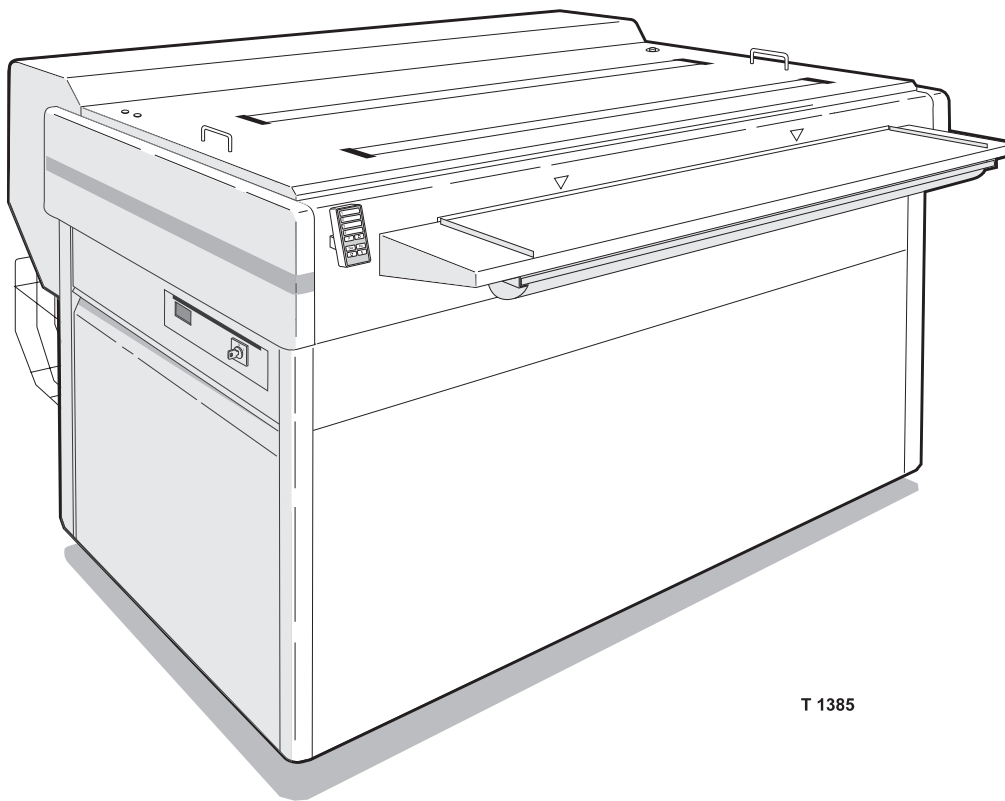


MultiLine 950/1250/1550



T 1385

This manual is for daily users of the equipment. Always read the *Safety Instruction Manual part No 21741* before starting up the equipment and keep it with the machine for reference at all times

GENERAL INFORMATION

This manual is published by:

Glunz & Jensen A/S

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The manual was written and illustrated using the best possible information available at the time of publication. Any differences between the manual and the equipment reflect improvements introduced after the publication of the manual.

Changes, technical inaccuracies, and typographic errors will be corrected in subsequent editions.

IMPORTANT!

- Intended use of equipment: Development of photographic G/A-films.
- Installation, service and repair must be performed only by authorized personnel trained to carry out plumbing and electrical installations.
- It is the responsibility of the owner and operator/s of this machine, that the installation is made in accordance with local regulations.
The manufacturer cannot be held responsible for any damage caused by incorrect installation, service or repair of this machine.
The installation procedure is described in the english operating manual delivered with the equipment.
- Observe technical data from the nameplate (located on the backside next to the film basket).
- The noise emission of the equipment is below 70 dB(A).

WARNINGS, CAUTIONS AND NOTES!

Throughout the manual warnings, cautions, and notes are written in bold on a grey background like the example below:

NOTE! Charcoal filter must be washed prior to use.

Explanation:

NOTE!

The operator should observe and/or act according to the information in order to obtain the best possible function of the equipment.

CAUTION!

The operator must observe and/or act according to the information in order to avoid any mechanical or electrical damage to the equipment.

WARNING!

The operator must observe/and or act according to the information in order to avoid any personnel injury.

AUTHORIZED PERSONNEL

Some notes, cautions or warnings refer to Authorized personnel like the example below:

NOTE! Authorized personnel only.

Explanation:

Authorized personnel:

Persons inside your company who are familiar with all the equipment functions, change in programs and maintenance.

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INTRODUCTION

The “OPERATING INSTRUCTIONS” is a short general version of the Operating Manual delivered with all machines.

It contains the information that is necessary for the daily user to operate, clean and maintain the equipment.

The “OPERATING INSTRUCTIONS” is available in an English, German, French, Spanish, Italian, Greek, Dutch, Finnish, Portuguese and and Danish version.

NOTE! Always keep the “OPERATING INSTRUCTIONS” together with the machine.

SAFETY INSTRUCTIONS

Personnel operating and maintaining the machine must be familiar with all aspects of its operation and be proficient in maintenance. Such personnel should review the following precautions to promote safety awareness.

GENERAL

- Wear safety glasses and gloves when maintaining or servicing the equipment.
- Do not wear a necktie, jewelry, or loose-fitting clothing while operating the machine.

ELECTRICAL

- All electrical matters must be dealt with by qualified service technicians.

MECHANICAL

- Keep hands, fingers and tools clear of moving parts.
- Install all panels and covers after servicing.

CHEMICAL

- Always refer to first aid recommendations provided by the chemical manufacturer.
- Wear eye protection and special clothing such as an apron and gloves when handling chemicals. In case of chemical contact with eyes or skin, immediately flush affected area with plenty of fresh water for 15 minutes. Wash affected clothing. In case of ingestion, contact a physician immediately.
- Do not mix chemicals.
- Shut off water supply and reduce system pressure before disconnecting plumbing fixtures.
- Provide adequate ventilation; avoid prolonged breathing of solution vapours.
- Avoid splashing and spilling. (Wipe up spills immediately).

