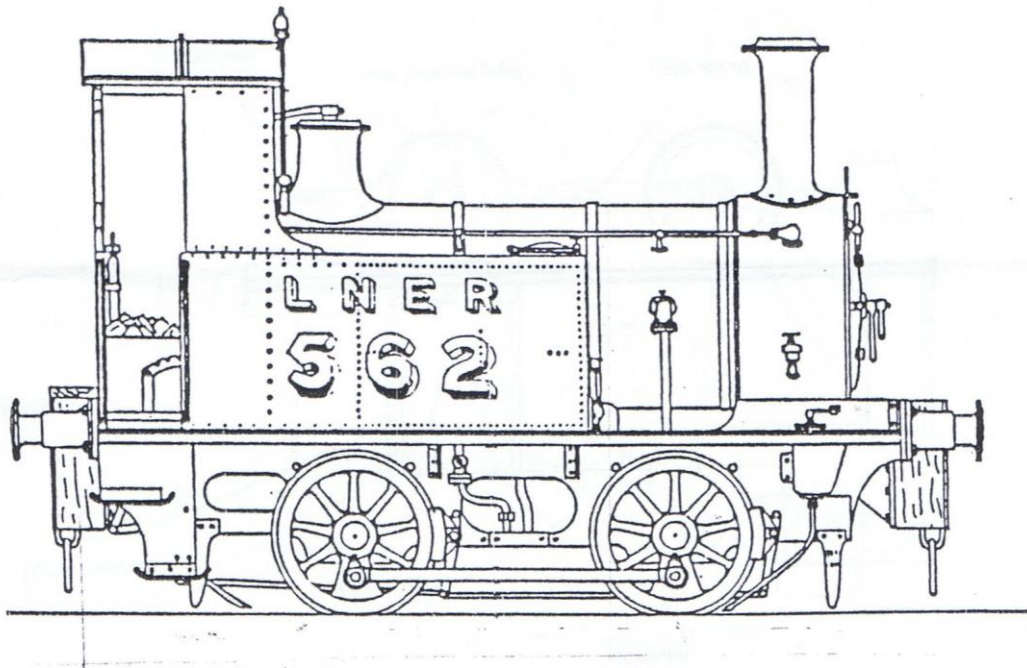


RAGSTONE MODELS

www.ragstonemodels.co.uk

Email: info@ragstonemodels.co.uk



NER K/LNER Y8 Loco Kit

Version no: 1.0

Date: August 2014
26 Wadham Close
Rowley Regis
West Midlands
B65 9SH

NER class K /LNER Y8 Loco

History

The class consisted of just five engines built by the NER in 1890. Their very short wheelbase was intended to equip them for the sharp curves found within docks in the company's area. Three were withdrawn during the 1930's, but the remaining two remained in the dock system at Hull until the Second World War, when they were transferred to York. 560 received vacuum equipment in May 1943. These two were allocated numbers in the BR renumbering scheme following nationalisation, but never carried them.

In 1954 number 560 was withdrawn from service and transferred to departmental stock. The engine survived there until November 1956 when it was sadly scrapped. Luckily sister engines from the Y7 class have survived and may still be viewed today.

Loco	Built	Reboiler	2 nd LNER	Withdrawn
559	6/1890	11/02	8090 6/46	11/48
560	6/1890	5/02	8091 5/46	6/54 (a)
561	6/1890	6/03	-	9/36
562	6/1890	5/04	-	5/37
563	6/1890	6/03	-	5/37

- (a) Transferred to departmental stock in June 1954 and renumbered as No 55 in the departmental series, finally withdrawn November 1956

As built boiler diameter differed from that in the kit, the kit covering from the re-boiler date above. 560 received Ross pop safety valves (5/43) and vacuum pipes, for more information on the variation in fittings, such as whistles, modelers are referred to the publications listed below

Livery

This only gives brief details, for further details for your period; refer to one of the references listed below

NER

Originally finished in NER (Saxony) green (including wheels), with crimson lake borders and white/black/red lining. The tanks were lettered N.E.R. in gold, shaded red. Bufferbeams vermillion, edged black with white lining. Both bufferbeams carried No. and engine number in shaded gold figures

From 1894, the crimson lake border was omitted and the lining became white/black/white, other details as before

From 1904, all black, fine lined red. Lettered N.E.R and bufferbeams as before. Coupling rods vermillion

LNER

All 5 were repainted LNER lined black between September 1925 and August 1927, bufferbeams as before. Plain black was applied to 559 (Feb 31), 560 (Jan 37) & 563 (May 33). 561/2 were withdrawn in lined black. 559 & 560 had 'LNER' replaced by 'NE' in 1943, only 560 receiving LNER again on renumbering as 8091, it retained this livery until June 1954

BR

Only 560 (8091) received a repaint (June 54) after nationalisation, being plain black and lettered 'Departmental Locomotive No 55'

References

An Illustrated History of NER Locomotives.

Ken Hoole published 1988 by OPC ISBN 0~86093-3237

This is the established work on locos of the NER and contains two very good plates of the class K (Y8) on pages 138/9

Locomotives of the LNER Part 9B.

RCTS publications 1977 IISBNO 90111541 X Pps99 - 102

As well as historical notes this volume contains several useful photos, not to mention the remarkable Fig. 108!

Yeardons Register of LNER locos vol.32

Book Law publications

Covers all LNER 0-4-0 types with several 'in service' shots

Locomotives Illustrated No.122

Covers a variety of locos but contains a really nice shot of the Y8 8091 in 1946 in particular

Additional parts required

Wheels

Two pairs of 3' diameter, 9 spoke drivers - Slaters produce a suitable wheel - their reference is 7836Y8. However, you might also consider Walsall castings ref D53, they are mounted on 3/16 axles, which will affect the choice of gears

Motor/gears:

The Slaters wheels use a 1/8th inch axle and in the pre-production test models successfully used the standard Portescap RG4 motor. Slater's produce a suitable Motor/gearbox ref SG4, However, you might use another combination of motor/gears - there are several readily available from the 4mm field. If using Walsall wheels is possible to fit a Mashima 1833 driving the front axle - though it will be visible and you will have to omit the slidebars

Pick ups

Two types of pick up are possible, you can mark and drill the frames to accommodate plunger pickups (Slaters' ref 7157) or fit small pads of copperclad to the inside of the frames with some thin wire bearing on the backs of the tyres – the choice is up to you, but if fitting plunger type you will need to decide this early during construction, so as to be able to mark the positions and drill appropriate holes in the frames before assembling the chassis

Springing/hornblocks

No provision is made for this due the small size of the loco – cutting the frames for hornblocks would severely weaken them and for this type of loco is not absolutely necessary

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 car paint (Grey primer, then black (or green for early NER), in spray cans) will provide a good finish

Photographs

These instructions are a guide to assembling the kit, but in order to get an accurate model, due to the number of variations, reference photographs are essential (see section on page 2)

