and the representation of its safety strap entered into the slot 'B' above in the top surface of the chassis. The wire should protrude equally from each side. Pass the second wire (2) through the other pair of 'V' hangers taking in the other end of the link thus securing it in position.
Place a blob of solder paste on the first piece of wire behind the crosslink. Apply the soldering iron from behind whilst ensuring that the link is close against the inside of both hangers. It is not necessary to solder the wire to the temporary 'hanger'. Solder the top of the safety strap.
Slip out the crossrod and re-enter it taking in the central pull rods and the cylinder link lever. The link lever has its free end facing inwards. The short pull rod locates in slot 'C' in the underside of an inner yoke. The long rod locates in vertical slot 'D' above the other inner yoke. Apply paste and solder at the three points taking care to keep the levers aligned vertically and the crossrod straight.
Solder the rod to the 'V' hangers again applying the paste and the iron to the inside.
Adjust the angle of the vacuum cylinder so that the link lever just fits over the end of the piston. The cylinder should be at an angle of approx. 3 degrees. Solder the link to the rod and the piston.
Using the 0,8mm diam. pins or drill shanks through the buffer holes, locate the buffer beams on to the supports at the ends of the chassis. Note that the narrow coupling slot goes to the outside. Glue the beams in place ensuring accurate squareness. The top edge of the buffer beam stands slightly higher than the top surface of the chassis.
Stick on the solebar units between the beams and flush with the top surface of the chassis. The solebar with a 'X' on its rear face goes on side marked 'X'. Stick on the axlebox/spring castings.
Place a brake lever on the end of the crossrod and into the location hole in the solebar as far as its stop and lightly solder in the two places. An access hole for the iron is provided. Form the end of the handle to its correct shape and trim off the surplus ends of the crossrod. Similarly solder the other brake lever to the end of the temporary crossrod. Cut out the wire from under the chassis and break off the temporary 'hanger'.
Fit the coupling hooks if required, inserting as far as the stop and locating in the coupling platform. Glue on buffers and auto couplings before painting.
If desired, wire safety cradles may be fitted under the yokes after the wheels have been installed. An etched template is provided on the fret to assist bending to the correct shape. They attach via the holes provided in the chassis and are soldered in the tiny counterbores. These will trap the wheels. They have to be painted last.

EXPLODED DIAGRAM OF VACUUM BRAKE FITTED WAGON UNDERFRAME



This packet contains a small loose part

THE 2mm SCALE ASSOCIATION
PART No. 2-333