DK1 KIT FITTING INSTRUCTIONS

(Note: Please read through these instructions completely before starting any work on the model.)

(Note: Throughout these instructions reference will be made to 'Driver End' and 'Loco. End'. Please ensure you know which end is which, especially the under frame when separated from the body. The underframe has long step boards moulded in at the 'Loco. End' and short step boards moulded in at the 'Driver End'.)

1. Disassembly of Autocoach:

a). To remove the roof slide a thumb nail under the cantrail at one end and move towards the other end until the whole roof moulding comes off. Do this slowly so as not to break the mounting lugs. The roof is held on each side by three sets of lugs.

b) Remove the passenger step hand rails by gently pulling them out from the underframe and coach body.

c). Remove the screws which hold the underframe to the body and separate.

d). Remove the bogies from the underframe by squeezing the top of the pivot pin.

2. Underframe Preparation

Note: Never attempt to cut away the part to be removed at one go. Many cuts and paring with sharp saw blades and knife blades are much less likely to be detrimental to either you or the model.

a). Using a new razor saw blade and new knife blades (I recommend a narrow chisel blade and angled knife blade such as the Swann Morton 10A) cut away the moulded vacuum cylinders, battery boxes (at the loco end it is necessary to remove the moulded passenger steps as detailed in b) below before cutting away the battery box) and 'V' hangers, taking care not to break the truss rods or damage the sole bar.

b) Cut away the moulded passenger steps horizontally below the top step, as indicated in Fig 1., leaving the truss rod intact. Cut away the small part of the steps between the sole bar and the truss rod. There is no need to remove the rectangular mouldings located behind the solebars and level with the top steps.

c) Once the cutting and paring is complete and the truss rods and underside are smooth it is advisable to fill the holes in the floor with suitable size pieces of 0.040" or 0.030" plasticard fixed flush with the underside of the underframe using solvent adhesive, see Fig.2. *Care: Use the solvent adhesive sparingly otherwise you may distort the underframe.*

3. Underframe Detailing

There are three etches contained in this kit, etch 1 can be identified by the battery boxes and is the largest, etch 2 is identified as such and etch 3 is the passenger steps. Cast parts for each diagram will be found in the appropriate bag, all the other cast parts are common. Unique 'to a diagram' etched parts will be identified in the text.

3.1. Underframe

a. Before commencing any detailing you are advised to drill holes for the couplings of your choice.

At this point decide which diagram, A28 or A30, you are going to model. Note: This only applies to the underframe.

(Note: After cutting items from the etches it will be necessary to clean off any rough tabs or edges.

When folding etched items at half etch lines the half etch should be on the inside of the bend unless specifically advised.)

3.2 Passenger Steps.

a. Etch preparation: Clean all the holes using a 0.5mm. drill before removing parts from the etch. If you are assembling the steps with solder tin the areas around each hole before drilling out with the 0.5mm. drill.

b. Remove the items from the etch.

c. Cut quantity 10 off 16mm. (approx.) lengths of 0.5mm. wire.

d. Fold the mounting bracket(2) ends at the half etch line to 90°.

e. Using one of the lengths of 0.5mm. wire fix the rear support arms to the mounting bracket at an angle of 85° to the horizontal as shown in Fig.3. The templates on the front of these instructions are drawn at 85° (glue the templates to stiff card, a piece of old greeting card is suitable).

f. Bend up the steps (4) as shown in Fig. 3. with **the half etch of the side arms on the outside**. The 'toe stop' flange is folded with the half etch on the inside.

g. Bend the tabs on the front supports (4), two are left handed and two are right handed. (See Fig.3)

h. The centre steps (with the cranked side arms) should have one of the wire lengths fixed, through the holes in the side arms, under the step tread, after fixing cut away the wire between the side arms leaving the full amount on the outside (Fig.3.).

j. Assemble the steps as shown in Fig.3., using the remaining three pieces 0.5mm. wire per set. Do not fix at this time.

(Note: The centre step in each set is the one with the cranked side arms.)

