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ETCHED LOCOMOTIVE KIT
WITH WHITE METAL CASTINGS

NER CLASS H LNER/BR
CLASS Y7 0-4-0 TANK ENGINE

Parts to complete:

Bearings

Couplings

Gears

Handrail knobs

Motor

Paint

Pickups

Transfers

Wheels

Wire (see instructions)



Kit by arrangement with Jim McGeown Connoisseur Models

GENERAL INSTRUCTIONS.

Please read this section carefully especially if this is your first etched kit. Many modellers fall shy of working in this medium, but once a few simple skills are acquired you will find the sky's the limit.

First, you are employing many of the skills the scratch builder uses, with the exception that most of the fretting out of the parts is done for you but some cutting and trimming of parts will become necessary from time to time. Where this is the case we have tried to highlight this in the instructions.

We have been constructing etched Brass kits for a number of years, so here is a list of tips hopefully, of some use to the novice and expert alike.

To cut parts from fret use jeweller's snips [The Acme railcutter {with orange handles} is ideal] for the large parts and a Stanley Knife and a piece of softwood for the small detail parts. [Although Jim likes softwood for 0, with our thinner frets, I prefer to cut using a craft knife, just past its prime, onto something quite firm, either a melamine offcut or a sheet of aluminium]. Remove the tabs and burrs using a sharp Swiss file. Generally, it is better to leave bits on the fret, near their identification, until you are ready for them, but a pot to keep small bits in when the phone rings is useful.

You will need a soldering iron of at least 40 Watts for 0 gauge. A Weller 40 Watt is ideal, a 25 Watt iron is adequate for 3 mm; Weller and Antex both do something suitable. Some people prefer a Resistance Soldering Unit [RSU] such as the London Road Models version [from Fourtrack models], which can make overlays, and very small parts using minute amounts of solder, easier to apply. A supply of square cornered brass lumps to lean/balance parts against is useful with an RSU. Don't take the probe off the brass until your foot is off the pedal unless you want very 'distressed' models.

145 solder (such as Carrs) which melts at 145 degrees C, and Carrs Green label Flux [weak phosphoric acid] is adequate; some people distort the etch using higher melting temperature flux cored electrical solder whereas others get away with it. Solder paint may also be found useful, and come in a selection of melting points, use the higher temperature ones first so that small details can be added later using the lower temperatures. Do not worry if you make a mistake, Brass (and Nickel Silver) is very forgiving, just unsolder, clean off parts and try again. A desoldering tool is useful here, a spring loaded piston in a metal cylinder that sucks melted solder away from the iron [avoid the cheap rubber bulb variant]. Remember you are not soldering electrical joints, first you run flux with an old brush onto area to be soldered then carry some solder on the iron to joint. Do not dwell iron to long

on one spot otherwise the metal will distort, practise on some scrap first. A glass fibre brush available from draughtsman's shops or model suppliers should be used to burnish the metal along the joint and then with the aid of scrapers and sharp scalpel, remove solder afterwards. Beware that the brush sheds very irritating and invisible glass splinters, clean them away as you go and keep them away from your finger tips.

Strapping and small details are best applied using solder paint. This can avoid clogging up plank detail etc. with solder. Apply a thin coat of solder paint to the back of the component, [Sometimes it helps to tin it by melting the solder at this stage and adding a little more before fixing to the kit] place in position and hold in place with a thin knife point. Run a little liquid flux along edge of component, and then apply clean iron with excess solder removed from tip [That's what the damp sponge on your soldering iron stand is for], to the top of the component until molten solder (not just the flux) is seen bubbling (or just peeping) from the edges.

Folds in Brass are usually made with half etched lines on the inside. You will need bending bars for long folds, but a good 3" smooth jawed vice and a pair of blunt nosed pliers {smooth jaws, not serrated for better grip} should suffice for most models. Sometimes, the bend is easier to form after running a craft knife along the inside of the fold's half etch, but don't go through. You need to decide whether to form rivets before bending if they will become unreachable, or leave until later to avoid flattening them in the bending process. You will find it easier to solder if you burnish the Brass with a fibre brush and keep iron bit clean.

