

# WILSONWERKS ARCHIVES

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SYSTEM 4

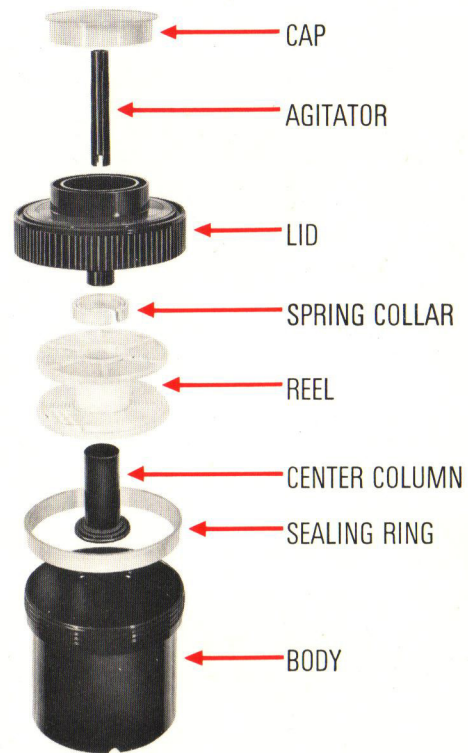
DEVELOPING  
TANKS

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System 4 Tank Reels are made from acetal resin material which has extremely high resistance to photographic chemicals and will withstand temperatures of up to 100°C. All other black tank parts are made of polystyrene which has the utmost resistance to photographic solutions but may be adversely affected by heat or by organic solvents such as ether. These parts should not therefore be washed in water hotter than can comfortably be borne by the hand, or stood close to fires or radiators.

# PATERSON





## INSTRUCTIONS

### ADJUSTING THE REEL

The reels are adjustable for 3 film widths: 35 mm. and 126, 127, and 120/220. Remove the reel from the black centre column and adjust to the size of the film in use.

To do this hold the reel with the film entry points uppermost and facing towards you. Twist the right-hand flange firmly clockwise until the resistance of the locking device is overcome. A slight 'click' will be felt indicating that the flanges are now disengaged and can be moved freely apart. The setting for each film width is controlled by a keyway on the center core. When the flanges are at the correct separation, twist them firmly in the reverse direction to lock. If the flanges are taken completely apart, ensure the two black dots on the core coincide when re-assembling.

### LOADING THE REEL

This must be done in total darkness. For 35mm. films cut off the half-width leader of the film, cutting between the perforations, not through them. With roll films it is best to unroll the film and separate it completely from the backing paper before loading. Hold the reel in the left hand with the entry points



FIG 1

opposite one another and facing towards you. Insert the end of the film into the reel grooves and push it forward about half a turn of the reel. The edges of the film will now be engaged by the ball-bearing mechanism and the film cannot be withdrawn from the reel.

Now hold the reel as shown (*Fig. 1*) and simply oscillate the two halves of the reel backwards and forwards in OPPOSITE directions as far as they will go. A stop device is fitted which prevents the reels being turned too far. The film will be drawn directly into the reel by the ball bearing action and the entire length will travel in quite easily. Turn the reel smoothly and steadily. Note especially the position of the thumbs (*Fig. 1*) which overlap the edges of the reel and the film. Placing the thumbs in this position helps to guide the film smoothly into the reel. If the film sticks for any reason do not use force, as this might tear the film. Simply remove the film from the reel (as described later) and begin again.

If you are unfamiliar with loading reels it is worth while practising with a spare film in the light with your eyes closed.

When you can do this you will be able to load an exposed film in total darkness.

In the majority of modern 35mm. cameras the film is wound on the take-up spool of the camera in the reverse direction to its natural curl. This straightens the film, and may cause difficulty in loading the last few inches into the reel, as the straight film does not conform so easily to the inner coils of the reel. This difficulty is avoided if the exposed film is rewound into the cassette and left for a few hours before loading into the reel, so that it recovers its normal curl. During loading, the curl of the film should be carefully preserved by resting the coil of film on the hand or on the bench.

After loading, push the reel fully onto the black centre column followed by the spring collar which prevents the reel moving during inversion agitation. Now replace the reel in the tank. Make sure the sealing ring is in position on the tank rim, and screw down the lid. The tank is now light-tight, and all other operations can be carried out in full daylight.

**DEVELOPMENT** The quantities of solution required for each size of film will be found engraved on the tank base.

Pour the required quantity of solution through the central hole in the lid. DO NOT tilt the tank during filling. The tank is designed to permit solutions to be poured in with extreme rapidity whilst in an upright position, and the solution covers the film evenly from below upwards, avoiding streaks and uneven development.

