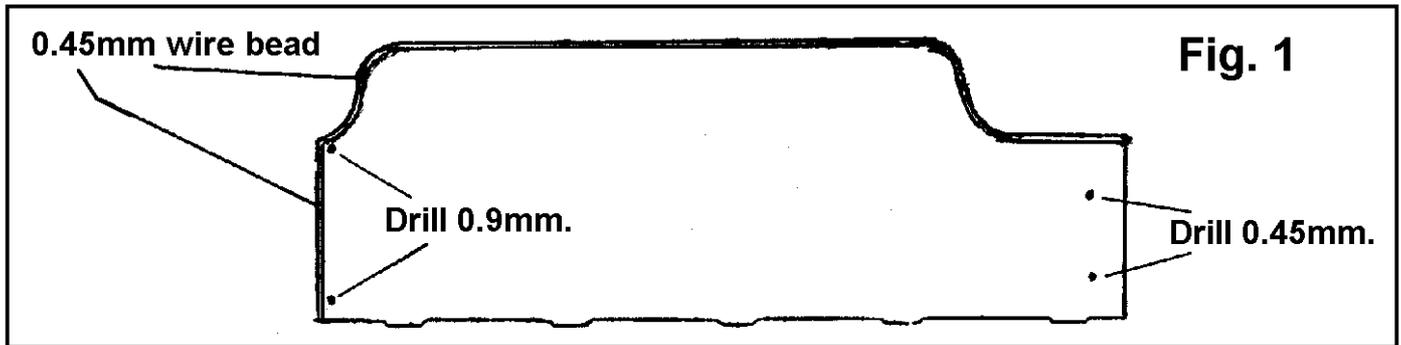


STANIER 4,000 GAL TENDER

This kit has been designed to make up into any one of the three most common varieties and in keeping with this three sets of tank sides (Part No's 2 & 3) tank rear (4) and rear tank top/bulkhead (6) are supplied. I would recommend that in order not to get them mixed up you firstly remove the set of parts that you require and put the others away carefully - knowing us modellers we all find some use for 'other' parts!

ASSEMBLY,

Take tender sides and drill the two holes in the front section of these 0.9mm (No.65) and the two holes to the rear 0.45mm (No.77). Along the top and front edge of these sides you will find an etched ledge and along this ledge solder a length of 0.45mm brass wire.



Take tank rear and solder a length of 0.45mm wire along the top in a similar fashion to the above sides but allow approx. 1mm overhang on each side.

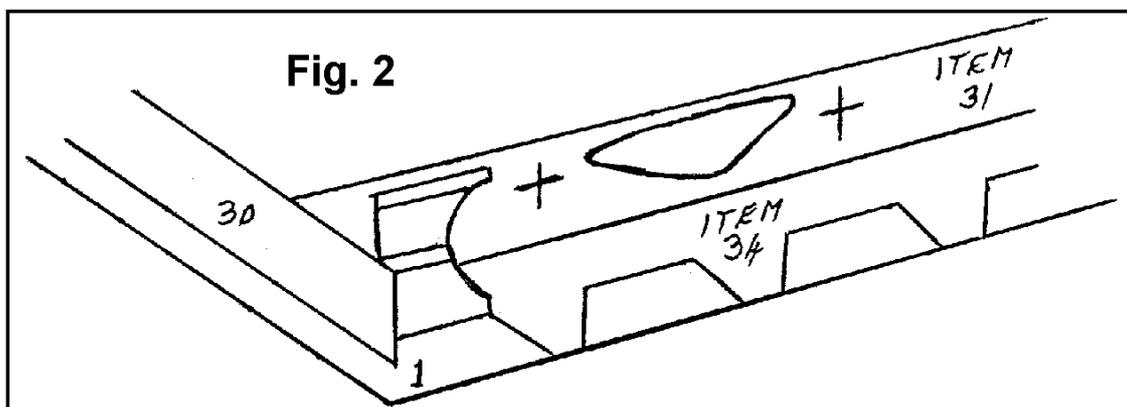
Remove rear step fret (Item 12) from main fret and bend the steps forward at right angles to the main piece. Take tender rear and place items 12 into position with the steps locating into the slots in tender rear - solder into position.

Remove chassis from fret (Item 38) and drill all the small holes 0.7mm (No.70). Open the axle bearing holes so that the 2mm bore bearings are a good fit - if wishing to fit hornblocks then remove the section carefully and assemble these into the frame per instructions enclosed with hornblock set. If leaving as a rigid chassis then I would advise that you at least leave a little float on the middle axle - if you look at the fret carefully you will see that an area has been half etched towards the top and bottom and if this section is also filed away it will allow the middle axle to rise and fall as required by your track. Solder the bearings into the OUTSIDE holes with the flanges on what would be the outside of the frames.