Where you need to fit layers of Brass together referred to as laminating in the main instructions i.e.: coupling rods, you may find it easier to align the parts together (a rod through the hole helps), then carefully clamp in the jaws of a vice. [This is where the RSU is easier, at least in 3 mm]. Run solder around edges, then file and clean up. Some holes in such components may have shrunk so far that you would prefer to reinforce them with small brass washers such as 12/14/16 BA from Suppliers such as Eileen's Emporium.

Other useful tools include a good pair of tweezers, a pin vice with a selection of drills from 0.3 mm to 2 mm, a small sharp screwdriver, some very fine pointed nosed pliers and some Broaches. The Broaches are used to open up holes. For larger holes for bearings, some people prefer a reamer, but a broach which will go a little over 1/8" (~3.2 mm) is OK. All rivets are either left proud on a half etch (requiring no more effort) or half etched on the rear waiting to be pushed out by you. A rivetting tool is useful for consistent rivets {commercially available from London Road Models [very simple], Dick Ganderton [more sophisticated] and George Watts (GW Models) [Rather

sophisticated, but could be useful if you want to do variants or things not available as kits}}, but some people manage with a blunt darning needle.

DO NOT rush the construction and clean up as you go. If you do not regularly wash your model the flux will soon turn everything Green, and if you try to glue any small parts they WON'T. In our kits all the White Metal castings can be glued if you desire. If using super glue use a good brand, and make sure surface to be glued is clean. It will help to polish castings with your glass fibre brush or an old suede brush

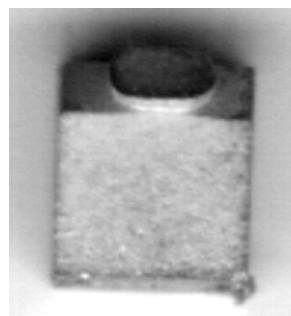
An alternative is to solder your White Metal castings together using Carrs 70 Red Label 70^o Low Melting Point solder and flux. The iron should be run at a much lower heat so you do not melt the castings, this being achieved by using a domestic light dimmer switch, wired up the same as for a light, but substituting a plug and the iron for the light and lamp holder {I have a dimmer extension flex}. Experiment with adjusting the switch until you find the range of temperature at which the solder melts, but a scrap casting does not. (NOTE. as the iron is running on a lower voltage. it will take longer to heat up, so when you think the adjustment is correct, do check a few minutes later on another scrap casting to see that it doesn't melt). When attaching White Metal fittings to Brass, the surface of the Brass must be tinned with 145 solder, (or alternatively Carrs 188 solder paint), to allow the 70 solder to grip. The casting can then be soldered in place and fillets of 70 solder run into place with no risk of melting the casting.

Try to complete all time high temperature Brass soldering before you attach the delicate White Metal fittings!