(Note: It may be necessary to crank the rear support arms very slightly, where they join the support bracket to ensure they sit parallel at the correct distance apart. See Fig.3)

k. Fix the mounting bracket to the underside of the underframe, complete with the other items attached, (5 minute epoxy is best for this as it allows time for alignment), aligning the tabs of the front support arms under the moulded hinges which are flush with the underside of the moulded top step.

l. When the epoxy has set make any final adjustment and then fix the whole assembly solid, ensuring the tabs on the front support arms are tight against the hinges.

m. Fix the tabs to the moulded hinge.

n. When the assembly is firm cut away the wire pins from inside and outside the supports/steps, file away any excess leaving small amounts of wire protruding to represent bolt heads.

3.3. Battery Boxes, Dynamo, Brake and Auto Rod.

a. Etch preparation: Prior to removing the 'V' hangers and the shaped plate hangers from the etches drill out the half etch circles located at the 'point' with a 0.8mm. drill. The holes in the cast parking brake hangers should also be cleaned out to 0.8mm.

b. If you are assembling the battery boxes with solder tin the ends, hanging straps, inside of front at handle holes and the handles before cutting from the etch.

c. Cut the battery boxes (2 large, 1 small) from etch 1 and fold up, in the following order; ends, top, bottom, hanging straps, fixing tabs, Fig.4., fix the hanging straps to the ends ensuring the straps are parallel to the front.

d. Cut the battery box handles (6) (small shaped handles) from etch 1 and fix to the battery boxes in the locating holes provided. *(Tip: leave the half etch tabs on the handles and bend these tabs at 90° to assist with fixing, Fig.5.).*

e. Cut the 'V' hanger pairs from etches 1 & 2. Fold at the half etch lines to 90°. *(Note: The narrow 'V' hanger from etch 1, together with the cross shaft with two equal length parallel crank arms, is only used for Diagram A28 to transition the Auto Rod across the coach.)*

f. Fix the 'V' Hanger pairs (3 for Diagram A30 and 4 for Diagram A28) and the battery boxes in the correct positions on the underframe as shown in Figs. 6. & 6a. or 7. On the prototype the outer 'V' hanger of each pair of brake cross shaft 'V' hangers was located outside the truss rod. If you wish to emulate the prototype exactly you will have to gently bend the outer 'V' hanger to fit outside the truss rod and carve away some of the rear of the solebar to enable this fit. The Auto Rod 'V' hanger, item 2 fret 2, is fitted at the loco end.

g. At the driver end fit the cast parking brake 'V' hangers, Fig. 11, complete with cross shaft shaped 
(Note: The cross shaft crank arm is in a different position for each diagram. Fig. 8.)

h. Cut the plate hangers, etch 2 items 1, and prepare by cutting away the areas shown in Fig.9. (*Yes! I could have etched out these areas but.....*) and fold the tabs with the **half etch on the outside**. Ensure the hangers are biased towards the driver end as far as possible. Before fixing the plate hangers, (the shorter plate hanger fits on top of the cast hangers fitted in step 3.3.g) which are cranked towards the loco end, together with the cross shaft, (ensure you assemble the cross shaft the correct way round, Fig. 10.) you are advised to check clearances between the hangers and cross shaft, and the bogie. (It may be necessary to cut away a little of the raised ridge around the edge of the moulding, taking care not to break through to the top Fig.11.).

j. Fit the driver end cast auto coupling and, steam and vacuum pipes, Fig.12. (Note: To ensure a fit some filing of the mounting end tabs may be necessary).

k. Remove item 8 from etch 2 and fold at the half etch line to 90°. Fit to the inner end of the driver end auto coupling fitted in Step 3.3.j and the auto rod cross shaft fitted in Step 3.3.h., Fig.10.

l. Remove item 6 from etch 2 and fold at the half etch line to 90°. Fit between the underside of the underframe and the lower forward facing crank arm, Fig.10.

m. At the loco end fit the correct, A28 or A30 cross shaft to the auto rod 'V' hanger ensuring the cross shaft is the correct way round, Fig.13.

n. Fit the loco end cast auto coupling link and, steam and vacuum pipes, Fig.14. (Note: To ensure a fit some filing of the mounting ends may be necessary).