Bend the frame sides at right angles to the base unit then bend the four sections out from that base - solder sides to these sections.

Take base unit (Item 1) and place the chassis into position on the underside of this. The chassis is secured to the base unit by two 12BA nuts and bolts. If the bolt is first passed through the chassis and a piece of newspaper trapped between the chassis and the base unit the nuts can then be soldered to the top of the base unit without fear of soldering the chassis to the base.

At this stage it is easiest to fit the outside frames (Items 31 and 32). Take these outside frames and bend the section over at right angles on each end (The section with the hole in). Again using 12BA nuts and bolts in the same manner as fixing the frame to the base unit secure the sideframes to said base soldering the nuts to the top of the base.



Remove tender rear buffer beam (29) from fret and open the two holes in this so that the buffer back bushes are a good fit. Assemble buffer bush into the buffer body and solder these two assemblies into the holes for buffers in the buffer beam. Locate and solder buffer beam to the base unit (1).

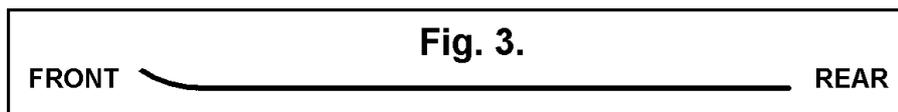
Take tender front drag beam (30) and solder into position beneath base unit.

Remove step supports 34 and 35 from main fret together with steps 36 and 37. If you look a little more carefully at step supports 34 and 35 you will see that one end of the step back plate is wider than the other - this wider step goes towards the front of the tender with steps 36 fitted.

Bend the three small tabs up on each step and bearing in mind the above comments solder a step into the etched recess on the step supports.

Take each step unit and bend the step back plate at right angle to the main strip connecting them (Etch fold line is on back). Place item into position beneath the base unit with the 'fingers' pointing towards the outside edge of the base and the straight edge against outside frame 31 & 32. Solder into position to base and front and rear drag beams.

Take tender sides and shape the top over towards the inside of the tank using the lines of half etches as a guide and also curve the front section inwards slightly - see drawing. Solder one of these sides to the base, locating the tongues into the slots in the base. Solder the second side into position but at the same time as locating this, fit the back BETWEEN the sides - solder back and sides together and when secure file the wire top edge back on the top of the back to blend with the sides.



Take rear lifting rings (19) together with brackets 20 and solder these into position on top of rear tank top (item 6).

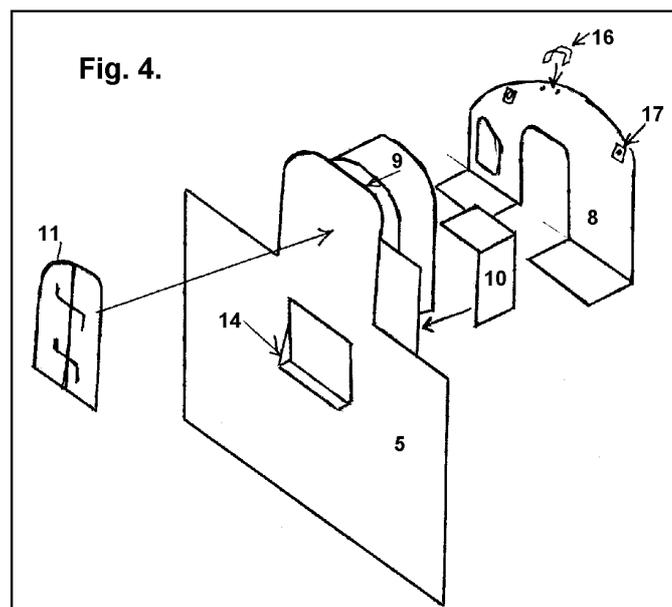
Item 6 Rear bulkhead/rear tank top - bend into a right angle and solder item 7 into place on rear of the bulkhead section, locate this assembly into position on top of the step brackets 12 attached to the tender back and carefully solder into position on sides and back.

Solder coal door overlay (11) to top section of tank front 5.

Solder items 17 (lifting hole overlays) to both sides of the holes in front bulkhead (item 8) followed by item 16 bulkhead step which is bent into a 'U' shape and soldered into the two small holes at the top of item 8 with the curved ends facing downwards.