CASTINGS

SANDBOX

SET OF
4



CHIMNEY



BOILER CLACK

PAIR



SMOKEBOX DOOR WITH WHEEL



LARGE SAFETY VALVE

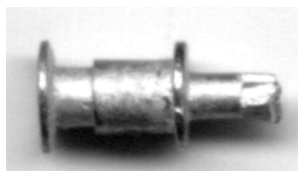


SMOKEBOX DOOR WITH DART



Parallel buffer

Set of 4



SMALL SAFETY VALVE



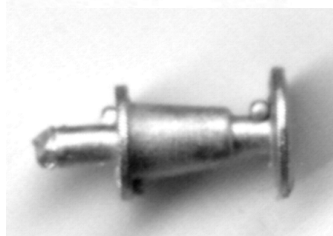
TANK FILLER

PAIR

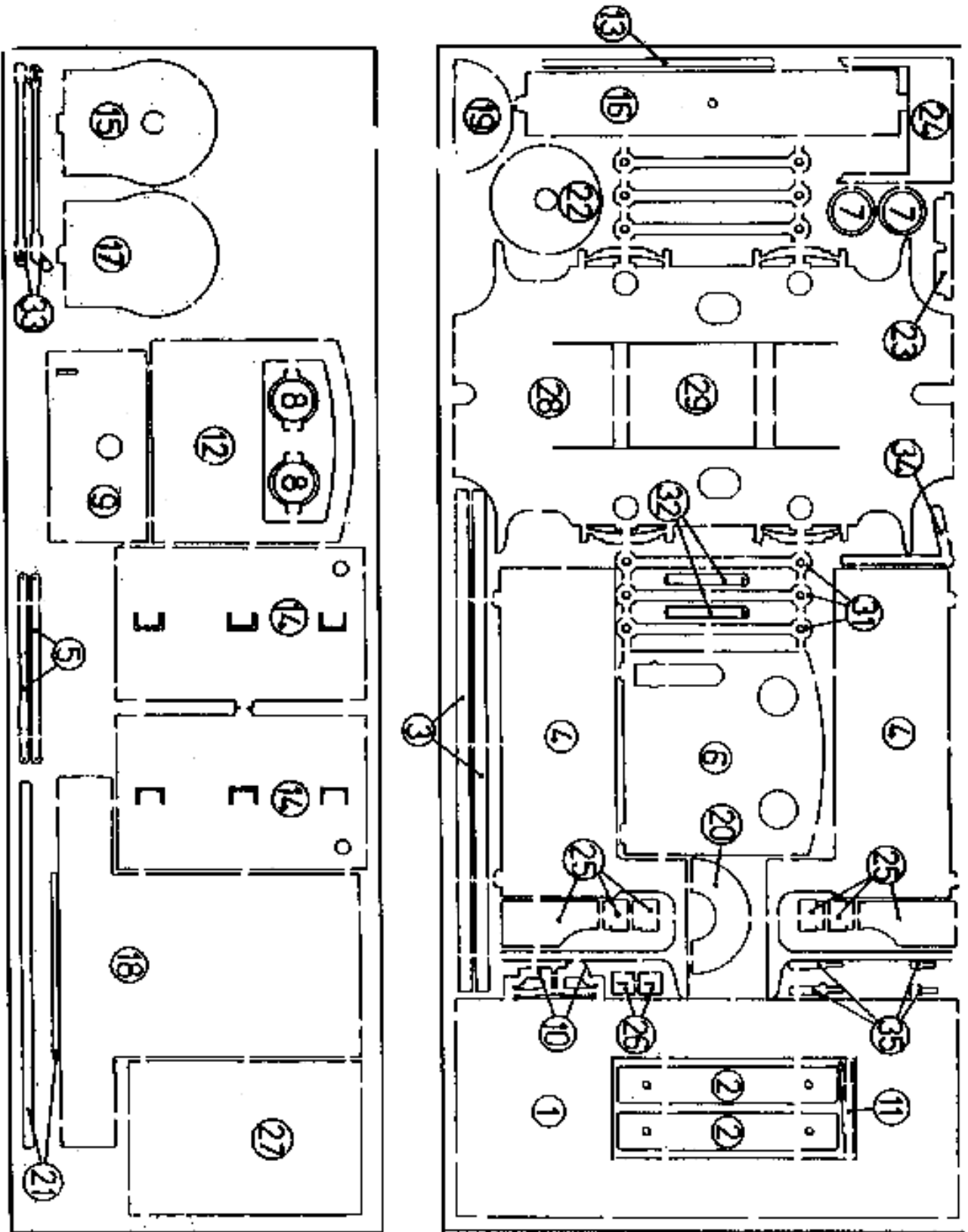
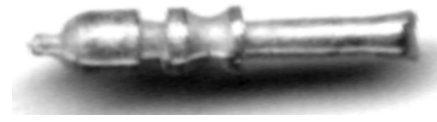