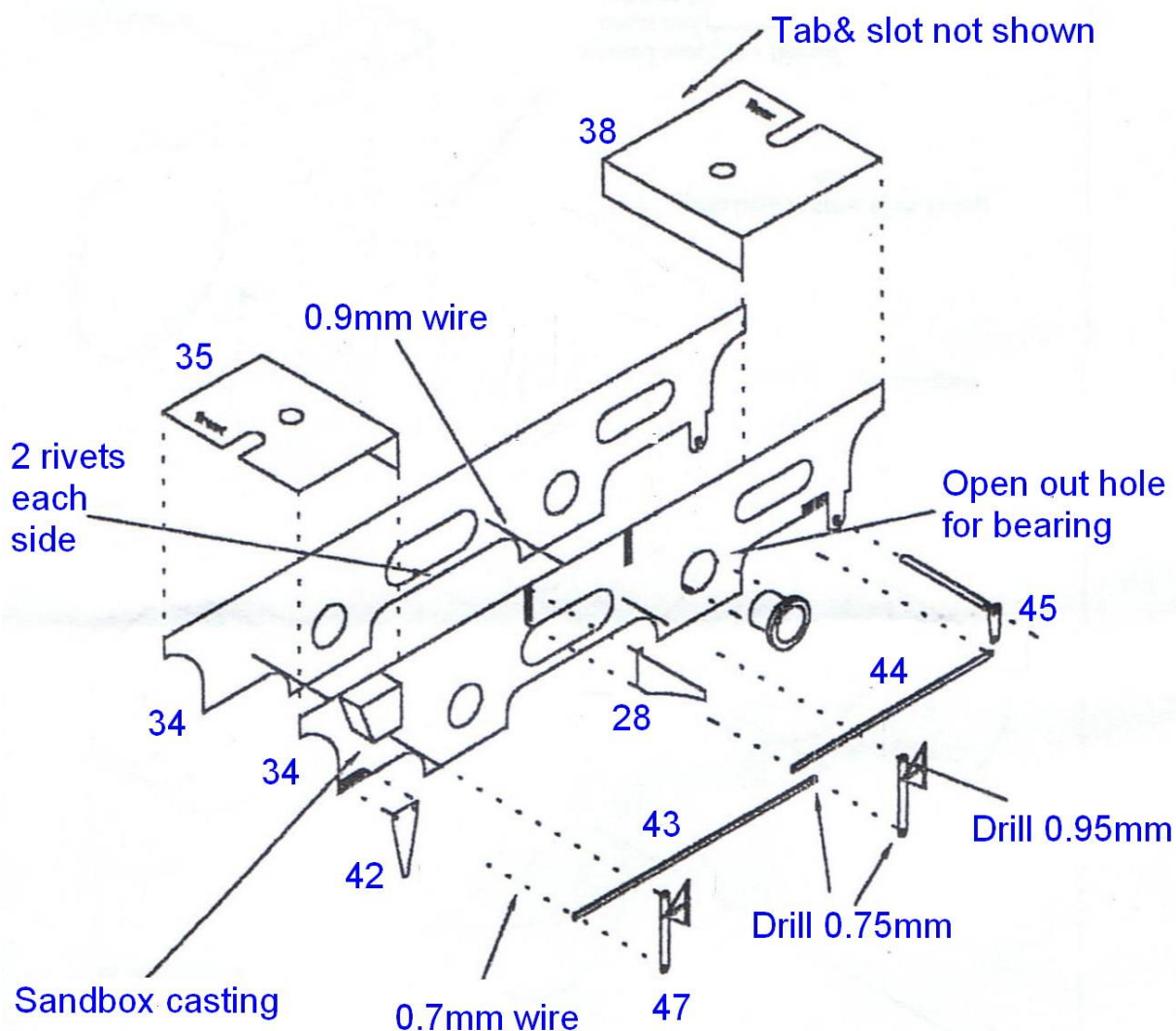
Orientation

When referring to left/right hand it is as if looking forward from the cab – the right hand side is the driver's side

Construction

Assembling the chassis:

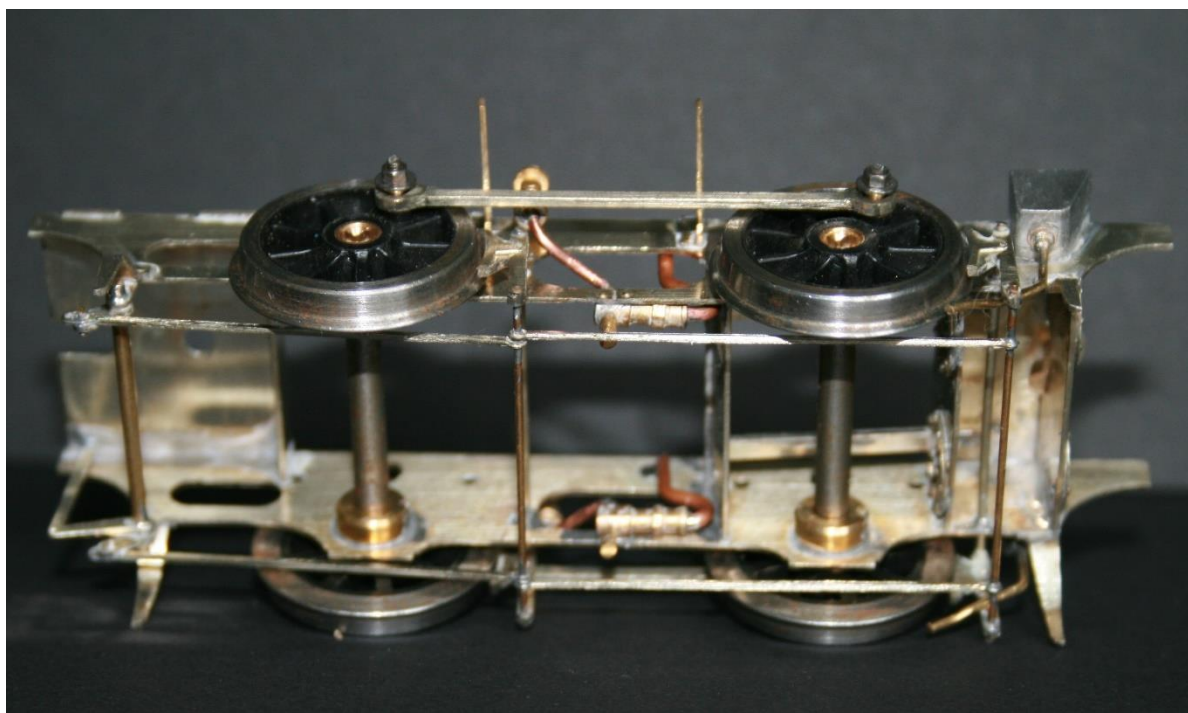
1. Ream axle holes in frames (34) to provide a snug fit for the bearings and press out two rivets on either side located below centre frame cut out, don't fix them until the chassis is assembled. If fitting plunger type pick ups use a driving wheel to decide the location (bearing in mind things like the motor/gears which might get in the way!) and drill appropriate holes
2. Using 0.95mm drill clear holes for 0.9mm rod, which will carry the brakes. At the same time clear the holes at the rear of frames to take 1.6mm rod, which will represent the handbrake shaft. Note four 1.5mm holes in each sideframe – these are not locating points, just holes that exist in the prototype
3. Press out rivets on each guard iron (42) and solder in place in the half etched recesses – don't fully crank to shape yet, but the rear pair will need some forming now to clear the handbrake shaft bracket



