Sundry Snippets 12 - Getting it down on Metal Mike Sharman

In the last issue Mike dealt with materials and no matter how base. This time he deals with making your mark on them

Our Editor - who is always to be obeyed – has asked for a screed on the problems created when transferring measurements from drawing to model. Now, this is a very real problem, and it is best tackled by starting with the drawing.
What scale? how big? how detailed? Do we actually need one at all?

Going without

It is in fact quite possible to build an accurate model from a few good photographs and a set of basic but critical dimensions, i.e. wheel diameters, wheelbase, boiler size and centre line. Remember though that the boilers are sometimes quoted less lagging, so check and add about 3 ins. to the total diameter. Then there are the known "standard" dimensions of buffer width and height, chimney height (which varies a bit but is usually around 13ft. for modern or large steam engines, through 12 ft. for a medium power 0-6-0, down to 10ft. 6ins. – 11ft. for a small shunting tank. If you have drawings and photographs of other locomotives by the same builder, they will give you clues as to style.

Drawing error

Now a Twyning, Beattie or Lindsay drawing is nice, but any drawing with a scale grid attached can be blown up on a photocopier as large as you can, and will reduce your drawing error. "What drawing error?" you ask. Well, with your shaky hand, blunt dividers, and wonky glasses, you are trying to measure "dead centre" of a line which could be a scale inch wide anyway. Think of a road map – if the road were to scale it could be 220 yards wide!

Seven systematic points

Well, we do still manage to build models, so there must be a system:

- Ensure your dividers are needle sharp;
- Tighten them to avoid any tendency to wander or spread;
- Degrease your metal and, with a marking "blue" or felt-tipped pen, paint the marker over it. It won't dry in five minutes, so be patient;
- Now check your known dimensions against the scale on the drawing. If the quoted wheelbase is 7ft. 3ins. and the drawing shows 29mm. then the "unquoted" dimensions, e.g. front wheel to buffer beam and so on, can probably be trusted;
- Measure the total chassis length to inside both buffer beams and scribe it;
- Starting from either the front or rear, space your measurements from one end only, marking out the wheel centres. Do not work in from both ends, as they almost always do not match up!

- Now establish your wheelbase – mot of us use one of the floating hornblock systems these days, so from now on forget about dimensions, you are going to become a "fitter".

Fitting conclusion

"What's the fool on about now?", I hear you say. Well, the diameter of the splasher and its position on the footplate are dictated by the diameter of the wheel and its wheelbase setting plus any clearance required for compensation. So, let us make it "thus" and fit it.

Now if the cab sits just behind the rear splasher, then put it there – the actual measurement for that is irrelevant. You can now measure your cab side for length from cab front to drawbar and adjust it as much as you have to, as the splasher has got to be right! And so on, until you have completed the model. A couple of points to finish off with, though:

Dead Centre

Getting a centre punch to mark exactly on your scribed line is, I find, just about impossible – it will always wander or bounce. So fit a small number drill, say 65-70 in a pin vice with about ¼in. protruding (and with a drawing pin in the top for your finger pressure). Line it up on your mark and twirl it gently with your fingers until it starts in just the right place. This is easier to do that to describe. Now, mark all your holes this way by hand, and not by a mini or maxi power drill. It does not take as long as you would think and is very accurate. Any holes which need to be larger can be opened out with your power drill afterwards.

Bulk simplicity

I know it sounds obvious, but where you have two or more similar parts to make, solder them together first – then you only have to mark them out once. But, be careful if you have four or more parts soldered together, such as brake rodding, valve gear and the like: the drill can still wander and upset your centres on the bottom layers.