TAPERED BUFFERS

SET OF 4



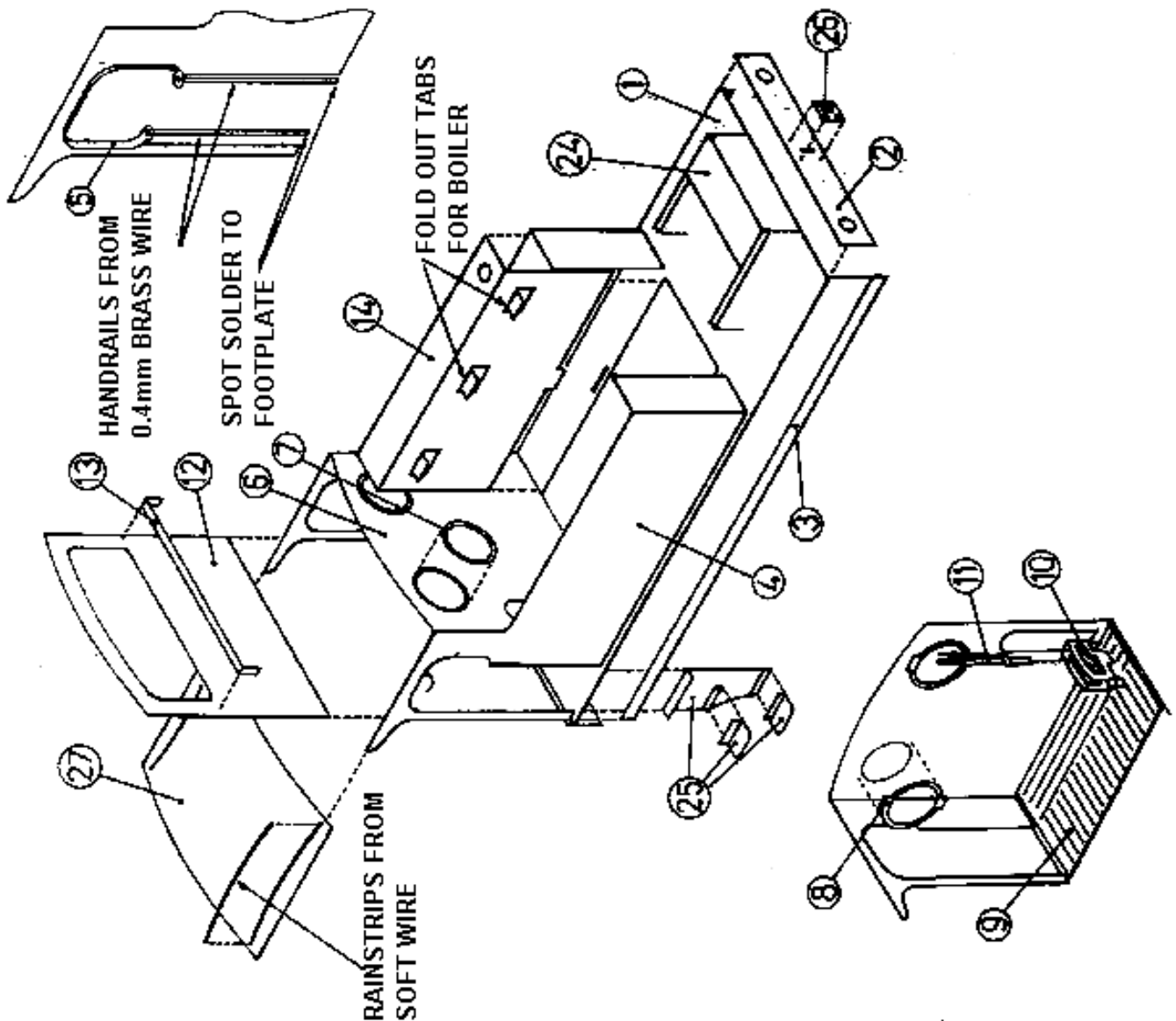
WHISTLE



POINTS TO NOTE

Parts are numbered in a logical assembly order. Tack solder a part in place, then adjust the next part to match. Some parts are designed oversize to be trimmed to size, solder solid when happy. The slots and tabs are provided to give a rough guide and to help hold the components in place while soldering; they do not form totally accurate locations.