On item 8 bend the two legs at right angles to the main top section. Take item 9 and using the etch lines on the INSIDE of this form into a 'U' shape and solder into position around the opening in item 5. Solder this assembly to the back of tank front 5 and follow this with item 10 (locker top and side) which is bent into an 'L' shape and soldered between 5 and 8.

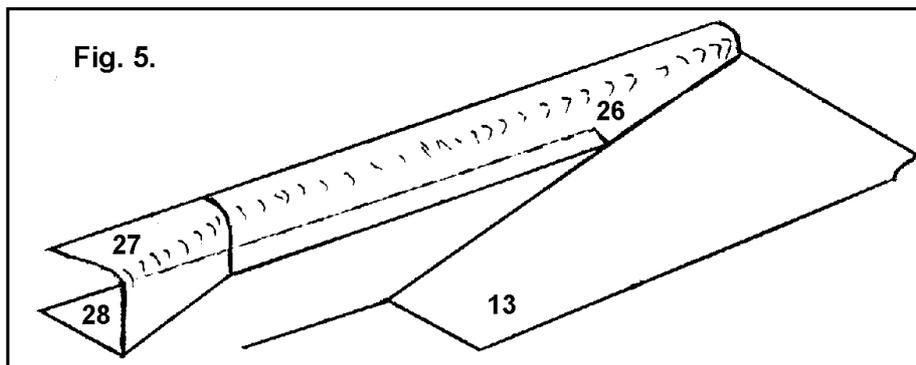
Remove coal space floor 13 from fret and fold up with etch lines to inside, locate shovel plate into the opening in tank front 5 and solder into position. Note that shovel plate projects forward from tank front. Solder plate fillets 14 either side of this projection.



Slide this assembly into position in the main body of the tender and solder into place.

Solder parts 25 - which are the front footplate supports - into the half etch grooves on top front of base plate 1, followed by item 24 front footplate soldered on top of these.

Parts 26, 27 and 28 form into the fire iron tunnel which is located inside the coal space on the right hand side looking towards the front of the tender. 28 is the base with the widest section being the part that fits right against the front bulkhead (8). Part 27 is the front section and has the side curved down with the half etch section to the inside - form this and solder, just to the base. Take tunnel proper (26) and curve in the same way with the etched section to the inside and solder to the base plate 28 - note 26 overhangs the rear of the base plate and the back bottom (side) of 26 is the angled section. Its very difficult to explain but when fitting this assembly into the coal space it makes sense and fits!.

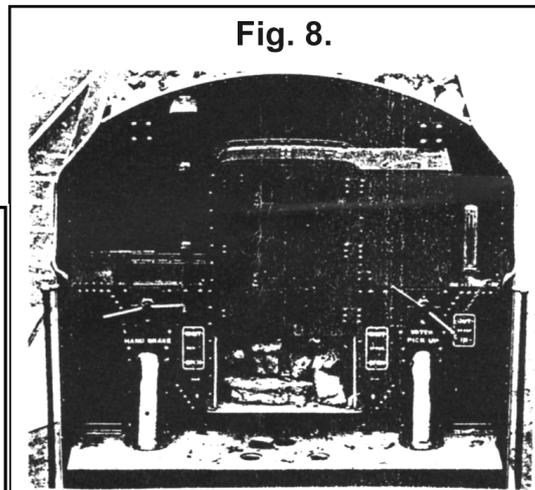
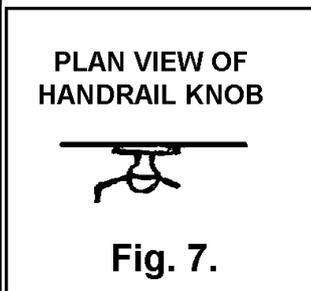
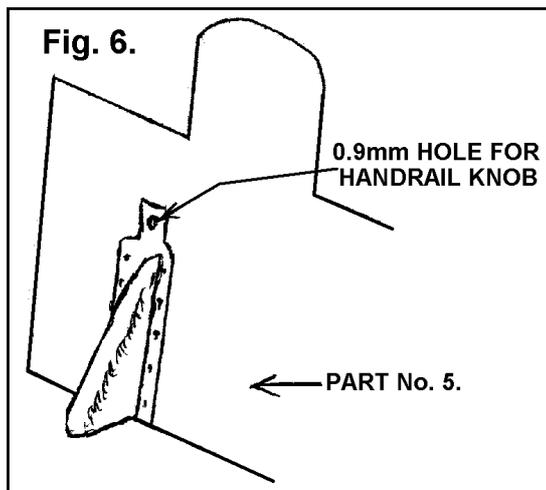


Items 23 are 'T' angles that are soldered over the top of bulkheads 6 & 8.

