



## Bridge of the Month No44, August 2014 Skew railway bridge, Hadley, Nr Telford



This is not what I had in mind for this month, but I saw it this morning and had to write it up. It doesn't actually look like much of a bridge.



Two spans (really quite rare), skew (about  $37^\circ$ ), cycle/foot path under this side, single track railway under the other.

So what is special about that you ask? Well, a bit of background first. I had occasion to visit Telford. It's a bit bleak so I looked for somewhere near to stay the night and found Carriages in Wellington, next stop on the line. In the morning, I decided to cycle to Telford. National Route 81 took me under here. It runs parallel to the single track line to Telford Railfreight Terminal, it seems. Here on [Google Earth](#).



The arch seems to be in remarkably good condition.



Though there are some nibbles taken out of the edge of the arch which suggests it may previously have had vehicles under this, non-railway, span.



At first sight, there is nothing odd or different about these rings. A touch of separation in this picture, but then I noticed that:



The edges of the bricks seem to be at funny angles. And they are obviously fired on that face which is not really possible in a skew bridge because every brick ends at a different angle.



Look for example, at this one in Budleigh Salterton.



And this one in Exeter, where the brick ends are cut off to fit.



Here, you can see that the upper rings are quite different from the lower. They have been laid parallel to the abutments while the inner ring is on a spiral.

Notice below that the bricks show slight steps at each corner, but the steps have been balanced between springing and crown.



Towards the crown, the bottom edge sticks out at the crown side and at the springing it sticks out at the springer side (as at Budleigh, above). Around  $\frac{1}{4}$  span, as in the photo below, everything fits flush.

There are probably about 80 courses in the bridge, so the engineer could specify 80 half bricks and 80  $\frac{3}{4}$  bricks, all with the same angle cut on the face. The fit would be good enough not to show and the brick ends would be fired and sound.

The upper layers here are actually cut flush, but they are also laid parallel to the springing so that every one would have to have a very different angle.



People ask how I can still be so keen to look at bridges, but here is an answer. Something I have never seen before.

And just a thought. Those layers in different directions surely kill, once and for all, the idea that force flow is controlled by coursing. The force goes where it wants to the coursing is just a matter of building up a secure mass of masonry that will hold together.

And all this reminds me I need to get back to that paper on stereotomy!