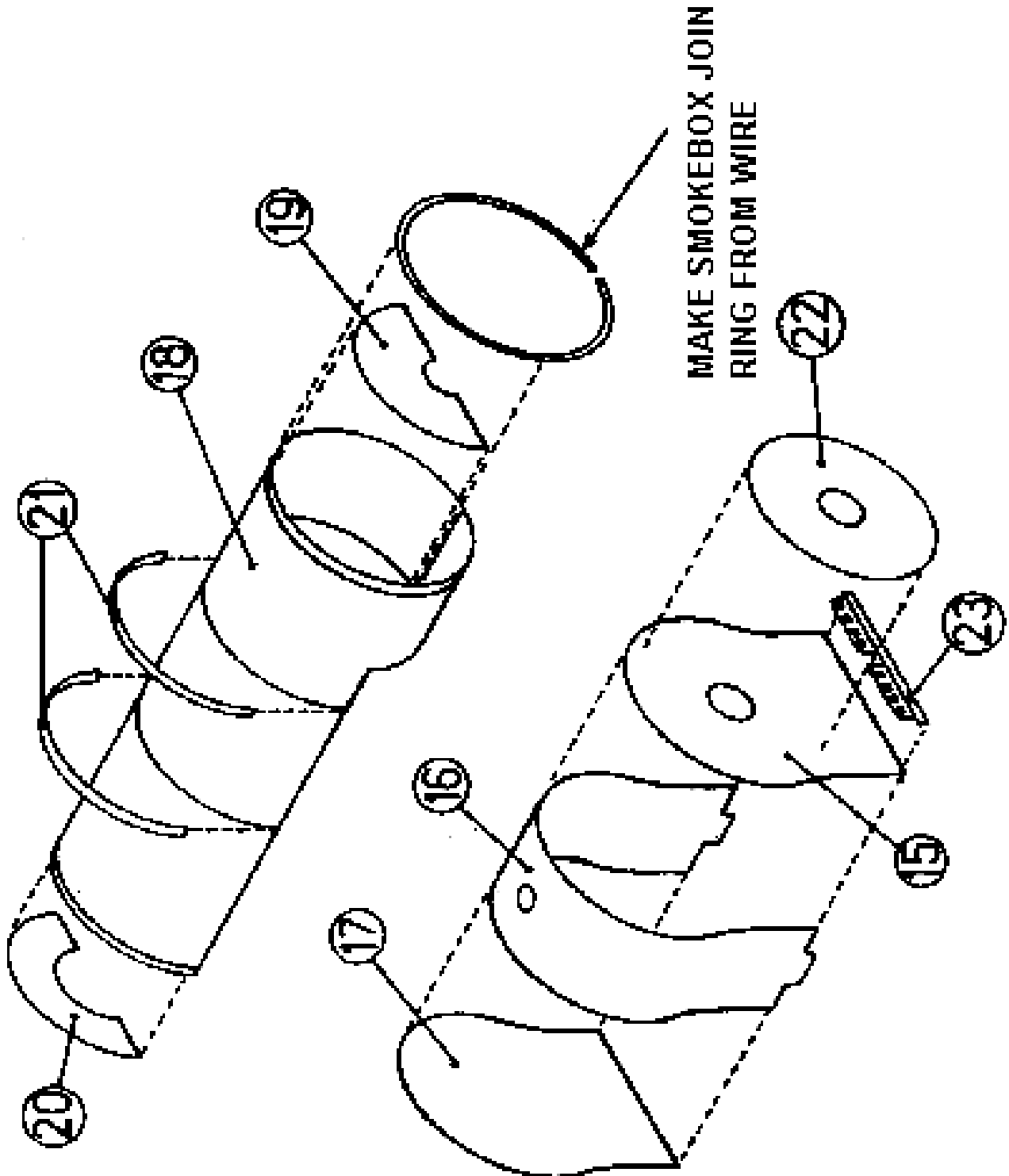
BODY



Solder two chassis fixing nuts to the top of the footplate, best achieved by locking them in place with a bolt, remembering to oil the threads to prevent soldering the lot up solid.

BOILER AND SMOKEBOX

Make boiler and smoke box as a separate assembly. Fit boiler between tanks and fit smoke box into slots on footplate. Line up and check for squareness, then tack solder boiler to smoke box. Remove from



between tanks and solder joint solid. Fit joint ring, then solder into main assembly.

BOILER.

Precurve the boiler, pin a former to a block of wood and solder boiler end to this. Repeat for other end, then finger thumb boiler bottom circular and solder overlap joint.

SMOKEBOX.

Drawing pin smoke box front to a block of wood, then roughly preform the smoke box wrapper using pipe and drill shanks. Position the wrapper to the centre of the smoke box front top, (note etched centre marks). Starting from the top work round, soldering to the front and using this as a former. Solder smoke box rear to wrapper.