ENVIRONMENTAL PROTECTION

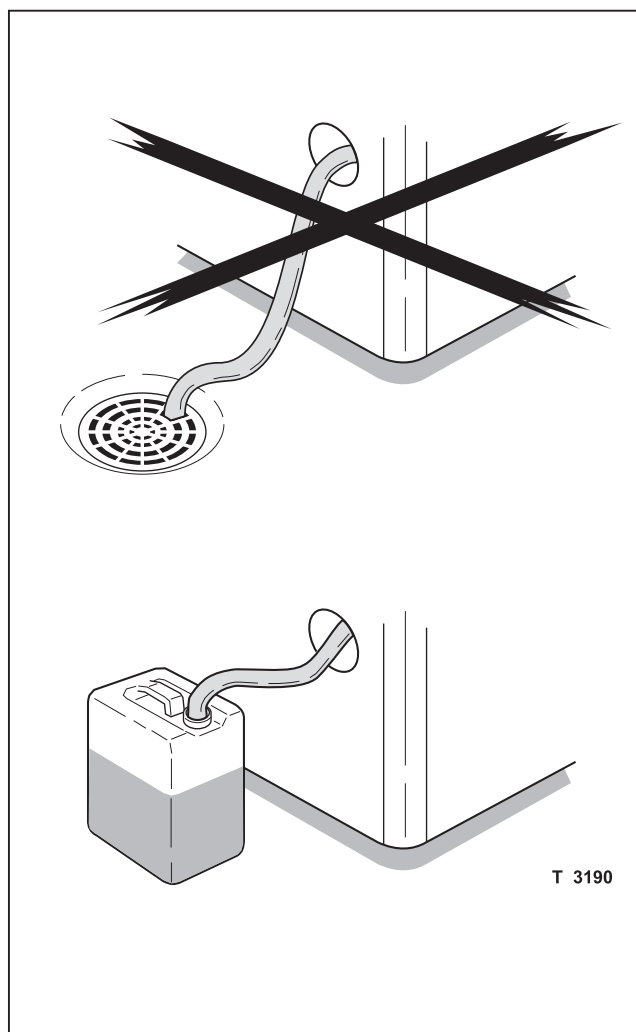
DISPOSAL OF CHEMICALS

Most chemicals used in film processors are strong pollutants and **do not** belong in the public sewer system.

Therefore chemicals must be led to waste containers in order to protect the environment.

Many countries have strong regulations on this subject, and disposal of containers with waste chemicals must be made according to these regulations. Refer to local authorities for information regarding disposal of waste chemicals.

Contact your supplier of chemicals if you need more information about safety and disposal.



**DO NOT LEAD CHEMICALS
DOWN THE DRAIN!**

GENERAL ABOUT THE FILM PROCESSORS

The new range of filmprocessors are designed to develop different types of materials such as:

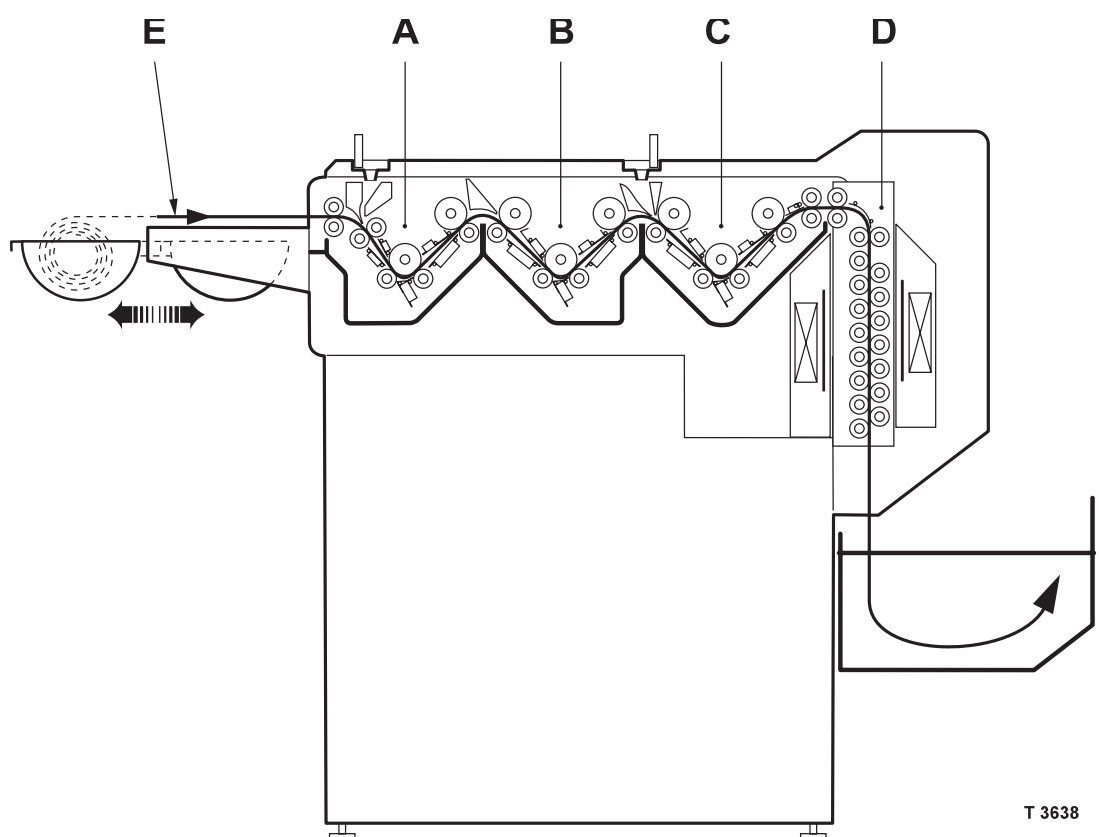
- Rali materials.
- Typesetting on RC paper and polyester film.
- Camera line exposures on rapid access films.
- Contact work on contact films, rapid access films, and daylight films.
- Laser scanner positives on rapid access films.
- Halftones on rapid access films.
- Paper contact work.