4. The tabs/slots for the spacers (35/38) require a little attention before folding. Trim of the back edge of the rear spacer. Emboss rivets and add cylinder covers (36/37) to the front one. Trap a short 8BA bolt in hole before folding (35). Assemble frames and spacers on a flat surface (i.e. a small piece of plate glass) using bearings and axles (or lengths of an appropriate diameter rod) to ensure all is square and the chassis will sit level. Once satisfied all is OK fix bearings in place
5. Put a slight double crank on each guard iron so that they splay outward to the centre line of the rails – refer to photographs as the shape can vary

6. Add flange (40) to motion bracket (39) followed by slidebars (41), these fold double (fold line on outside of bend), to give a tab that locates them in the motion bracket, then fit assembly to etched recess in frames
7. Decide on motor/gearbox and make provision for fixing/restraining between frames
8. Laminate the coupling rods (48) to make a matched pair with the half etch area to the outside. Assemble crank pins to wheels as per the manufactures instructions and test fit wheels and rods to chassis with the motor in place and test run. You may wish to part assemble the body and boiler (steps 18 to 24 and 29 to 31) now to check clearances etc.
9. Footplate support brackets (28 on brass etch) should be fitted (press out rivets first) between the driving wheels each side (note location marks). Note orientation (flange to rear) and trim slightly to fit between valances once you have assembled the footplate
10. White metal castings are provided for the front sand boxes together with cast brass outlets that can be drilled for the sandpipes prior to fitting. See photos or sketch side elevation for position. The pipes themselves are formed from short pieces of 0.95mm rod. Pipes at the rear can simply be soldered to the side of the frames
11. Fold (or cut/laminate) brake shoes & hangars (47), drill the hangars 0.95mm at their top end - where there are two holes very close together. At the lower end, drill 0.75mm. At the same time drill the brake rods (43/44) also 0.75mm together with the lower hole of small links (45). These links also need to be drilled 1.6mm for the handbrake shaft. Extras are provided in case you break one! Now cut two lengths of 0.9mm rod so that they extend beyond the face of the wheels (wheels fitted to avoid fouling) and use a bit of bluetack secure the two rods in place
12. Cut three lengths of 0.7mm rod also overlong onto which you will thread brakes and brake rods.
13. Now the fun bit, referring to the diagram set up the brake gear and solder up except for the 0.9mm rods passing through the frames. Also do not at this stage solder the 1.6mm rod and cranks in place

Why the loose assembly of the rods to frames? Well, it doesn't give a lot of flexibility during assembly, compared to, say, fully moving brake rigging, but it does help a bit with the removal/fitting of the wheels.

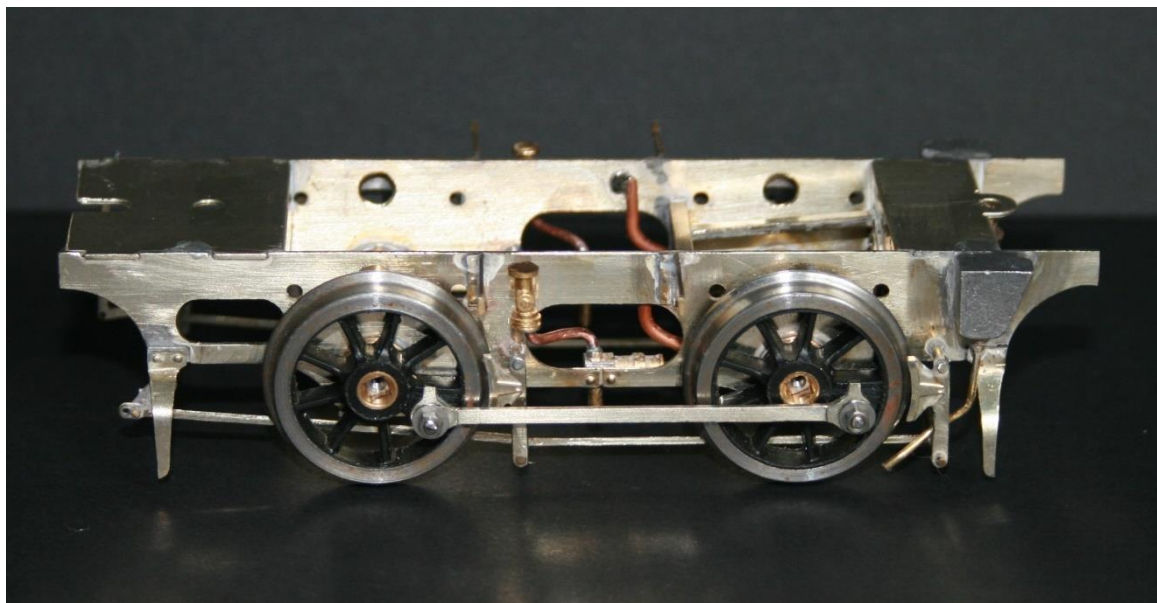


Underside of chassis & brake gear

14. When you have the brakes installed and have checked clearances the surplus length of rod

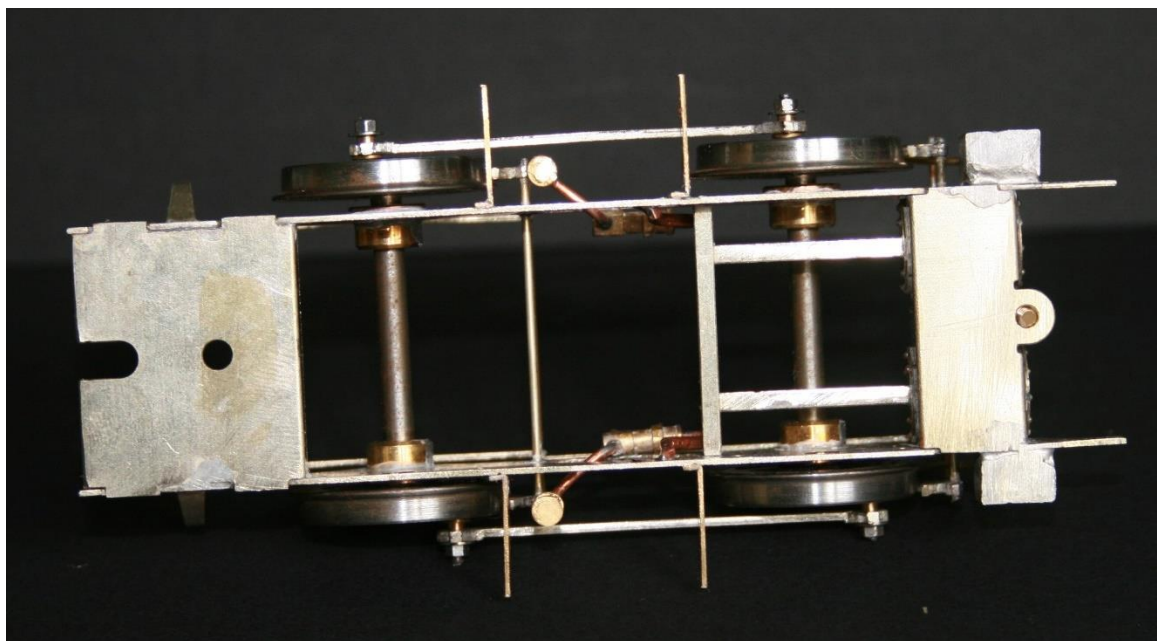
can be removed from the face of each shoe top and bottom