CHASSIS

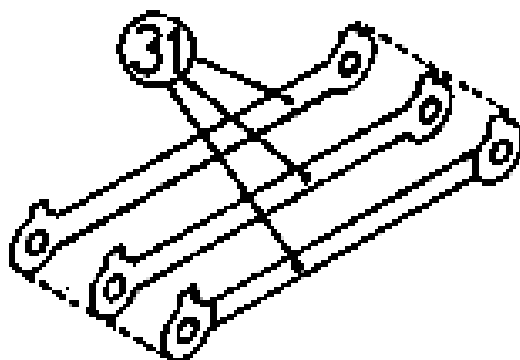
The correct wheels for a Y7 are:

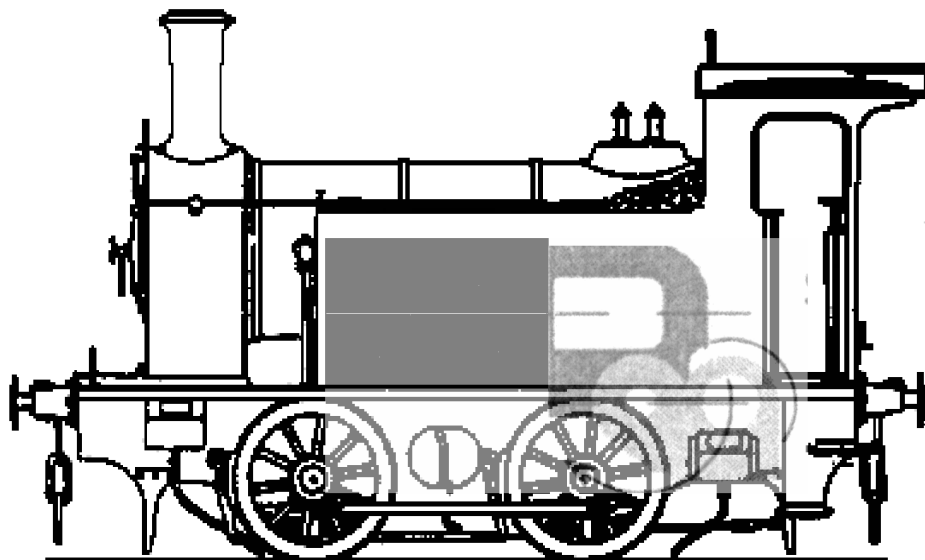
drivers 3' 6" (or 3' 5" or 3' 6¼" depending on reference) 9 or 10 spoke pin in line, 20" stroke: Some photos show pin between, which is perhaps a later wheel.

