

# Re: 50 hz timer motor

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*Source:* <http://sci.tech--archive.net/Archive/sci.electronics.repair/2005-11/msg00826.html>

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- *From:* Sam Goldwasser <[sam@xxxxxxxxxxxxxxxxxxxxxx](mailto:sam@xxxxxxxxxxxxxxxxxxxxxx)>
  - *Date:* 14 Nov 2005 17:25:18 -0500
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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)

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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.

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 | Sci.Electronics.Repair FAQ: <http://www.repairfaq.org/>  
Repair | Main Table of Contents: <http://www.repairfaq.org/REPAIR/>  
+Lasers | Sam's Laser FAQ: <http://www.repairfaq.org/sam/lasersam.htm>  
| Mirror Sites: [http://www.repairfaq.org/REPAIR/F\\_mirror.html](http://www.repairfaq.org/REPAIR/F_mirror.html)

Important: Anything sent to the email address in the message header above is ignored unless my full name is included in the subject line. Or, you can

contact me via the Feedback Form in the FAQs.

> <etphonehm@xxxxxxxxxx> wrote in message  
> [news:1130883398.734948.41510@xx](mailto:news:1130883398.734948.41510@xx)  
> A few years ago, when there were no tumblers available yet in the US  
> market, I had imported a French-made washing machine (Brandt) to the US  
> for energy and space-saving purposes. The machine was designed to work  
> in 220V/50hz and N. America has 110V/60hz. And as a mechanical  
> engineer, I was naive to think that as long as I had a 220V outlet in  
> my house, the worst scenario would only be that the machine runs a  
> little faster (20%) which amounts to 24 minutes in a 120-min wash  
> cycle.  
>  
> Well, as it turned out, the machine runs a lot faster. The timing knob  
> finished a 120-min cycle in something like 6 minutes. The wash, drain,  
> rinse and spin all were cut short within each function. To this day, I  
> am still puzzled and not able to solve the problem. If anyone could  
> shed any light on this subject, I would greatly appreciate it.  
>  
> The only other possible cause would be a defective timer which could  
> have been assembled with fewer gear sets than ought to be. But without  
> knowing for sure the root of the problem, it doesn't make sense for me  
> to invest another \$100 to buy a timer from oversea with no English  
> service manual available.  
>  
> I may be wrong, but I can't believe the difference in frequency could make  
> that much difference in time.

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• **Follow-Ups:**

- ◆ **Re: 50 hz timer motor**  
◇ From: Ron(UK)

• **References:**

- ◆ **50 hz timer motor**  
◇ From: etphonehm

- Prev by Date: **Re: freezer door pops open**
- Next by Date: **Re: Problem with Tektronix 475 "ADD" function**
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