15. Now fit cranks (just inboard of the frames) and rear beam, not forgetting to slide on the actuating lever (46) before you do. The lever should be soldered such that it will align with the handbrake on the footplate above i.e. offset to the left of center, close to the frame
16. Amongst the brass fittings supplied, are a pair of water shut off valves. A pipe runs from these and disappears through the centre frame cutout to the injectors. Fit injectors inside the frames – the two rivets formed earlier are the bolt heads of the mounting points. Mount the water valves using the pipework to support them (If required make a bracket from scrap etch to secure to the side of the frames), and fit delivery pipes to the front of the injectors.



Side view of chassis showing injector pipework – note extra holes drilled for plunger type pickups

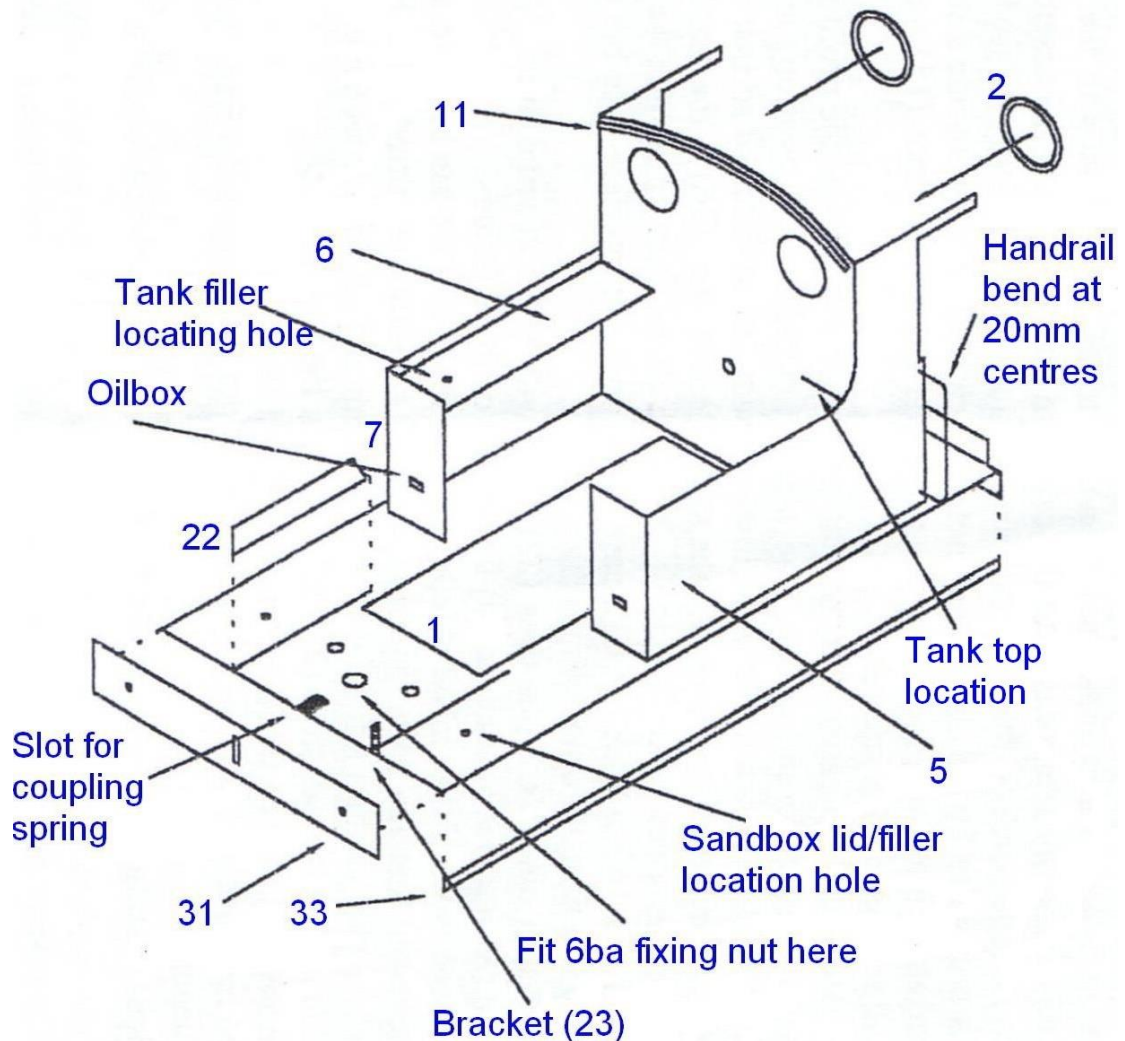
17. Test run the chassis, when satisfied with it, remove wheels etc. and clean up. It can be painted black now with pickups, wheels motor and gears refitted when dry. Alternatively it can be left until the body is complete and painted at that same time to allow for any adjustments that may be necessary during construction of the body



Top view of chassis

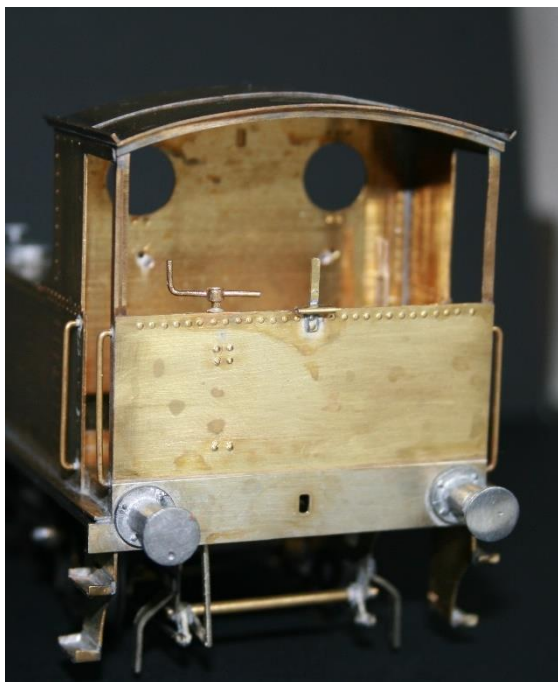
Assembling the body:

18. Fit buffer beams (32/32) to footplate — note rear one (32) has cutout at each end. The buffer holes should be opened out to fit the buffer spigots so you are able to use them as location points when fitting cast buffers later. If you want to spring the couplings the slots in the footplate (and chassis) will require enlarging
19. Fit valances (33) - inset the latter about 0.5mm either side from the edge of the footplate.
20. Solder 8BA nuts front and rear to provide fixing points, using chassis to check as the front hole is to far forward, so will need opening out slightly and the nut fitted using the chassis as reference
21. Press out the rivets on the cab front (3) and drill two holes 0.75 for the handrails to locate in – these are the two dots closest to the boiler locating bolt hole, refer to drawing if unsure. Window rims (2) can be fitted to the inside of the cab front now, but I prefer to leave these until after painting when they can be fixed to the glazing with 'Spraymount', the glazing cut to shape round them and then fitted to the inside of the cab.
22. Before fitting the cab front the two holes for the handrails need repositioning (to suit standard 7mm scale handrail knobs!), they should be 27mm up from the bottom, at 27mm centers. Now fit cab front in place in slot on footplate - check it is both central and vertical
23. Cab sides (5/7) - press out the rivets then fit oil boxes, balance pipe flanges (30) and cab handrails - see diagram for guidance (note that the balance pipe and oil box do not appear to have been fitted from new, only appearing later, possibly in 1903-4 when reboilered).



24. When this has been accomplished fold the fronts at right angles; rivet and fit tank tops (4/6) about 1mm below upper edge of sides (filler towards front). Note the LH top (4) folds down then reverse folds to create a coal space.

25. Once the sides are complete they can be soldered in place on the footplate using location marks as guidance. For appearance sake it is critical that the footplate is flat and that the cab sides and front are perpendicular to it.



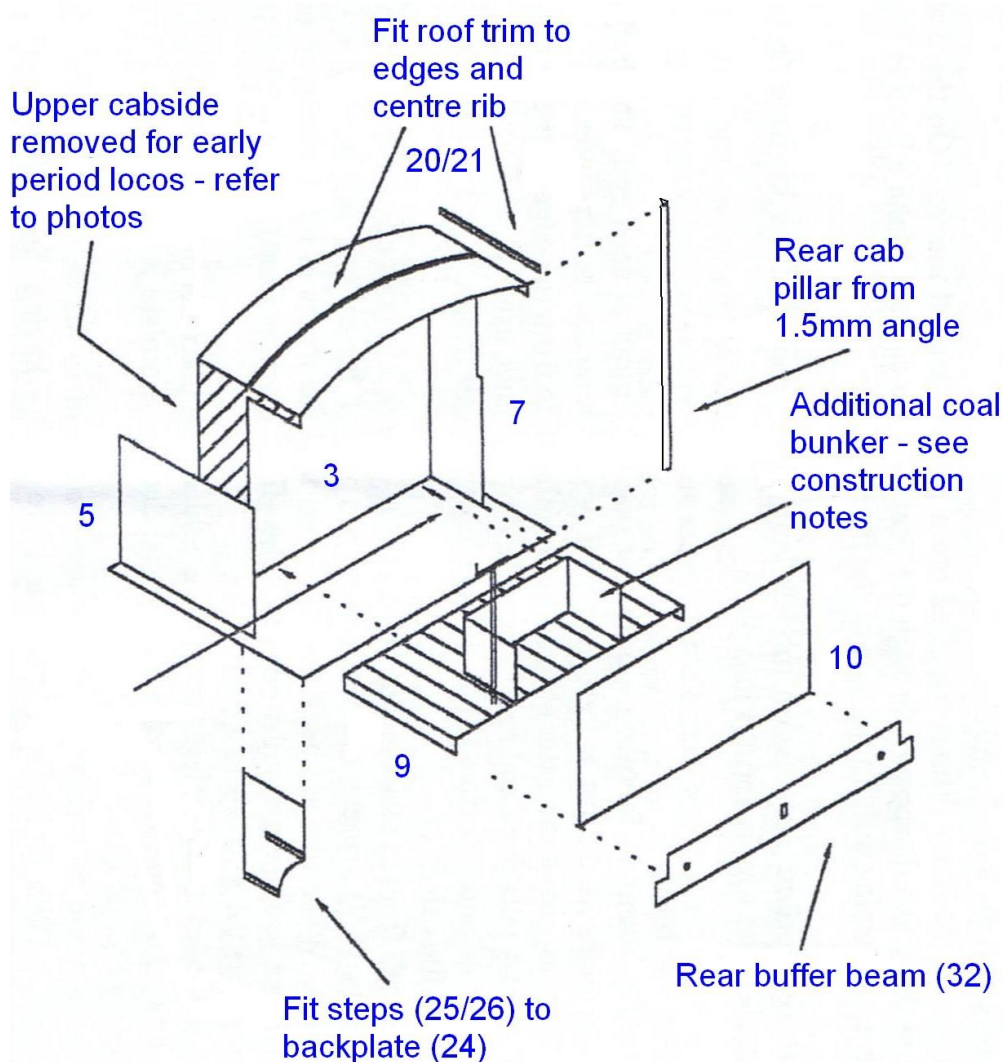
Rear view

26. Cut brass angle to length for vertical supports, drill to match handrail holes on cab side and fit handrails. Then fit angle to cab rear plate (10) - having first riveted this plate — also fit a horizontal piece between the uprights. The rear assembly can then be soldered in place butting up to the buffer beam.

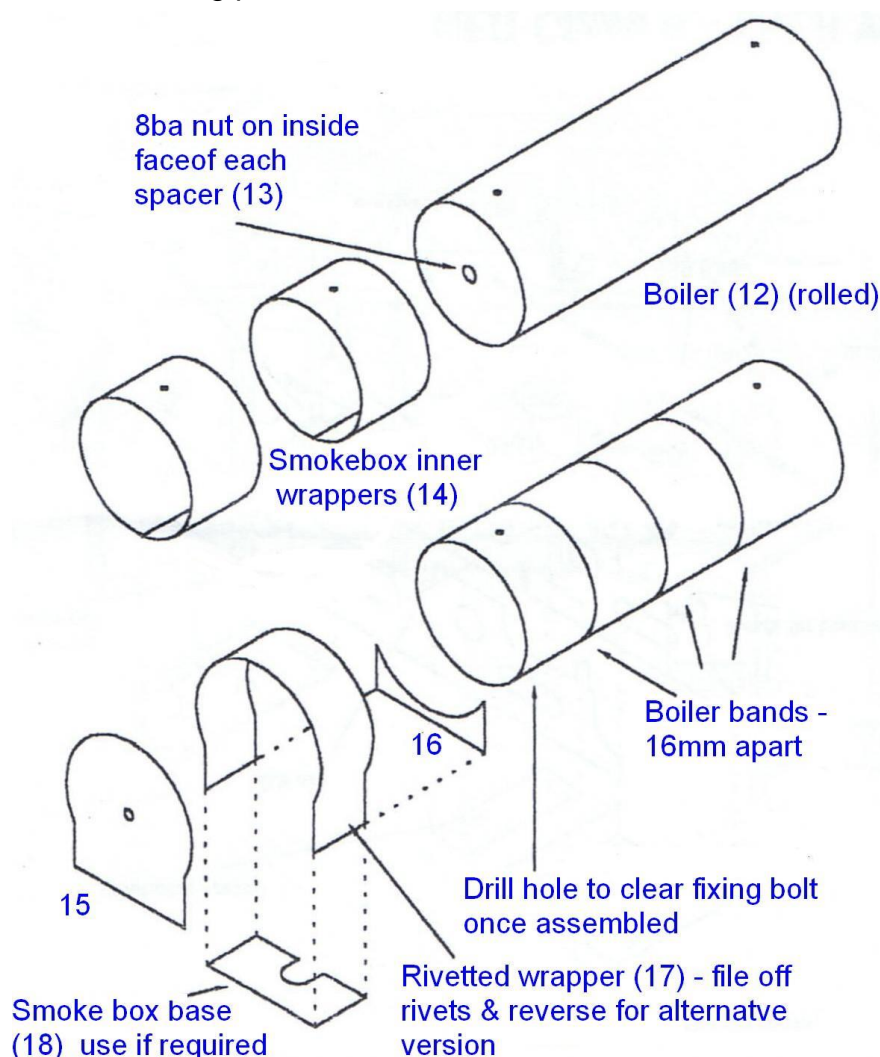
27. Form roof (8) to shape using cab front for reference and fit ribs/trim (11, 20 – trim to length after fitting) - see diagram for guidance.