Form handrails from 0.45mm wire to fit into the holes towards the rear of the tank sides and solder from the inside of the tanks.

For the handrails at the front of the sides solder a short handrail knob into each of the holes and locate a length of 0.45mm wire between them.

Part 21 is the lamp iron that fits into the slot in the middle of the back of the tender body with parts 22 being the three lamps irons to fit on the rear base platform - personally I always find etched lamp irons to flimsy and use cut down staples which we have supplied in the pack as an option.



Glue the two white metal castings into position on the front of tank front 5 (castings are wedge shape to cover in the prototype the brake gear and water pickup linkage). Drill hole through at top of these 0.9mm and secure a short handrail knob into these having first fabricated a short handle per sketch and fitted these into the handrail knobs.

Release the two screws holding the chassis and put the body to one side.

Take the chassis and pass a length of 0.7mm brass wire through the three sets of holes that will act as brake hanger wires leaving them protruding from each side of the frames. Solder these into position and trim off so that frame assembly only just still fits into body. Paint underframe black at this stage but leave these wires bare for the moment.

Fit wheels into chassis using spacing washers to take up any unnecessary side play of wheelsets.

Take brake hangers 39 and solder brake blocks 40 to them - note left and right hand types!

Drill holes in both ends of brake hangers 0.7mm (No.70) together with holes in brake pull rods 41.

Locate brake hangers over the ends of the wires projecting from the sides of the mainframes and secure brakes in line with the wheel sets. If you wish to ensure that wheels don't short out on brakes then coat the brake blocks with 'Copydex' which is a rubber solution and can be painted over when dry.

Take another length of 0.7mm wire and pass it through one of the brake hangers fitted to the frames then locate the pull rods onto this wire - note that the angled end of the pull rod faces up towards the body - then pass the wire into the opposite brake hanger - solder wire to just one side brake hanger. Pass wire through the other two sets of brake hangers at the same time picking up the brake pull rods - solder all wires into position on the brake hangers and trim wire to length.

Pass another length of 0.7mm brass wire through one of the holes in the frames and also pick up the angled ends of the pull rods. Position pull rods so that one set is at each side near the back of the wheels and solder into position.

Solder/glue all fittings to tender body and underframe - Note - if you wish to build the part riveted tender please return the tender axlebox castings to us for exchange as these tenders had a short spring hanger support. Also this type of tender had a different type of waterspace vent in that they were a flat 'T' shape and were fixed to the outside of what would be item 6 rear bulkhead.

Items 33 are frame spacers that on the prototype fitted between outside frames 31 and 32 - at the bottom and between each set of wheels. However if we solder them into position you will find that they end up passing through the brake gear and the chassis becomes trapped. Our way over this is to solder just one side of these to ONE outside frame and if ever you wish to remove the chassis you can release the bolts holding the outside frame and remove this first then the chassis.