**AGITATION** The recommended method of agitation is by inversion. This method is the most effective one in preventing uneven

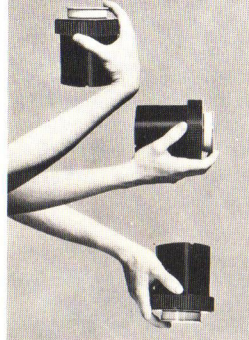


FIG 2

development of the film and the following procedure is recommended.

- 1 After pouring in the developer insert the agitator and twist the reel backwards and forwards for a few seconds to

dislodge any air-bells which might form on the surface of the film. Lightly tapping the bottom of the tank on the bench will also help to remove air-bells. Place the water-tight polythene cap in position on the lid and allow one minute for the film to become saturated with the solution. NB Push the cap down SLOWLY. This prevents undue air pressure inside the tank which might cause leakage past the sealing ring during inversion.

- 2 After one minute, invert the tank and at once return it to the upright position (*see Fig. 2*).
- 3 Invert once each minute during the development time.

**FIXING** After development for the required time remove the cap and pour out the developer. Pour in the fixer and periodically agitate during the period of fixation. After fixation the film is no longer sensitive to light, and the lid can be removed.

**WASHING** Remove the lid and wash the film by placing the tank under a tap so that the water flows down through the center column. More



efficient washing is obtained by the use of the special PATERSON FORCE FILM WASHER which ensures a positive flow of water under pressure from the bottom of the tank upwards. It may be used with or without the tank lid in position. A dual Force Film Washer is also available for simultaneous washing with two tanks.

#### **REMOVING THE FILM FROM THE REEL**

To remove the film from the reel, arch the free end by bending the two edges together slightly. Pull gently on the free end, allowing the reel to rotate on the other hand, and the whole length of film will run easily out of the reel as it rotates. The film should then be clipped or pinned up to dry.

#### **COLOUR PROCESSING**

Paterson Tanks are specially suitable for processing colour films including reversal films which require re-exposure to light during processing. It is not necessary to remove the film from the reel for this exposure, as it can be accomplished through the flanges of the reel.

As the reels are made of translucent material the time recommended for transparent reels should be doubled i.e. 1 minute per side instead of 30 secs.

#### **CARE AND STORAGE**

Wash the tank thoroughly after use. Run water through the lid from both sides to remove any residual chemicals from the light trapping system.

Ensure that the tank and reel are thoroughly dry after use before putting away.

Store the spring collar separately in the tank. If left on the column during storage its spring action may become less effective.

# MULTI-UNIT TANKS

These tanks have extra long bodies which accommodate more than one reel and allow simultaneous processing of a number of films. They will accept either the self loading or centre load reels, which are also interchangeable with each other.

Since the reels are adjustable, combinations of various film sizes may be processed together provided the development times of the films are similar. Three Multi-Unit Tanks are available as described overleaf

### MULTI-UNIT 1

Holds up to  
3 35mm or 126 films  
or  
2 127 films  
or  
2 120 or 220 films



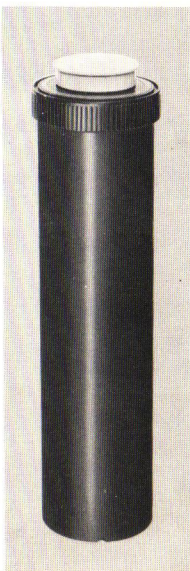
### MULTI-UNIT 2

Holds up to  
5 35mm or 126 films  
or  
4 127 films  
or  
3 120 or 220 films



### MULTI-UNIT 3

Holds up to  
8 35mm or 126 films  
or  
6 127 films  
or  
5 120 or 220 films



Multi-Unit Tanks are sold without reels because the number and type of reels will vary with the requirements of the individual user. The reels and all other parts of Paterson System 4 Tanks are interchangeable and available separately. Thus any System 4 Tank can be converted into another model by simply purchasing the spare parts required. For example, you can use the lid and reel of a single model tank and convert it into a Multi-Unit Tank by adding the appropriate body and extra reels.

The loaded reels are pushed onto the black centre column. Ensure that all the reels are pushed fully home on the column. When the last reel is in place push the spring collar down on top.

The amounts of solution required for each film are engraved on the base of the tank body. The total volume of solution required for any number of films (or for any combination of films of different sizes) is easily calculated by adding together the amounts required for each individual film. For example, three 35mm. films will require 10ozs. each, a total of 30 ozs. If one 35mm. film, one 127 film and one 120 film are processed together, the total volume required is 10ozs. + 13ozs. + 17½ozs. = 40½ozs.

When using less than the full number of reels, it is only necessary to use sufficient solution to cover the number of films being processed.