p. Remove item 7 from etch 2 and fold with the **half etch line on the outside** to 90°. Fix between the loco end cast auto coupling and the cross shaft crank arm, Fig.13.

q. Fit the Dynamo, Adjusting Bracket and Electrical Cables as shown in Fig.15. The position of the dynamo is shown in Figs. 6. & 6a. or 7.

r. Returning to the Brake 'V' hangers in the centre of the underframe, loosely fit the appropriate cross shafts, Figs. 6. & 6a. or 7. (The cross shaft with two parallel crank arms (A30 and A28 are different) is fitted to the centre 'V' hanger, loco end). Align the Vacuum Cylinders with the long crank arm and fix the Cylinders (5min. epoxy is suggested). Align the cross shafts and fix (Figs. 6. & 6a. or 7.), also fix the vacuum pipes to the cylinders, Fig.16.

s. Diagram A30 ONLY: Fold item 5, etch 2, as shown in Fig. 17 and fix to the driver end centre brake cross shaft and the underframe in the position as shown in Figs. 6. & 6a.

t. Remove the corner steps (4) from Etch 1, fold up the sides and rear of the steps, bend the mounting bar at 90° 9mm from the underside of the step as shown in Figs. 11. & 13. With the pair for the Driver End carefully form the mounting bar to a gentle reverse curve and fix in position as shown in Fig 11. At the Loco End the mounting bars are straight, fix the steps in position as shown in Fig. 13.

u. Refit the bogies. *If you are modelling Diagram A30 just cut off the Dapol or Airfix couplings. If you are modelling Diagram A28 you will have to supply new 7 foot bogies and move the pivot point.*

v. Fitting of Auto Rod and Brake Rodding. (Note: If you need to remove the bogies for servicing you may wish to not fix the ends of the rodding.).

i. Diagram A30: Bend one end of 0.8mm. wire for the Auto Rod, see Fig. 6., cut to length (using your model to measure length) and bend the other end, Fig. 6.

ii. Diagram A28: Cut two lengths of 0.8mm. wire and bend as shown in Fig. 7.

iii. Remove from etch 2 items 4 (6 off) and fix the Auto Rod and Auto Rod Swinging Hangers as pairs in positions shown in Figs. 6 .& 6a. or 7.

iv. Cut suitable lengths of the 0.5mm wire as Brake Rodding and fit, together with the Brake Rod Swinging Hangers (Etch 2, Items 3 (2 off)), in positions as shown in Figs. 6. & 6a. or 7.

4. Body Preparation

a. Using a new knife blade remove the moulded hand rails, end steps and lamp irons from both ends.

b. Remove the moulded hand rails from both sides of the driver's doors. *(Note: Do not remove the moulded ATC electrical connectors, vacuum pipe to the emergency communication system, the hand rail on the guard's doors or the handle on the driver's doors).*

5. Body Detailing

a. Fold the lamp irons as shown in Fig. 18.

b. Drill 1mm. holes at the appropriate positions and fix the lamp irons in place by pushing the double fold into the hole.

c. Fold the end steps mounting brackets at 90° and fix in the same position as the moulded steps.

d. Align the etched grab handles, drill 0.5mm. holes in the appropriate places and fix the handles. (Note; The Driver's door grab handles are fitted with the shorter of the two sections at the top).

e. (Note. It is advisable to paint the cab detail prior to fitting). Drill the cab floor 1.5mm. for the brake standards in the positions shown in Fig. 19. Fix the standards. Glue the ATC Instrument and Bell, and the Regulator Handle to the inside of the cab front in positions shown in Fig. 19.

6. Re-assembly.

a. Refit the body to the underframe, remembering to refit the weight, (ensure you do not over tighten the retaining screws).

b. Refit the passenger step handrails to the body (longer straight piece to the top) and fix the lower ends to the outside of the steps.

c. Clip the roof to the body taking care not to break the tabs.

7. Painting.

Most items on the underframe would be painted black with a liberal coating of track dirt, brake dust etc. Touch up the body where the detail has been fitted using colours appropriate to the original model.

