Asymmetry in a Standard Two Winding Transformer

This will be an examination of the asymmetry of a transformer with identical primary and secondary windings with a core material that would yield the indicated inductances and “k” or coupling factor.

In Fig 1 below, we see an example with a 5mh primary and secondary with a coupling factor of .95 with the resulting buck and aid inductances calculated as shown. The asymmetry is in the comparison of these inductances relative to each other.

For example: The primary or secondary inductance of 5mH is 10x the Lbuck inductance of 500uH. The Laid inductance of 19.5mH is 39x the Lbuck inductance of 500uH plus we could make like comparisons to the primary and secondary inductance of 5mH.

The question now is, can we take advantage of these asymmetries with RLE or the Reduced Lenz Effect technique to create an overall energy gain? That answer will come in the next paper.

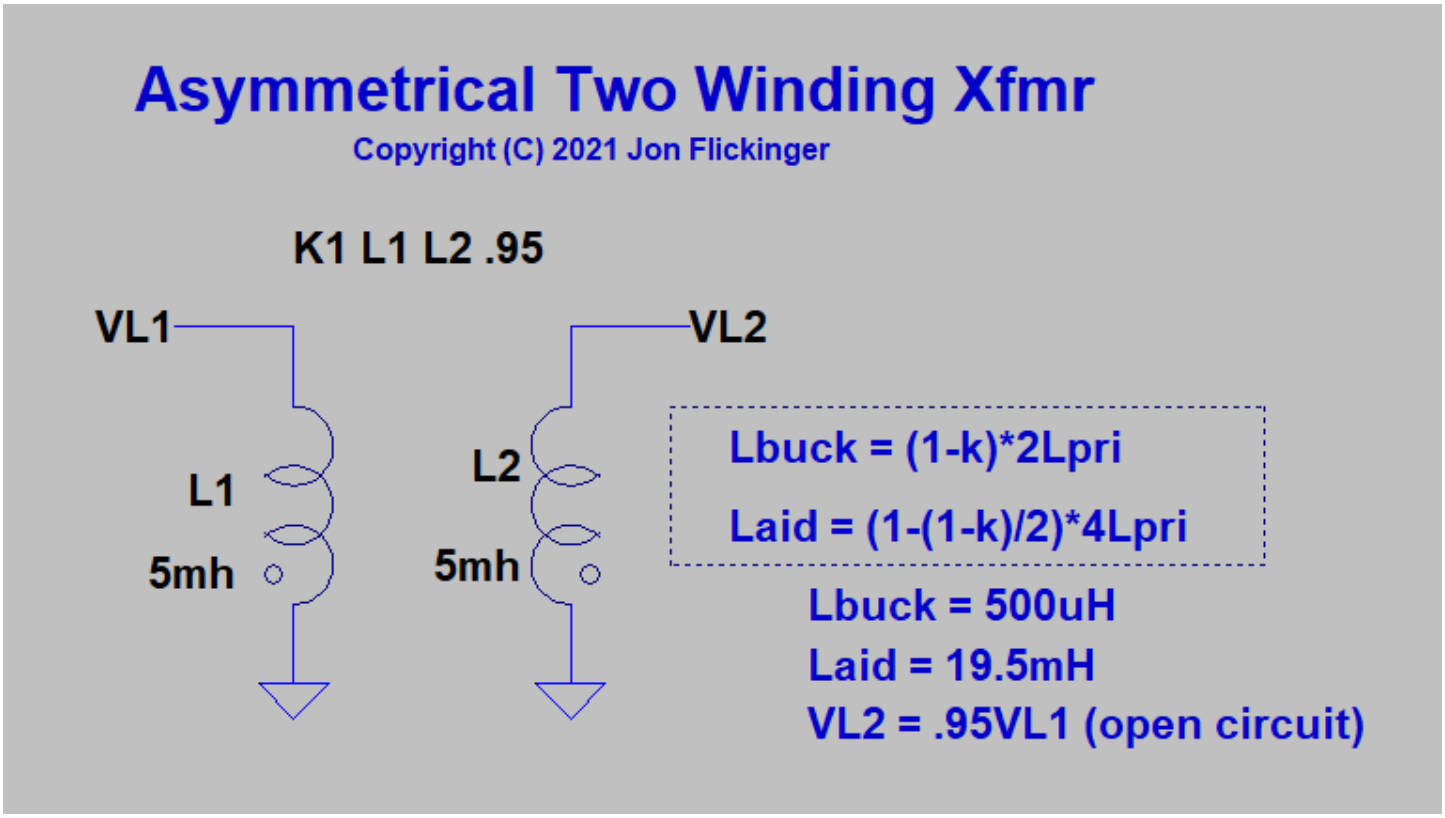

Figure 1

Regards,

Jon Flickinger