3' 4"	10 mm	10	pin between	2.5 mm throw	Sharman S400 : 2 mm axle
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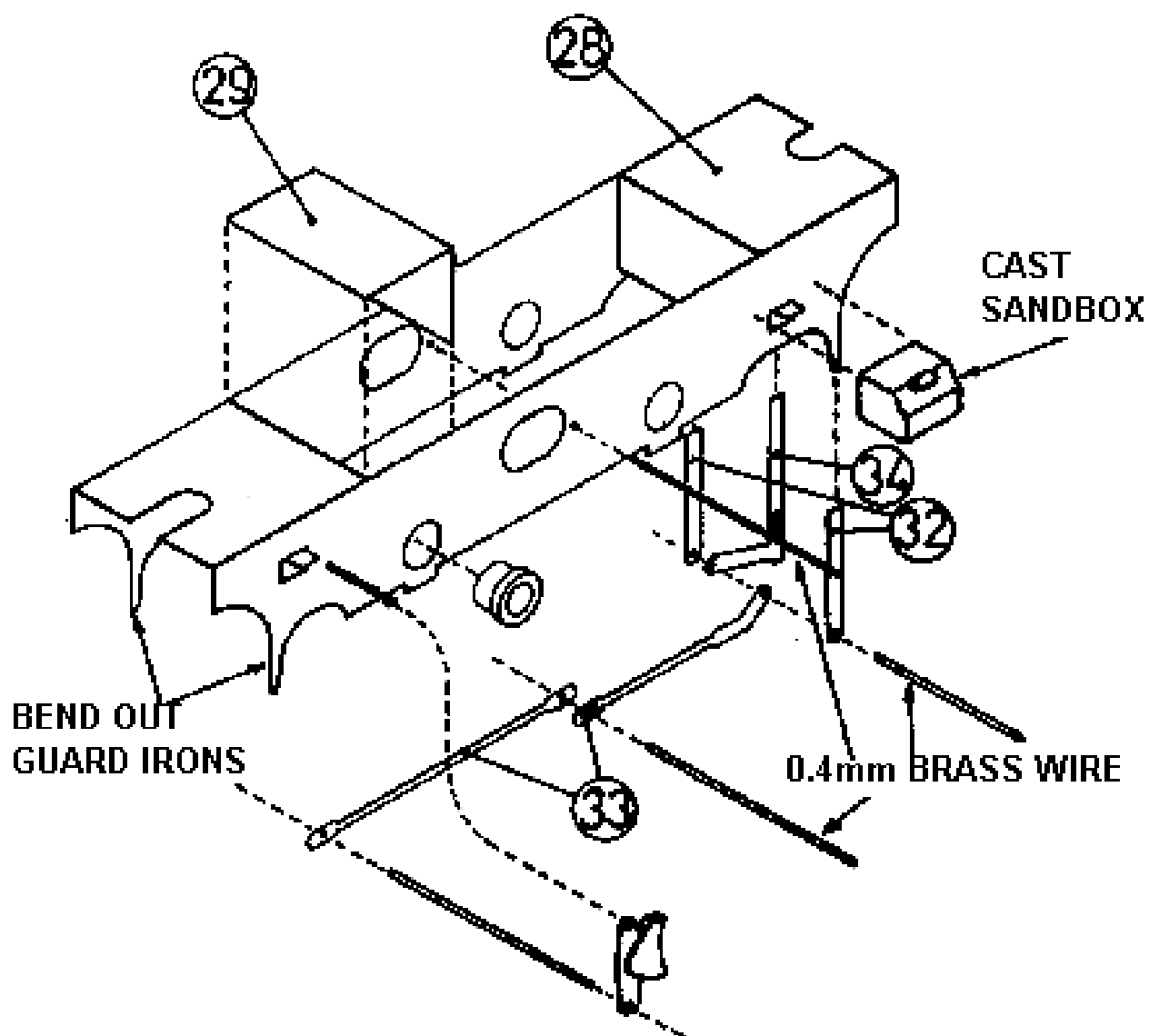
Or buy correct wheel from our 'B SPOKE' range.

Recommended motor and gearbox is Mashima 1015 flat can and High Level Slimliner Compact 54:1 gearbox. Both are available from us.





Solder the three connecting rod pieces together for each rod. Tin the rods with a thin coat of solder to give the impression of oiled steel.



DETAILING.

Fit cast sandboxes to chassis and make sand pipes from 0.4mm brass wire; the front pipes are noticeably kinked to fit behind the link the brake hangers. Fit the etched lamp brackets, there are half etched marks to help with their location. Fit the handrails using suitable handrail knobs. The rear of the side handrail fits against the cab, to which it is spot soldered. Fit body castings

GLAZING

Spectacle plate glazing. If this is desired in one corner of the fret can be found a round hole to be used as a template for cutting glazing.

PROTOTYPE

Nineteen of the class were built by Eastern Railway, with a further five being added by the LNER for dockside & light shunting work. Twelve were sold during their long lives to industrial users. A number of the class rose to fame working on the North Sunderland Light Railway, as well as other small N E R branches. Two loco managed to last into B R days, and two of the class are preserved, one at the Middleton Railway, Leeds, (no. 1310), and the other at the Great Central Railway, Loughborough, (no. 68088).

LIVERY

NER Lined Green with cream cab interior, floor wood, red buffer beams. green wheels.

LNER Plain black. cab and buffers beams as above.

BR as LNER

REFERENCES

Railway Modeller - July 1972

The NER Express, an album of drawings from the NER Society

Locomotives of the LNER, RCTS

North Eastern Locomotives, Hoole, OPC