DK1 Ins. MJG 8/95

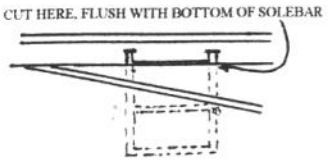


Fig.1. PASSENGER STEPS. CUTTING LINE

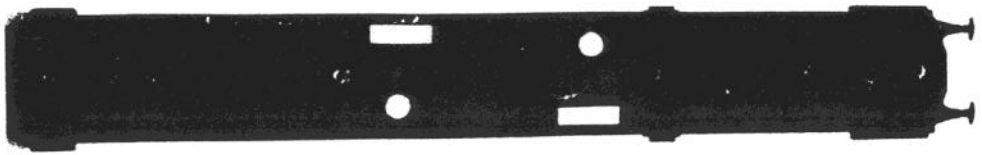


Fig.2. PLASTICARD INSERTS

Fig. 5. BATTERY BOX. HANDLE FIXING

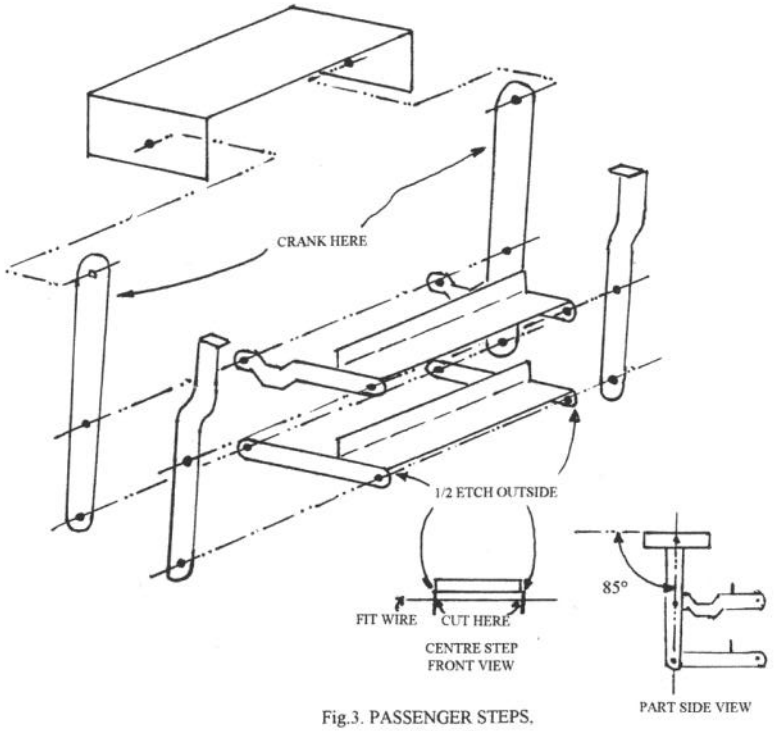
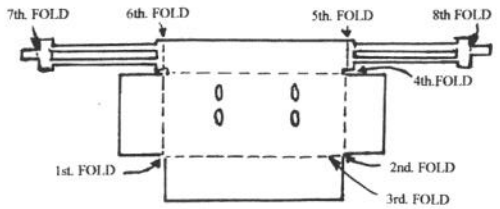


Fig.3. PASSENGER STEPS. ASSEMBLY



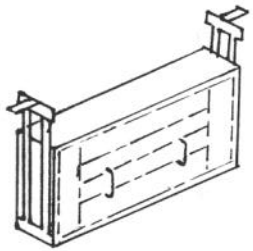
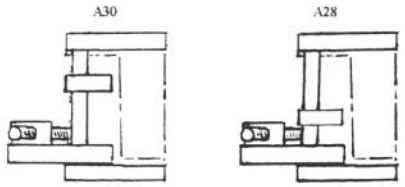


Fig.4. BATTERY BOXES. ASSEMBLY



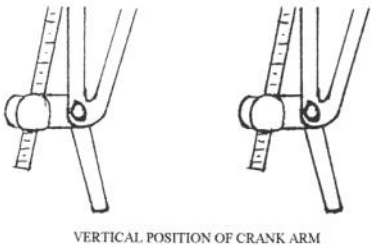


Fig.8. PARKING BRAKE CROSS SHAFT. POSITION DIAG.s A30 AND A28.

