I would really be grateful if you start to build the Developing Timer, that you go to the Photrio thread and say hi. Also please post photos of your completed tester.

Please refer to Photrio for further build help & to let us know you are building the timer.
[Build a B&W film developing timer & twiddler - Cheap, Easy & it Works | Photrio.com Photography Forums](#)

GitHub repository where all documentation & code can be found. [billbill100 (github.com)](#)

ESP32 Developer Timer Tank Lid V0.9   28/05/2024

The debate as to whether to twiddle or invert will go on forever.

Personally, I'm a twiddler. Using a water bath & twiddling, means the tank stays in the water bath for the full development time, thus maintaining a stable temperature.

Inversion can also cause over agitation and additional unwanted aeration of the chemicals. Especially if using a double reel tank with just a single film. Ilford themselves warn of this.

There is the issue of water splashes all over the place when agitating. There is also the increased risk of chemical spills, should the lid leak or has not been seated correctly.

As I use the water bath for the final rinse, I do not want the water contaminated with chemicals.

The development Timer incorporates the option to fit a stepper motor, which will carry out all of the twiddles.

For users of the Patterson Super 4 tank, two files are attached, to 3d print a tank lid incorporating the stepper motor fixing holes and teeth to engage with the tank serrated edge.

An adaptor to connect the stepper motor output to the twiddling stick is also included. (coming soon)

Without a 3d printer, a suitable lid can easily be cut from a piece of ply or plastic. It is important that the lid cannot rotate, else there is the possibility of it turning, rather than the reels. With the Patterson Super 4, this is easy to achieve due to the serrated rim of the tank.

There are two stl files available, to 3d print

Patterson Tank Lid.stl incorporating a stepper motor mount & teeth to engage with the Patterson tank rim.

Twiddle Stick.stl A replacement twiddling stick that mounts directly to the stepper motor shaft.

3d printed tank lid with mounting for stepper motor.