28. Before fitting roof, secure cab floor (9) in position and organise the different fittings e.g. backhead, reverser. Some, such as the brake (fits in line with rivets on rear panel), can be finally fitted now but others should be left until nearer completion. Add rib 21 to roof (9) once fitted to loco.

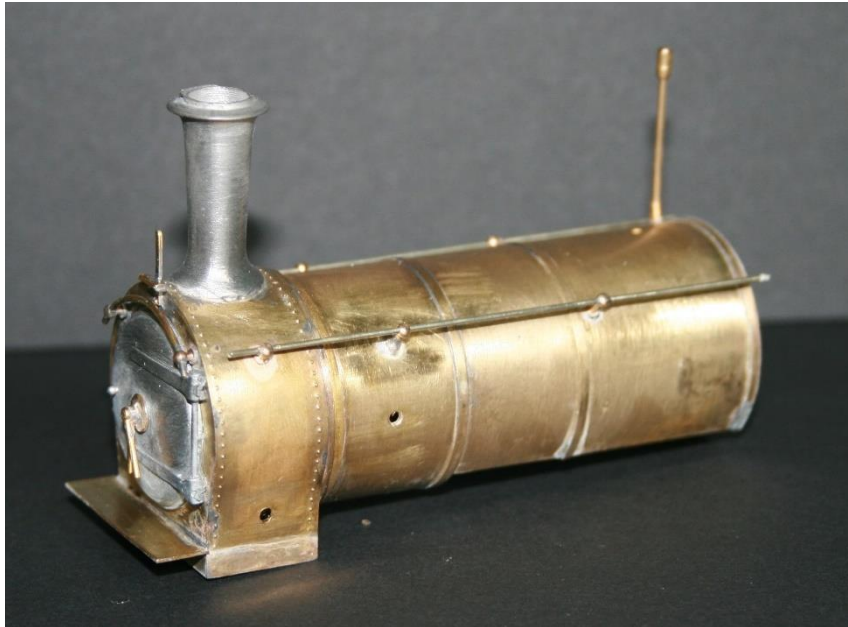
29. Some locos had an additional coal bunker in the cab (see diagram) – this is not provided in the kit, but can be made from brass strip or even plasticard. Approx dimensions are 18mm wide, 11mm deep and 10mm high



30. Make up boiler (12) with spacers (13) as a cylinder, not forgetting to solder 8BA nuts to the inside of spacers. Unite this assembly temporarily to the cab front and try against the assembled chassis. You will have to remove some of the rear underside to suit the motor being utilised but try to limit this so that it is concealed by the tank sides — note half etch relief lines provide a starting point.

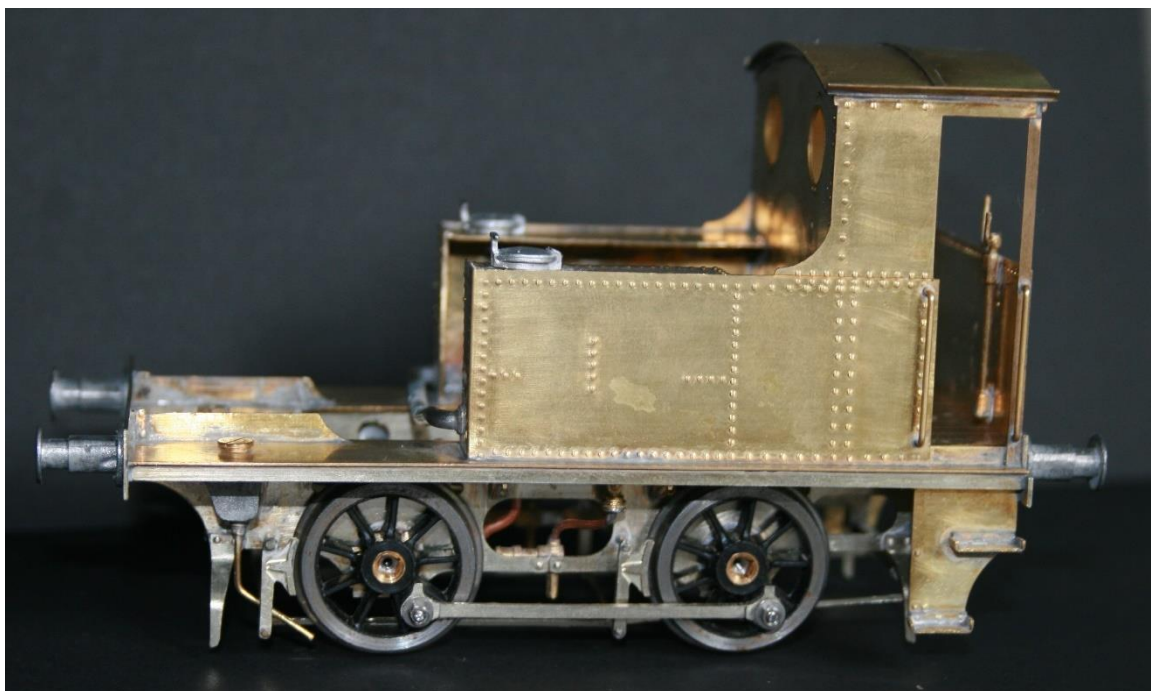


31. Fit smokebox inner wrappers (14) then bolt the smokebox front (15) temporarily in place and check alignment with footplate.
32. Fit the outer riveted wrapper (17) so that it overlaps and follows the profile of the smokebox front — annealing may make this easier. The wrapper is deliberately overlong and will need shortening once it is fitted. At the same time the lowest rivets can be filed flat so that the frame tops (22) will fit snugly against the smokebox. All the rivets should be removed if modelling a loco in early condition. Fit the small closure plate (16) to the rear of smokebox. A base (18) is provided for use, if required, to pack up the front of the boiler.
33. There are four boiler bands (19) to fit. The first should butt up against the rear of the smoke box. The next is set 16mm back but take care that it does not interfere with the front of the tanks. The third band is a further 16mm behind the second, with last being at the extreme cab end
34. Before fitting in place, mark boiler for hand rail knobs (see drawing), there are 4 medium fitted to the boiler, such that the handrail is level and goes through the holes in cab front. One short knob is fitted to the left hand side of the smoke box, and either a short knob or blower valve casting (NE015) on the right hand side, if fitted the handrail on this side will protrude further into the cab and have a handwheel fitted to that end. The remaining 2 short knobs hold a curved handrail and fit above the smokebox door.