In principle all machines are designed with 4 major sections (See illustration below):

Developer (A), Fixer (B), Wash (C), and Dryer section (D). Each section performs a basic function to change an exposed film (E) into fully developed and dry material, ready for handling.

To maintain a good performance and processing quality it is necessary to renew the developer and the fixer at intervals depending on the type of material you are processing.

Also the temperature of the developer and the fixer and the transport speed of the material has a great influence on the processing result.

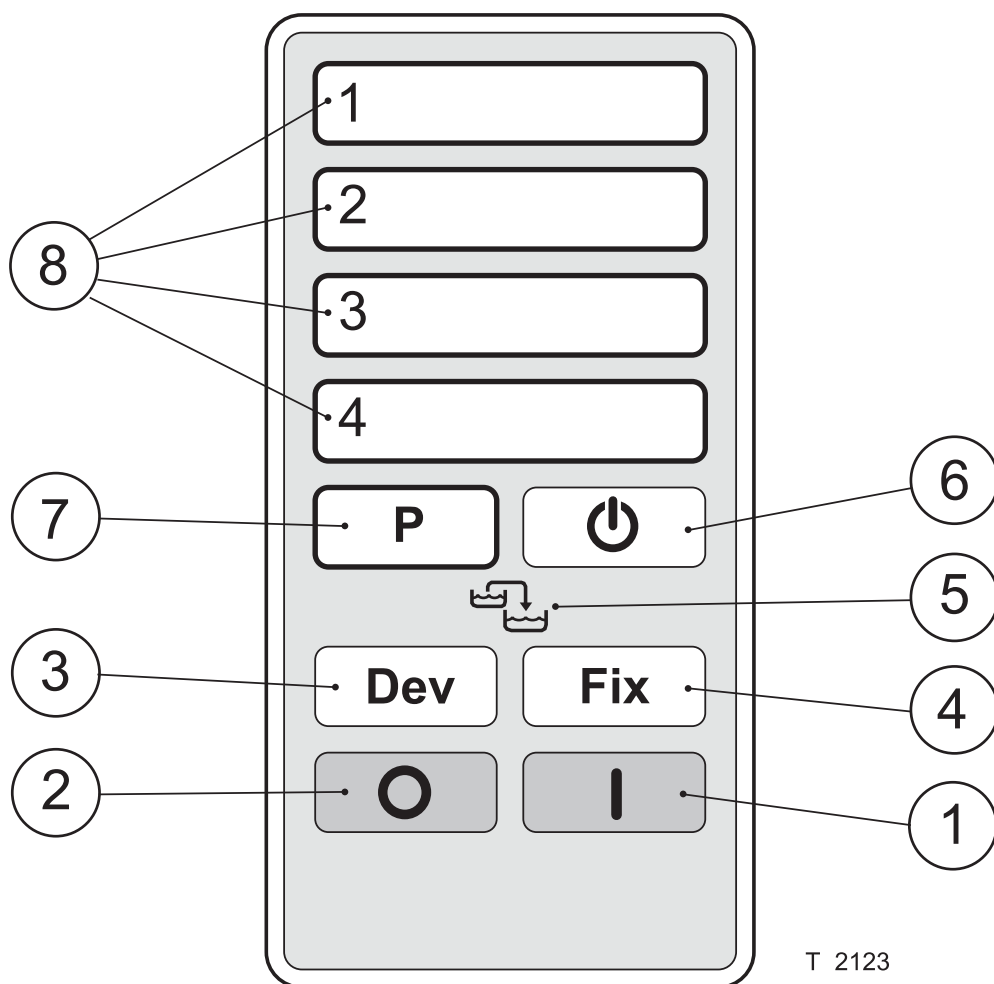


THE CONTROL BOX

The processor is operated from the Control Box fitted on the front panel left of the feed table.

The different functions of the CONTROL BOX are described on the next page.

See illustration below for references.



ON-BUTTON (1)

Starts the machine provided the MAIN-switch is set to "ON"(I). When the ON-button has been pushed, the built-in lamp is lit.

If the ON-button is pushed immediately after the machine is turned on by the MAIN-switch, it takes approx. 10 seconds before the machine starts.

OFF-BUTTON (2)

This button switches the machine to off. At this stage only the time-replenishment circuits and the exhaust fan work (all lamps on Control Panel off).

DEV/FIX BUTTONS (3) & (4)

The buttons activate the corresponding replenishment pumps. They can be used to top up the tanks manually.

If low level is detected in the DEV or FIX section, the WAIT-lamp (6) is lit and the LOW LEVEL/REPLENISHMENT-lamp (5) flashes.

In this case push one or both of the REPLENISHMENT-buttons. The electronics automatically detects the bath with low level and the corresponding pump starts to reestablish the correct level.

In case of low level in the WASH bath (no indication), check that the external water supply valve and the solenoid valve is open and that the drain tube is closed.

NOTE! When the tanks are empty and have to be filled, do this from suitable containers, as it is quite time-consuming to fill the whole tank using the pumps.

LOW LEVEL/REPLENISHMENT LAMP (5)

If low level is detected in the DEV or FIX section the lamp flashes. In this case the WAIT-lamp (6) is also lit. When one or both of the replenishment pumps run to reestablish the correct level, the lamp is lit constantly and it turns off when the correct level is reached.

If the correct level has not been reestablished within 20 minutes the pump stops and the lamp starts to flash again.

See also explanation for item (3) and (4).

