

Re: What is a 'demagnetization coil' ?

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- *From:* Traver <[traver@xxxxxxxxxxxxx](mailto:traver@xxxxxxxxxxxxx)>
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On Jun 5, 3:32 pm, Sven Wilhelmsson <[sven.wilhelms...@xxxxxxxxx](mailto:sven.wilhelms...@xxxxxxxxx)> wrote:

On Tue, 05 Jun 2007 19:01:03 +0000, Eeyore wrote:

Sven Wilhelmsson wrote:

In the context of fly-back converters, what is a 'demagnetization coil'?

I would think of it as a coil used to actively demagnetize the core.  
Sometime it seem to denote a coil that is passively de-energizing the core during the demagnetization phase in order to e.g. protect the driving transistor.

So, what exactly is the purpose of a 'demagnetization coil' ?

To remove remanent magnetism that might otherwise result in core saturation.

Graham

So the coil must \*actively\* give a kick to remove remanence ??  
And in cases when the coil is passive, the term is wrongly used.  
If that interpretation is false, please correct me!

## Re: What is a 'demagnetization coil' ?

When you drive a transformer winding with a voltage, you magnetize the core. If you drive it in one direction too long, it will saturate, meaning that it no longer acts like a transformer (or an inductor in the case of a flyback) and the winding will appear shorted, usually destroying parts in the driving circuit. So the trick is not to drive too long in one direction and then drive in the other direction. But many topologies can't drive the transformer in the other direction. Topologies like the flyback let the transformer "reset" on its own. The problem is if you just drive the winding and let it go (a truly passive reset), there is no place for current to go with the power switch (mosfet) off and the primary winding will produce a huge voltage trying to reset, also destroying parts. Here is where the reset winding comes in. It is usually a tap off the primary with a diode to ground specifically used to dump reset energy from the transformer. This is an active reset.

One of the posts was already on the right track but I wanted to elaborate. I have never heard it called a demagnetization coil before, just a reset coil.

Traver

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