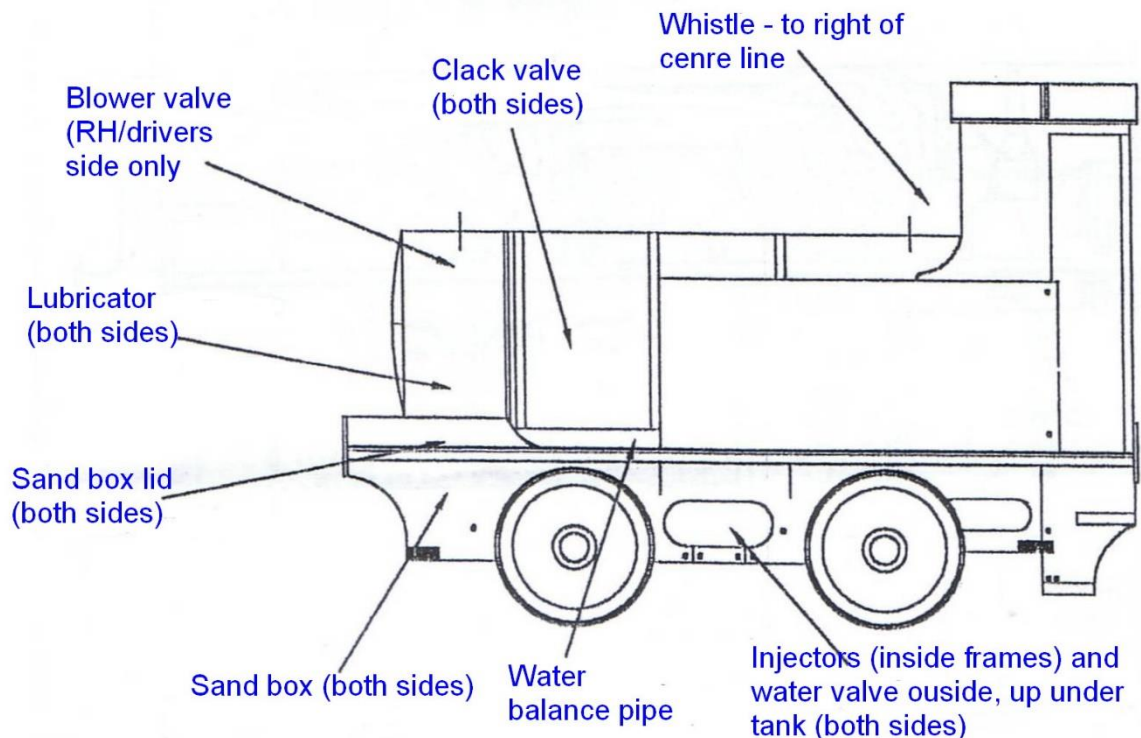
Boiler assembly

35. With boiler in place fit frame tops (22) flush with sides of smokebox. The cylinder inspection cover (29 – Between parts 9 & 6, no ref. number on etch, sorry) lies on top of these frames and requires trimming to fit on top of the frames and between buffer beam and smoke box
36. Assemble and fit the cab steps (24/25/26), these fit as shown on the drawing, with the outer edge of the treads level with the outer edge of the footplate. Fix the roof in place (if not done earlier).
37. At this stage most of the etched components are fitted and you can begin to add the various fittings. It is suggested that any parts requiring standard soldering are fitted first. Parts to be added using low melt or glue are best left till last. See diagram and photos for location.
38. A full set of lamp irons (27) is provided and all of them may be fitted centrally front and rear, however is apparent from photos that only two (smoke box top and cab rear) were carried



Footplate, cab and tanks

39. The two tiny brackets (23) fit at the front where the frame tops meet the rear of the buffer beam.
40. Fit various castings as shown in sketch side elevation — reference to photos is essential here as various fitting changed over the lifetime of the engines. Some brass items (i.e. safety valve/clacks/lubricators/whistle) may be left loose and fitted with glue after painting. The buffers provided are not designed to be sprung due the position of the footplate, however should you wish to cut small slots for the tails we can supply sprung versions from our range of detailing parts.



41. Laminate hooks (49) and overlays (50), file to give a rounded shape and tapered hook, then fit to buffer beams

Completion

42. The chassis is fixed to body with 2x 8ba screws, test run the loco to confirm it performs satisfactorily, then dismantle and paint. Once the paint is completely dry, reassemble and fit any parts (whistle etc) that have been left off.
43. Fix outer window frames to the clear acrylic sheet (having first removed the protective layer) with 'Spray mount' (or similar). Trim the clear sheet to match the frame and fix to the inner frame from the outside. Add coal/crew (not supplied) and enjoy the loco

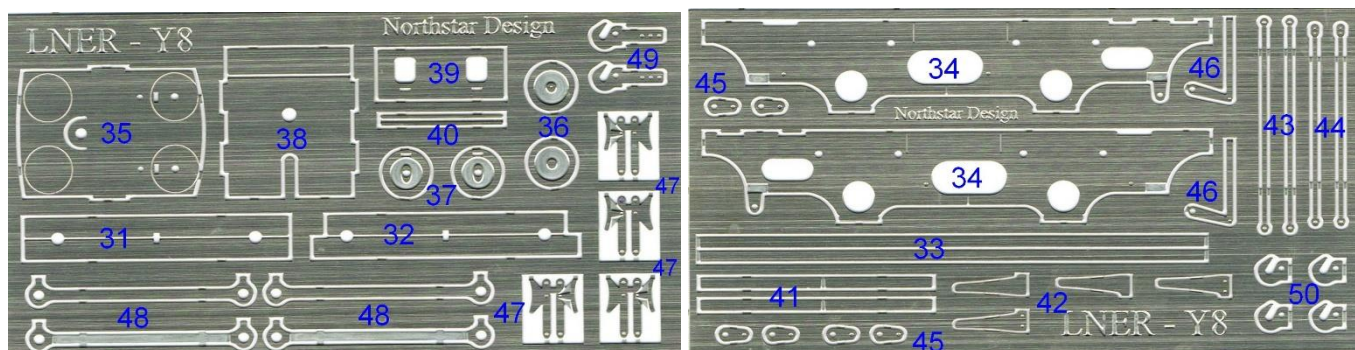
Parts List

Etch

Brass etch (mainly body parts, numbered on sheet)