WAIT-LAMP (6)

This lamp is lit if any of the following situations occur:

- If one or both film feed sensors are activated.
- If low level is detected in either DEV or FIX bath. In this case also the LOW LEVEL/REPLENISHMENT-lamp (5) flashes.
- If film is entered through the DAYLIGHT or REWASH slot. **(Not on all models!)**.
- The WAIT-lamp flashes if the temperature in the DEV section deviates with more than **1.5°C (2.7°F)** from the preset value or if temperature in FIX section is more than **X°C (X°F)** lower than the preset value (the X-value is adjustable - see APPENDIX, PAR 51).

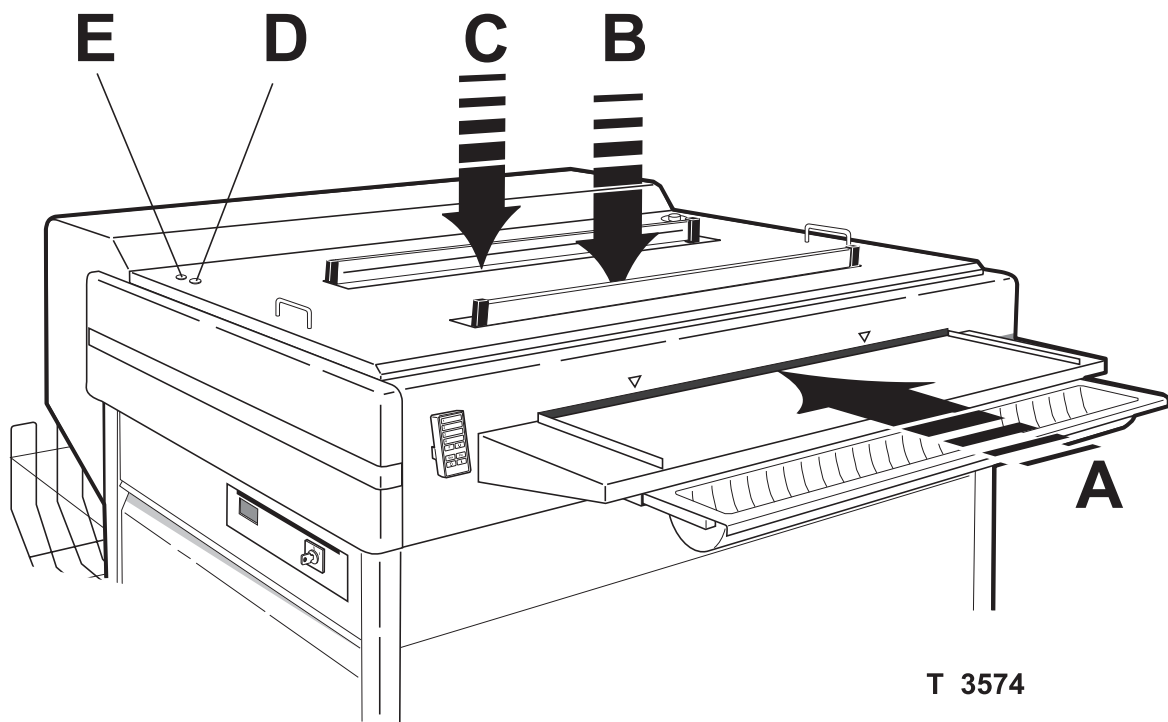
PROGRAM SELECTION BUTTON (7)

The electronics facilitates programming of 4 different programs with different developing times and DEV and FIX replenishment rates. The built-in lamp is lit when the machine is switched on by the ON-button (1). By pressing the PROGRAM SELECTION-button the suitable program (1, 2, 3 or 4) for the present job can be selected and the matching lamp (8) is lit. The processor automatically switches to program 4 when the daylight lid is opened.

PROGRAM INDICATOR LAMPS (8)

See explanation for PROGRAM SELECTION-button (7). When the machine is turned on by the ON-button (1) the lamp for the latest employed program will be lit.

If the operator attempts to change processing program within the first half of the running program the indicator lamps for all 4 programs will flash twice to indicate that a change of program is not possible. The values for the different programs can be written on the panel to the right of the indicator lamps using a spirit marker.



“DAYLIGHT” AND “REWASH” LAMPS

NOT ALL MODELS!

(See illustration opposite).

When the processor is installed in a “Through-the-wall” installation, the lamps inform the operator working outside the darkroom of whether the processor is ready (not lit) or busy (lit).

The “DAYLIGHT” and “REWASH” lamps are lit at the same time:

- When the daylight slot (B) is opened.
- When film is inserted from the feed table (A).

NOTE! Do not insert film from the “daylight ”and “rewash” slots when the lamps are lit.

The “DAYLIGHT” lamp (D) will turn off, when film has passed halfway through the fixer section.

Only the “REWASH” lamp is lit:

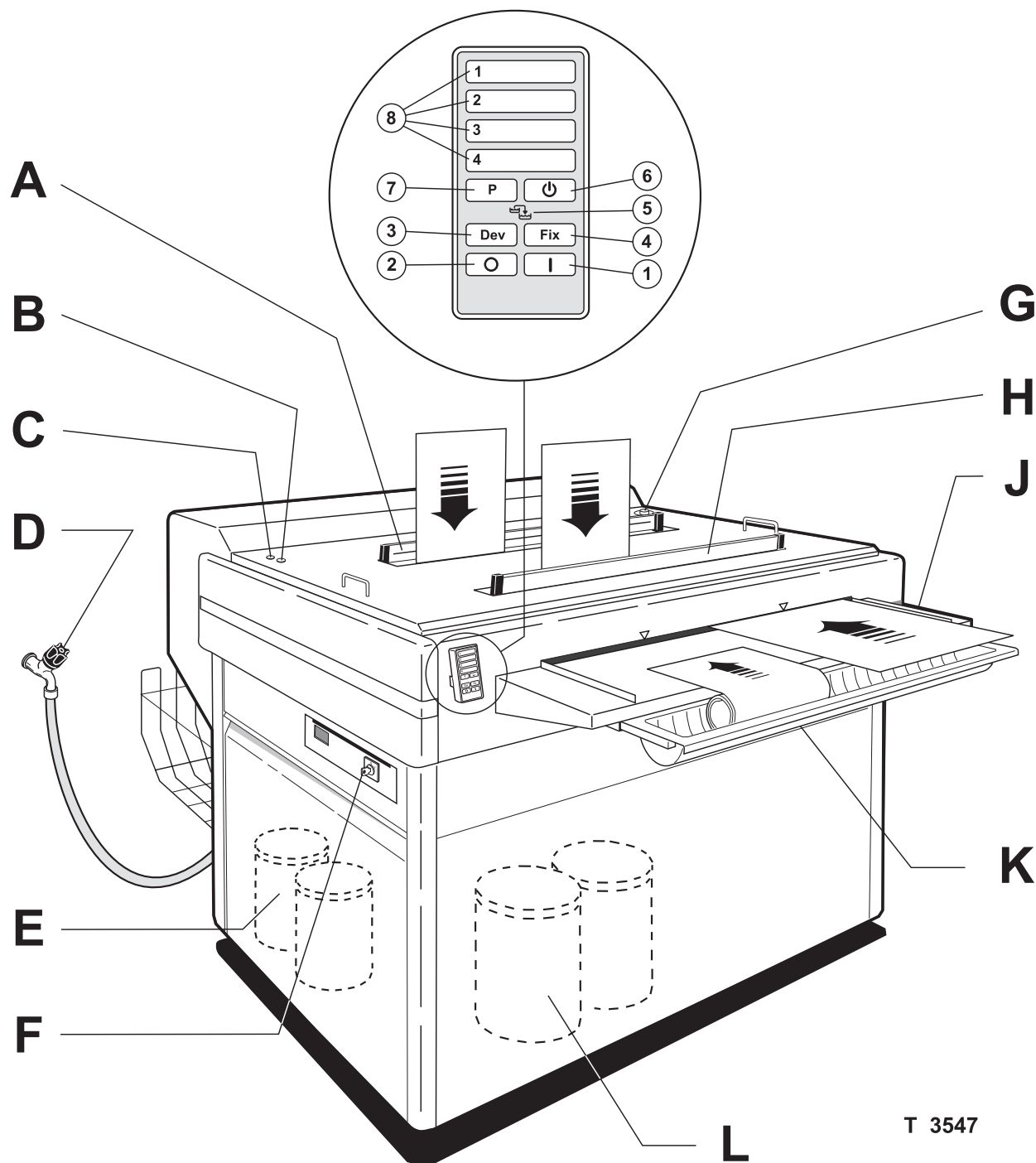
- When the “rewash” slot (C) is opened.
- When film inserted from the “daylight” slot (B) has passed halfway through the fixer section. The processor is then ready to receive another film from the “daylight” slot (B).

NOTE! Do not insert film from the “rewash” slot when the lamp is lit.

The “REWASH” lamp will turn off when the film has passed the dryer section.

The “DAYLIGHT” and “REWASH” lamps are **flashing**:

- When low level is detected in DEV or FIX bath. The lamps will turn off when correct level is reestablished.
- If temperature is out of range in DEV or FIX bath. The lamps will turn off when correct temperature is reestablished.