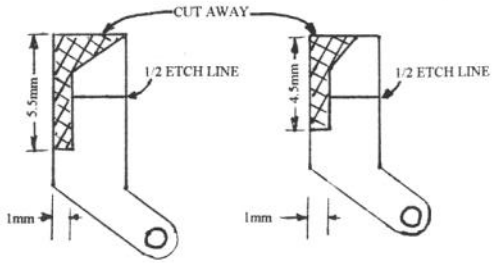


Fig.9. PLATE HANGERS. AREAS TO BE REMOVED

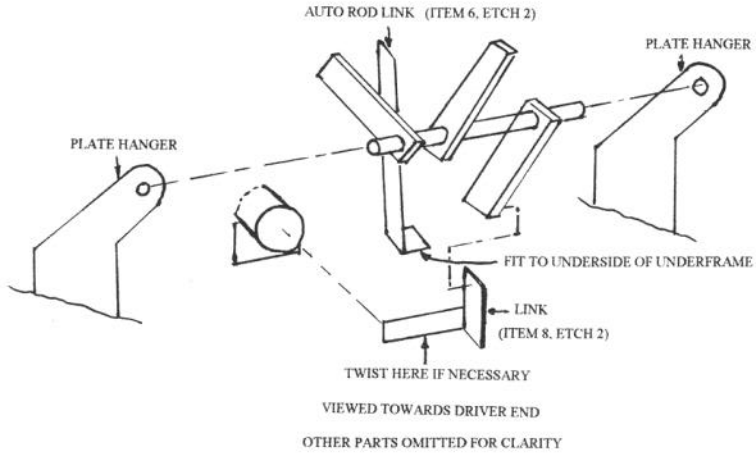


Fig.10. AUTO ROD LINKAGE, DRIVER END

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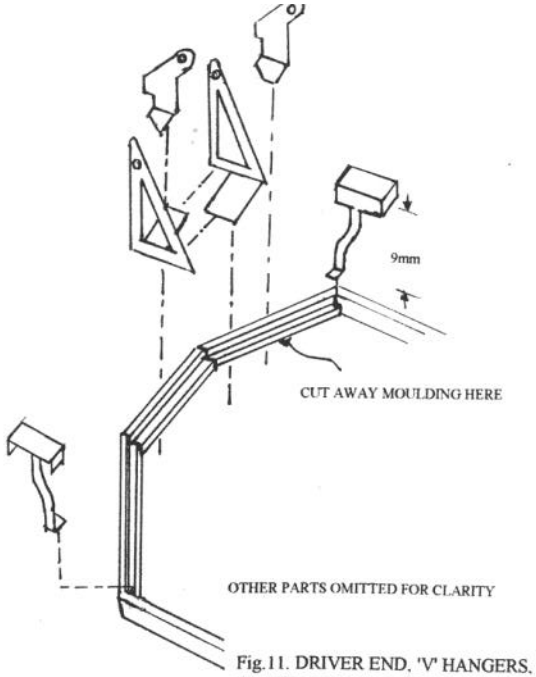

