

Re: 50 hz timer motor

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- *From:* "Ron(UK)" <ron@xxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Tue, 15 Nov 2005 13:35:18 +0000 (UTC)
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Ron(UK) wrote:

Sam Goldwasser wrote:

I now have the timer mechanism in my possession.

There is a synchronous motor which drives 4 gears as follows:

Driven Drive
Shaft Teeth Teeth Gear:Gear Ratio Period (60Hz)

Motor 12 Motor:G1 12:50 1:4.17 15 Hz
G1 50 16 G1:G2 16:40 1:2.5 3.6 Hz
G2 40 10 G2:G3 10:45 1:4.5 1.44 Hz
G3 45 12 G3:G4 12:48 1:4 0.32 Hz
G4 48 0.08 Hz (12.5 s)

Gear G4 engages the inside of a funny large ring gear - it has teeth missing every 12th position. Every 12.5 s, the cam switch moves one position. However, there is a lever in the middle of the mechanism which seems to be wanting to engage something that isn't there. When that lever is prevented from moving a certain way, the main cam doesn't step. However, I can't quite see what it's really doing without further disassembly.

So, is it possible there is some escapement that is missing on this unit? There are at least two posts that look like they may be for additional gears or something but that's not conclusive.

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Perhaps the original theory that something is missing deserves more consideration.

One thing I'm quite sure of is that the 50/60 Hz thing is irrelevant as far as this mechanism is concerned. The motor feels like it has around the 8 poles required to account for the 15 rps speed at which it is running (at 60 Hz).

--- sam

Sam, there's usually a kind of 'rocking lever' a bit like a clock escapement. It's difficult to see where any parts could go missing to unless it's been 'got at' previously.

Ron (UK)

Further to my last post, some timers - we call them the Italian type - have a lever external to the cam barrels, which is operated by the rear cam and interrupts the connection to the front cams at certain parts of the program. It's usually on a rod which runs from front to back of the timer and has a 'flag' that fits in between the front and rear cams. If this timer has that arrangement, perhaps it's seized up in some way.

Ron

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