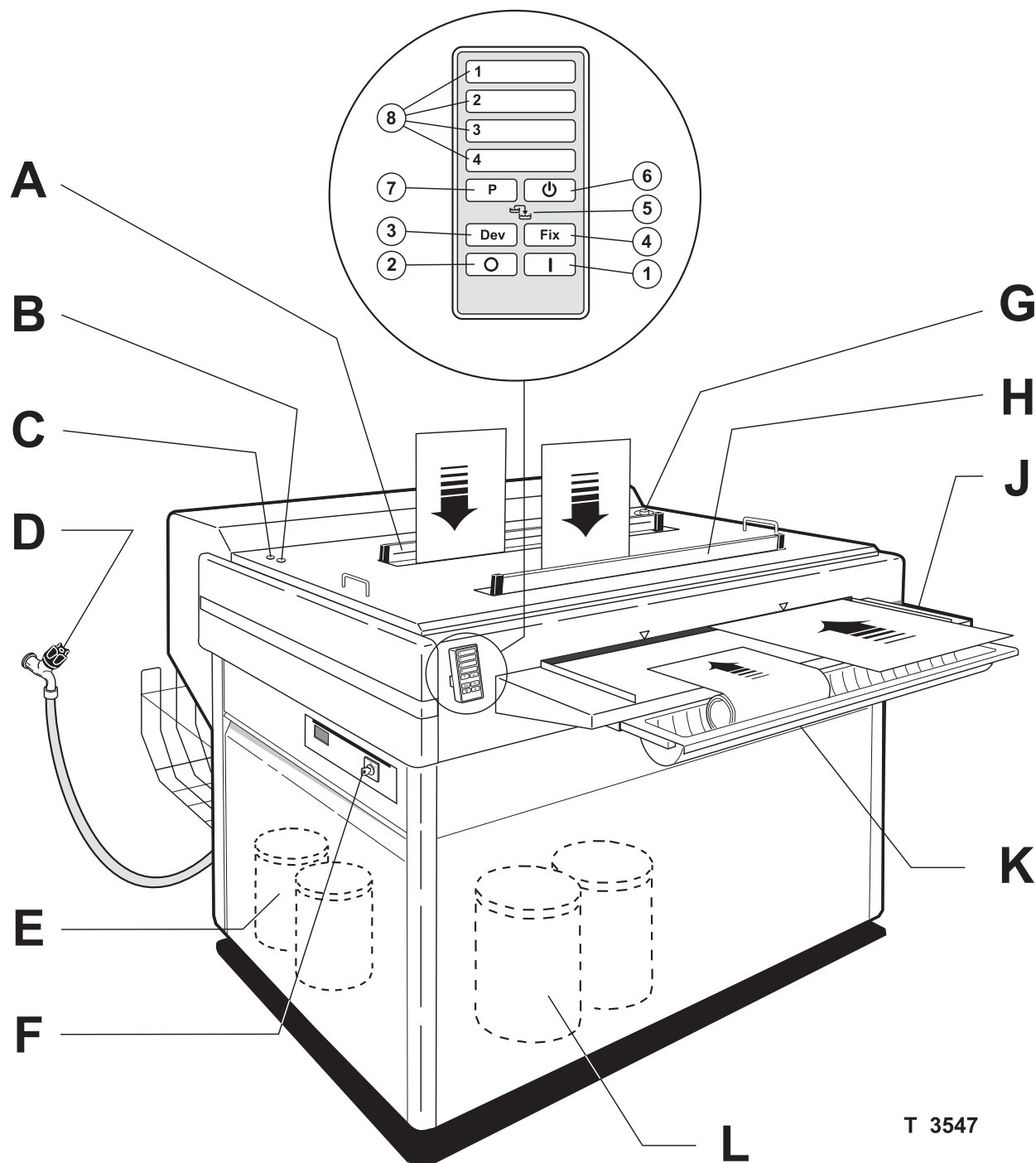
DAILY START-UP

(See illustration opposite)

- Check that the replenishment containers (E) are sufficiently filled and that the containers for waste chemicals (L) are empty.
- Remove the top cover and oxidation lids and check the level of the developer and fixer baths. Add chemicals if required.
- Before starting the machine, wipe clean all top rollers and crossover guides. Put the covers back on the machine.
- Open external water supply valve (D).

NOTE! Make certain that the wash tank drain tube (G) is closed. Do not operate the processor with an empty wash tank.

- Turn MAIN SWITCH (F) on. The exhaust blower will start, and the replenishment pumps may also run for a few moments.
- Push the ON-button (1) and verify that the built-in lamp is lit.
If the ON-button is pushed immediately after the machine is turned on by the MAIN SWITCH, it takes approx. 10 seconds before the machine starts.
- When switched on, the processor automatically fills the water tank.
- Press the PROGRAM SELECTION-button (7) until the lamp (8) for the desired program number is lit.
- If WAIT-lamp (6) is lit and LOW LEVEL-lamp (5) flashes, low level is detected in either the DEV or FIX bath. Press both of the REPLENISHMENT-buttons (3) and (4). The electronics automatically detects the bath with low level and the respective pump starts to “top up” the level in the section. While the pump runs the lamp (5) is lit constantly. Wait until the lamp turns off.
If the level is still not correct after 20 minutes the pump stops and the LOW LEVEL-lamp starts to flash again.
- If the WAIT-lamp (6) flashes, the temperature in either the developer or the fixer bath is too low. Wait until the lamp turns off. Normal warm-up time will be app. 30 minutes.
- Feed some sheets of film through the machine to clean it.
- Your machine is now ready for processing.



PROCESSING FROM THE FEED TABLE

(See illustration opposite).

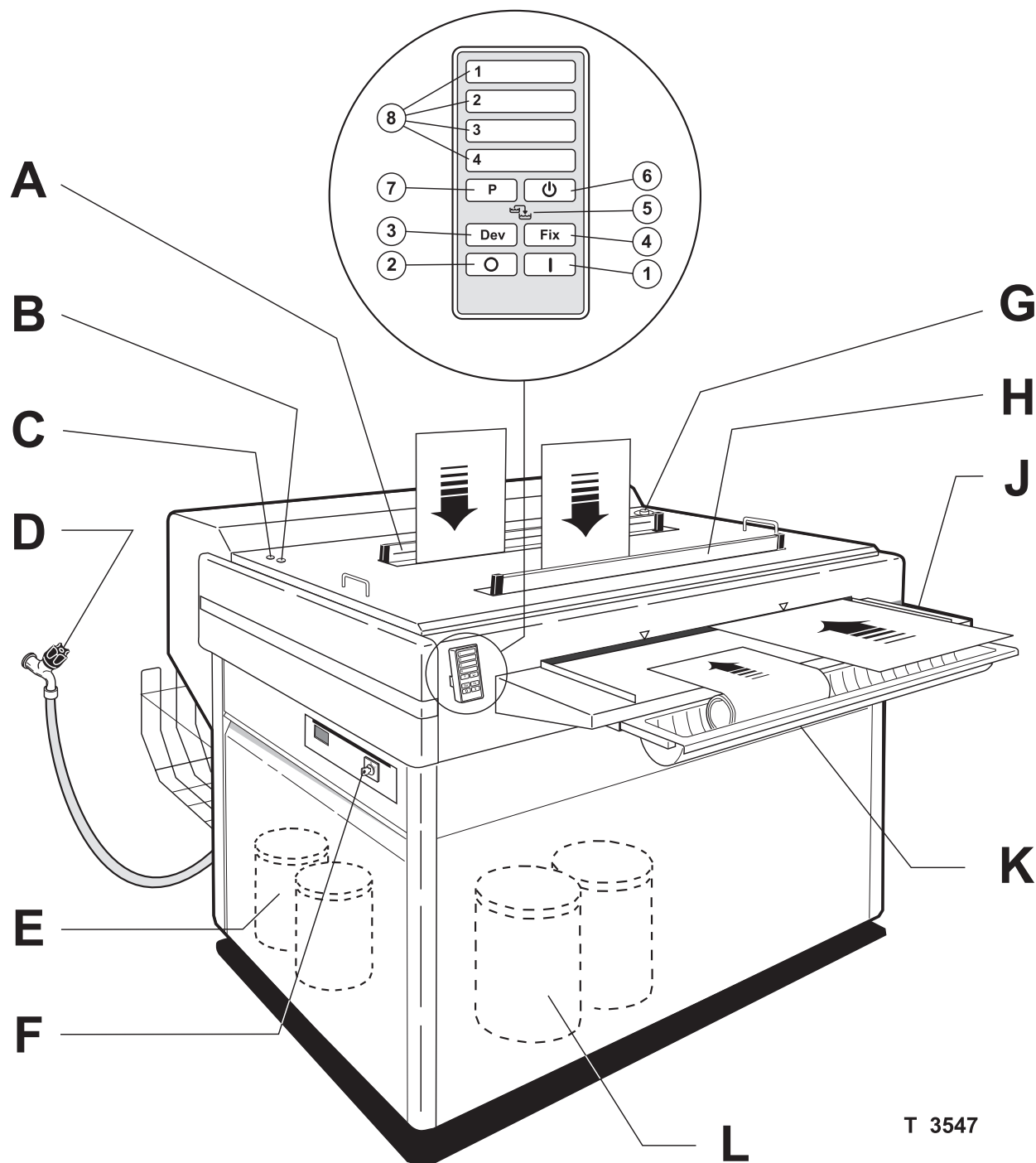
- Select the program suitable for the processing material by means of the PROGRAM SELECTION-button (7). The lamp (8) shows which program is active at any time.
- Slowly enter the film (with the emulsion side up) into the processor using the film feed guide (J) until it engages the drive system. Activating the input sensors will start the machine at the speed specified in the selected program.
- Verify that the WAIT-lamp (6) is lit indicating that film is being fed into the machine. Wait until the WAIT-lamp turns off before you insert another film.
- **Not on all models:**
The “DAYLIGHT” and “REWASH” lamps (B) and (C) are lit as a warning not to insert film from the “DAYLIGHT” and “REWASH” slots (A) and (H).
- When the film exits, verify that the processor goes into “**STAND-BY**” mode after 15-30 seconds. (When in **Automatic** mode).