1	Footplate	16	Smokebox rear infill
2	Cab window rim	17	Smokebox wrapper - outer
3	Cab front	18	Smokebox base
4	L.H. tank top - press-out rivets	19	Boiler bands
5	L.H. tank side - press-out rivets	20	Cab roof trim (2)
6	RH. tank top - press-out rivets	21	Roof centre rib
7	R.H. tank side - press-out rivets	22	Upper frame extensions
8	Cab roof	23	Buffer beam rear plates
9	Cab floor	24	Footplate steps backplate
10	Cab rear	25	Footsteps lower (2)
11	Roof edge trim	26	Footsteps upper (2)
12	Boiler	27	Lamp irons
13	Front rear boiler spacers	28	Footplate support brackets
14	Smokebox wrapper - inner	29	Cylinder inspection cover
15	Smokebox front	30	Water balance pipe flange

Nickel etch (mainly chassis parts)

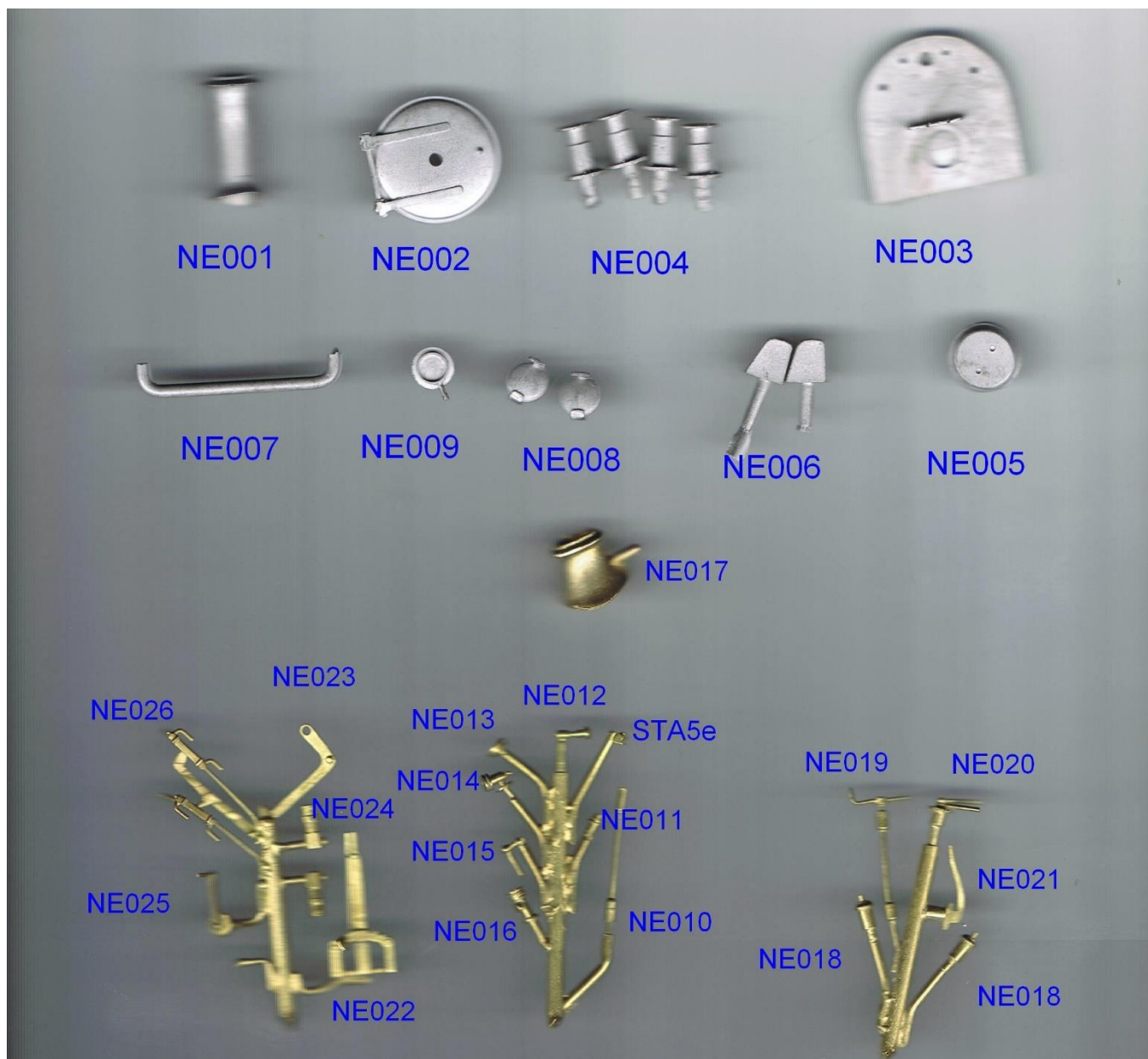


31	Front bufferbeam	41	Slidebar representation
32	Rear buffer beam	42	Guard irons (front and rear)
33	Footplate valance	43	Front brake rods
34	Side frames	44	Rear brake rods
35	Front spacer/cylinder chest	45	Brake link
36	Cylinder cover plates - front	46	Handbrake crank
37	Cylinder cover plates - rear	47	Brake shoes/hangars
38	Rear spacer	48	Coupling rods
39	Motion plate	49	Hooks
40	Motion plate top flange	50	Hook overlays

Alternative S7 parts - (pack LK12s7) available separately

51	Front spacer
52	Rear spacer
53	Motion plate
54	Motion plate top flange

Castings



Whitemetal

NE001	Chimney	1
NE002	Smokebox door	1
NE003	Backhead	1
NE004	Buffers	4
NE005	Ross Pop SV base	1
NE006	Sandbox	2
NE007	Water balance pipe	1
NE008	Water fillers	2
NE009	Steam gauge	1

Brass

NE010	Whistle	1
NE011	Sandbox outlet	2
NE012	Smokebox lubricator	2
NE013	Sandbox lid	2

Other parts

Brass (cont)

NE014	Clack valve	2
NE015	Blower valve	1
NE016	Water stop valve	2
NE017	Safety valve cover	1
NE018	Ross Pop valves	2
NE019	Cab brake handle	1
NE020	Smokebox dart	1
NE021	SV lever	1
NE022	Lever reverser	1
NE023	Reverser rod	1
NE024	Injectors	2
NE025	Regulator & gland	1
NE026	Gauge glass	2
STA5e	Tank front lubricator	2

STA908	Bearings	4	0.020"	Clear sheet	1
STA911	Handrail knobs – medium	4	W0.7	Wire 260mm	1
STA912	Handrail knobs – short	4	W0.9	Wire 260mm	1
STA918	Coupling links	6	BL	Brass L section 150mm	1
STA919	Split pins	2	W1.6	Brass rod 50mm	1
STA930	Coupling springs	2	W1.2	Copper wire 150mm	1
6ba	Screws & nuts	2	8ba	Screws & nuts	2

Parts required

2x	3' 1" wheels – Slaters 7836Y8 (see notes)	Paint
1x	Motor/gears	Transfers