Fig.11. DRIVER END, 'V' HANGERS, PLATE HANGERS, CORNER STEPS

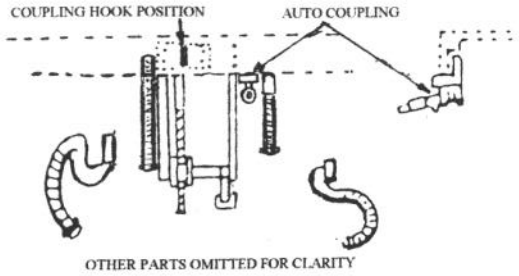

Fig .12. DRIVER END, CAST AUTO COUPLING, STEAM & VACUUM PIPES

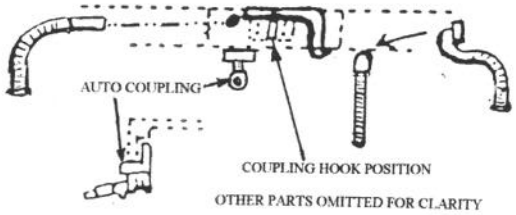

Fig.14. LOCO END, CAST AUTO COUPLING, STEAM & VACUUM PIPES

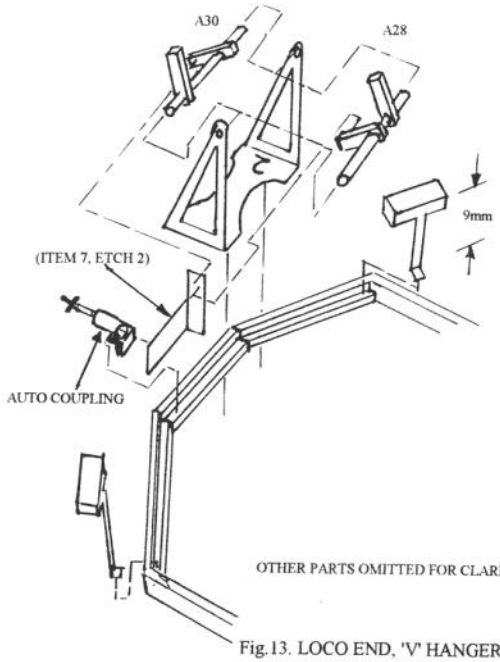

Fig.13. LOCO END, 'V' HANGERS, CROSS SHAFT & LINKS, CORNER STEPS

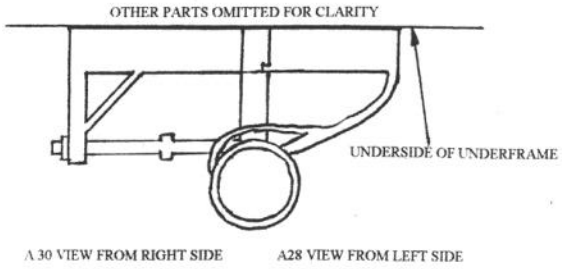

Fig.15. DYNAMO, ASSEMBLY

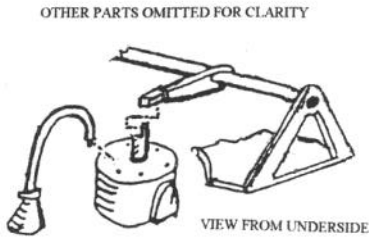

Fig.16. VACUUM CYLINDERS, ASSEMBLY

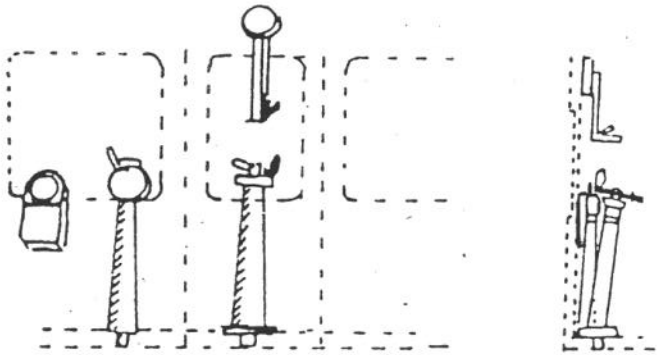

Fig.19. CAB INTERIOR DETAIL

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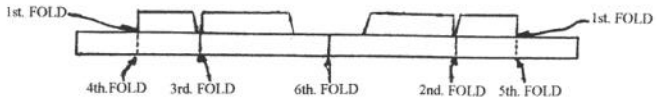