I

PROCESSING FROM THE ROLL FILM TRAY

(See illustration opposite).

- Select the program suitable for the processing material by means of the PROGRAM SELECTION-button (7). The lamp (8) shows which program is active at any time.
- Pull out the tray (K) underneath the feed table and place the film roll in it.
- Slowly enter the film (with the emulsion side up) into the processor until it engages the drive system. Activating the input sensors will start the machine at the speed specified in the selected program.
- Verify that the WAIT-lamp (6) is lit indicating that film is being fed into the machine. Wait until the WAIT-lamp turns off before you insert another film.
- **Not on all models:**
The “DAYLIGHT” and “REWASH” lamps (B) and (C) are lit as a warning not to insert film from the “DAYLIGHT” and “REWASH” slots (A) and (H).
- When the film exits, verify that the processor goes into “**STAND-BY**” mode after 15-30 seconds. (When in **Automatic** mode).



T 3547

PROCESSING FROM THE DAYLIGHT SLOT

NOT ALL MODELS!

(See illustration opposite).

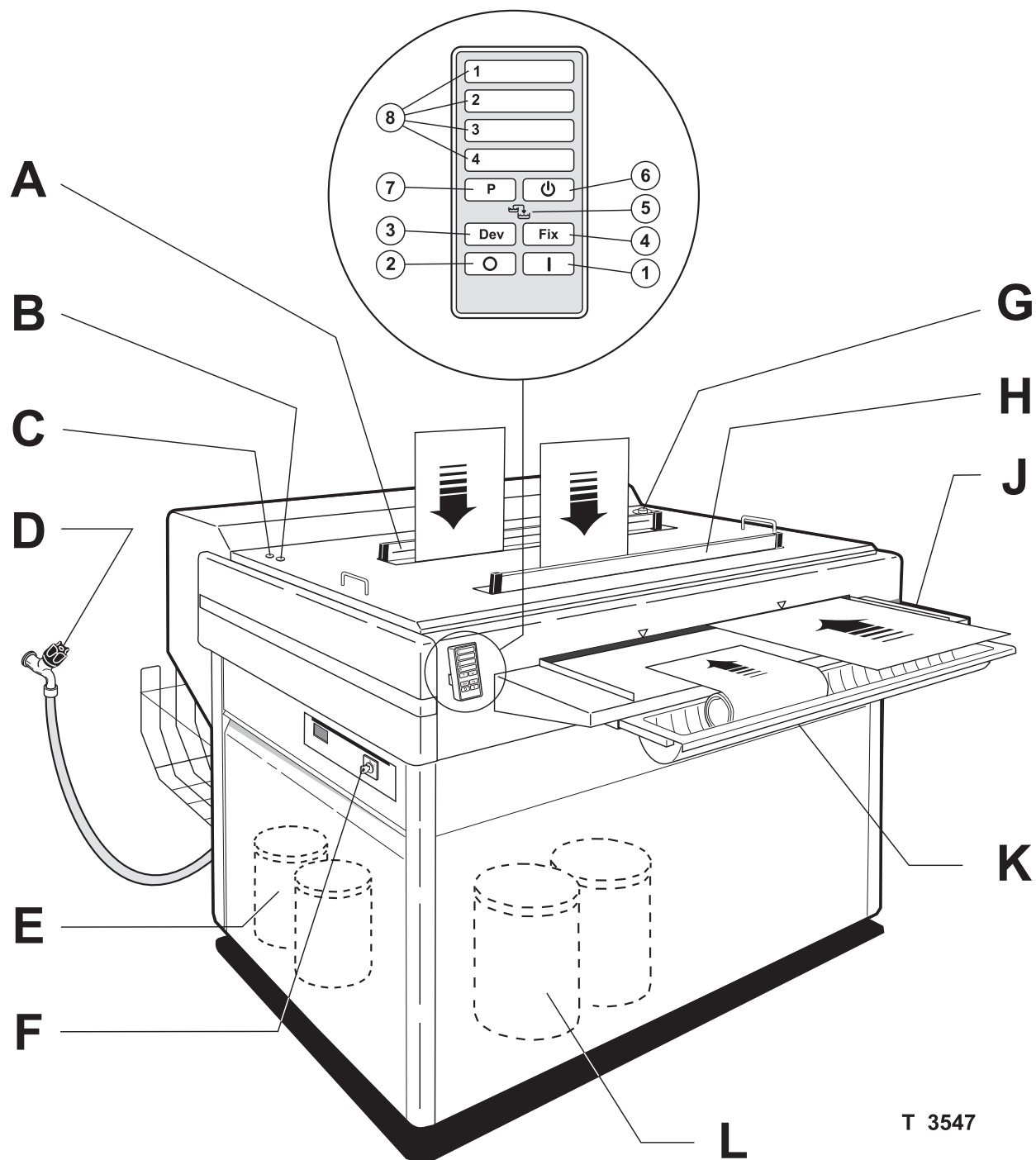
- Verify that the WAIT-lamp (6) is not lit and that the DAYLIGHT-lamp (B) is neither lit nor flashing.
- Select processing program by means of the PROGRAM SELECTION-button (7). The lamp (8) for the selected program is lit.
- Open the DAYLIGHT slot (H). The processor starts, the WAIT-lamp (6), the DAYLIGHT-lamp (B) and the REWASH-lamp (C) are lit. (The replenishment control circuit starts).
- Feed the film slowly into the slot until the transport rollers catches it.
- Close the lid as soon as the film clears the slot to prevent the replenishment system from operating unnecessarily.
- Shortly after the lid has been closed the DAYLIGHT-lamp (B) and the WAIT-lamp (6) turn off and another film can be inserted through the slot.
- When the film has passed through the dryer section the REWASH-lamp (C) turns off.
- If no film is entered the processor goes into **"STAND-BY"** mode after 15-30 seconds. (When in **Automatic** mode).