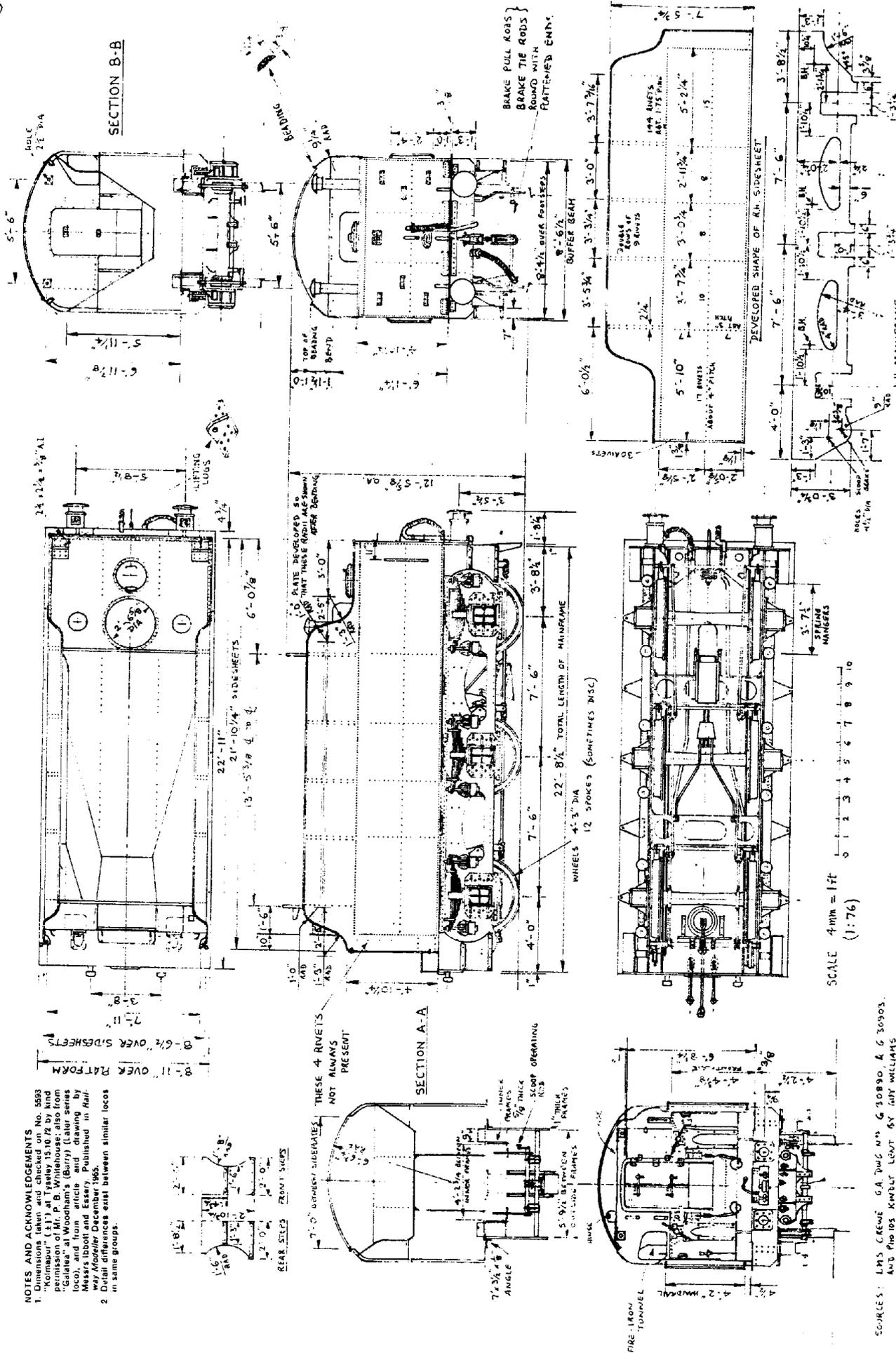
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STANIER 4000 gallon TENDER ETCHED PARTS LIST

1	Base	23	Bulkhead beading
2 & 3	Tank sides	24	Front footplate
4	Tank rear	25	Front footplate supports
5	Tank front	26	Fire iron tunnel - rear
6	Rear bulkhead I rear tank top	27	Fire iron tunnel - front
7	Rear bulkhead overlay	28	Fire iron tunnel - base
8	Front bulkhead	29	Rear buffer beam
9	Coal hole top	30	Drag beam
10	Locker top/side	31 & 32	Chassis sideframes
11	Coal door overlay	33	Chassis cross members
12	Rear steps	34 & 35	Step supports
13	Coal space floor	36	Front steps
14	Shovelling plate fillets	37	Rear steps
15	Blank	38	Chassis
16	Front bulkhead step	39	Brake hangers
17	Front bulkhead lifting hole overlays	40	Brake shoes
18	Spare lamp brackets	41	Brake pull rods
19	Rear lifting rings	42	Brake lever
20	Rear lifting ring brackets		
21	Rear lamp iron (upper)		
22	Rear lamp irons (lower)		

NOTES AND ACKNOWLEDGEMENTS

1. Dimensions taken and checked on No. 5583 "Kokimbar" (± 1") at Trestle 15.16.74 by kind permission of Mr. P. B. Whitehouse; also from "Galatia" at Woodham's (Barry) (Later series loco), and from article and drawing by Messrs. Abbott and Esary, published in Rail-Engineer, 1957, p. 100. Details of No. 5583. Detail differences exist between similar locos in same groups.



SCALE 4mm = 1ft
(1:76)

SOURCES: LMS CREW GA 202, Nos. G 30890 & G 30903. AND PHOTOS KNIGHT LEWIS BY JOHN WILLIAMS. BRAKE GEAR STOP ETC. FROM "THE ENGINEER" 10-11-39. 2101: FOR WELDED TENDER OMIT RIVETS ON TENDER BODY

LMS STANIER 9 ton 4000 gallon TENDER © J.F. HENDERSOHN FEBRUARY 1973