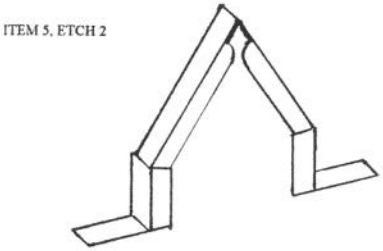

Fig.17. ANGLE 'IRON' 'V' HANGER, DIAG. A30 ONLY

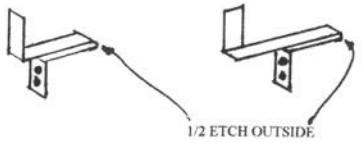

Fig.18. LAMP IRONS, FOLD UP

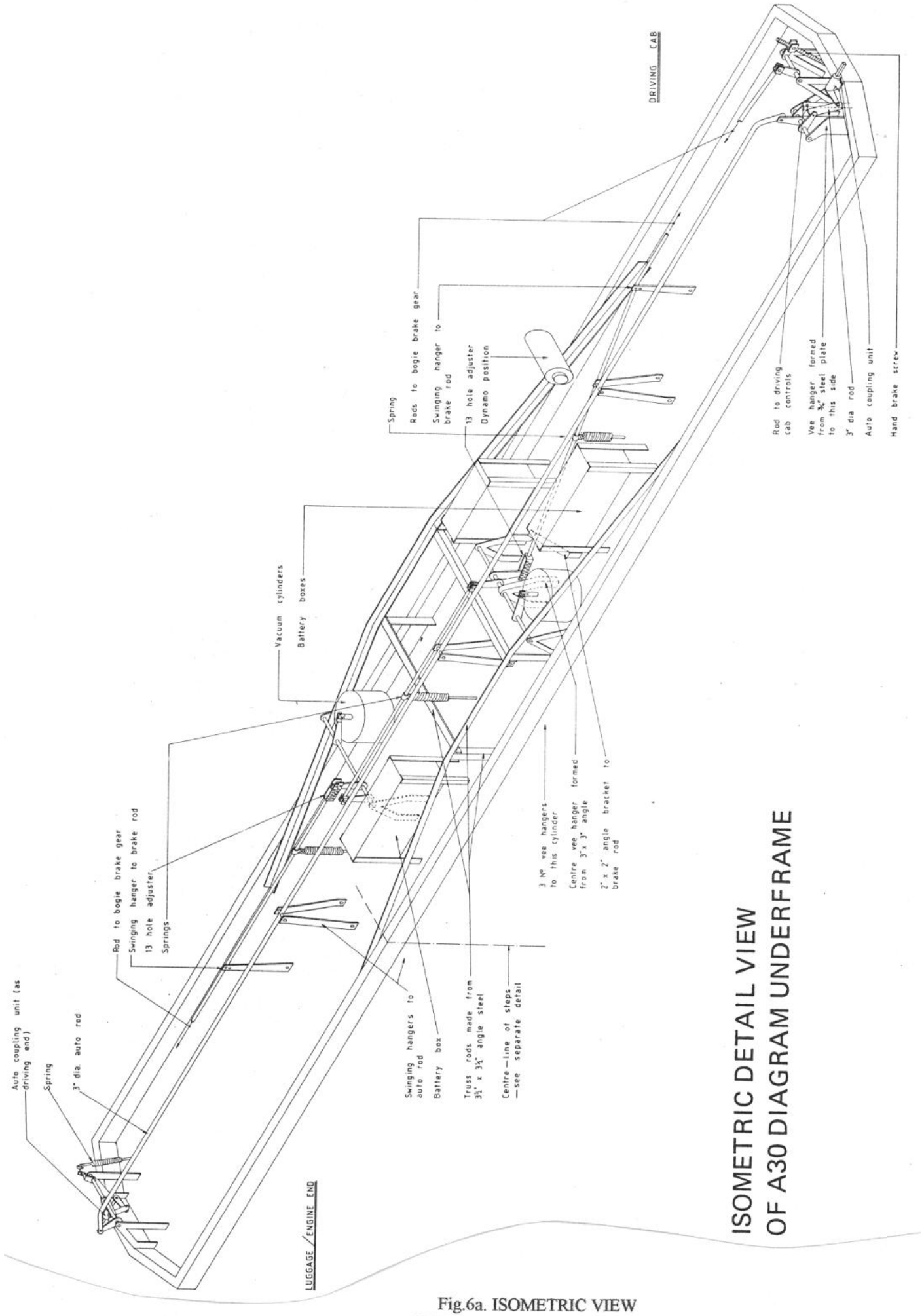

Fig.6a. ISOMETRIC VIEW
UNDERFRAME, DIAGRAM A30

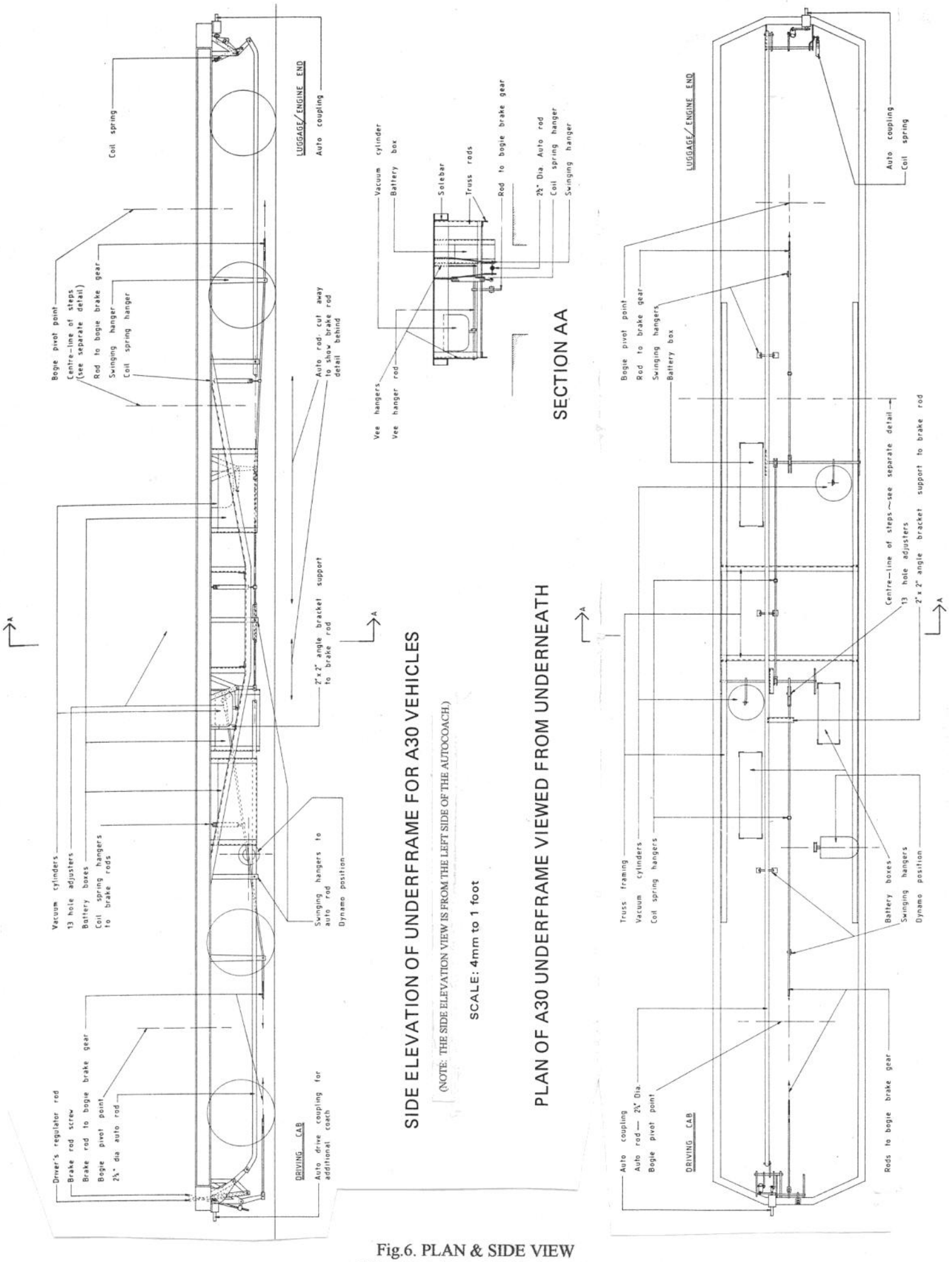

Fig.6. PLAN & SIDE VIEW
UNDERFRAME, DIAGRAM A30