USING THE REWASH SLOT

NOT ALL MODELS!

(See illustration opposite).

- Verify that the WAIT-lamp (6), the DAYLIGHT-lamp (B) and the REWASH-lamp (C) are not lit.
- Open the REWASH slot (A). The processor starts, the WAIT-lamp (6) and the REWASH-lamp (C) are lit.
- Feed film into the processor and close the REWASH slot (A). (WAIT-lamp and DAYLIGHT-lamp turn off).
- When the REWASH lamp (C) turns off, the processor is ready to receive another film through the REWASH slot (A).
- If no film is entered the processor goes into **"STAND-BY"** mode after 15-30 seconds. (When in **Automatic** mode).



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SHUT-DOWN PROCEDURE

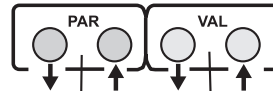
(See illustration opposite).

- Push the OFF-button (2). The processor will switch to “OFF” mode.
- To shut down the machine completely turn the MAIN SWITCH (F) off.
(If time- replenishment is wanted - do **NOT** set the main switch to OFF position.)
- Close the external water supply valve (D).
- Open the wash tank drain tube (G) by turning it 90° counterclockwise.

NOTE! If the processor will not be operated for 6 hours or more, the wash tank should be drained. This prevents growth of algea and thereby a consequent reduction in processing quality. It is recommended to drain the wash tank at least once every 24 hours.

!

PAR 24-50 VAL



T 2129

1

2

3

MAKING ADJUSTMENTS

It is possible to adjust the settings of the speed, temperature and replenishment values.

When pulling out the electronics drawer, the panel shown on the illustration opposite appears.

On the panel is a list of the 18 different parameters you are able to adjust.

The 18 parameters and their adjusting ranges are as listed below.

(PAR = Parameter , VAL = Value).

NOTE! Even though the drawer is fitted with a cover to protect the electronics from chemicals spills, always remember to close the drawer after adjustments have been made.

To adjust one or more of the below listed values follow this procedure:

(See illustration opposite).

- Pull out the electronics drawer until it locks.
- Use the red selection buttons (2) (PAR) to choose the parameter in which you want to change the setting.

The parameter number is indicated on the left side of the display (1) and the current value is indicated on the right side. As an example the illustration opposite shows that the value for parameter **24** is currently **50** sec.

- Then use the green selection buttons (3) (VAL) to change the value. The values are changed in steps as indicated in the list below.

NOTE! Values can be changed at any time during operation.

Once selected, the values are retained in memory by the electronic control even when the processor is switched off.

PAR	ADJUSTMENT OF...	VAL	STEP
10	DEVELOPER TEMPERATURE	20-50°C	1 °C
11	FIXER TEMPERATURE	20-50°C	1 °C
12	DRYER TEMPERATURE	20-70°C	5 °C
14	DEV. TIME, PROGRAM 1	15-60 SEC.	1 SEC.
15	DEV. REPL. RATE, PROGRAM 1	0-700 ML/M2.	10 ML
16	FIX REPL. RATE, PROGRAM 1	0-700 ML/M2.	10 ML
24	DEV. TIME, PROGRAM 2	15-60 SEC.	1 SEC.
25	DEV. REPL. RATE, PROGRAM 2	0-700 ML/M2.	10 ML
26	FIX REPL. RATE, PROGRAM 2	0-700 ML/M2.	10 ML
34	DEV. TIME, PROGRAM 3	15-60 SEC.	1 SEC.
35	DEV. REPL. RATE, PROGRAM 3	0-700 ML/M2.	10 ML
36	FIX REPL. RATE, PROGRAM 3	0-700 ML/M2.	10 ML
44	DEV. TIME, PROGRAM 4	15-60 SEC.	1 SEC.
45	DEV. REPL. RATE, PROGRAM 4	0-700 ML/M2.	10 ML
46	FIX REPL. RATE, PROGRAM 4	0-700 ML/M2.	10 ML
52	DEV OXI TIME-REPLENISHMENT	0-600 ML/H	20 ML
53	FIX OXI TIME-REPLENISHMENT	0-600 ML/H	20 ML
55	WASH WATER	50 OR 100%	50%

CLEANING AND MAINTENANCE

GENERAL

When using water for cleaning purposes, use warm water 35 - 40°C (95 - 104°F).

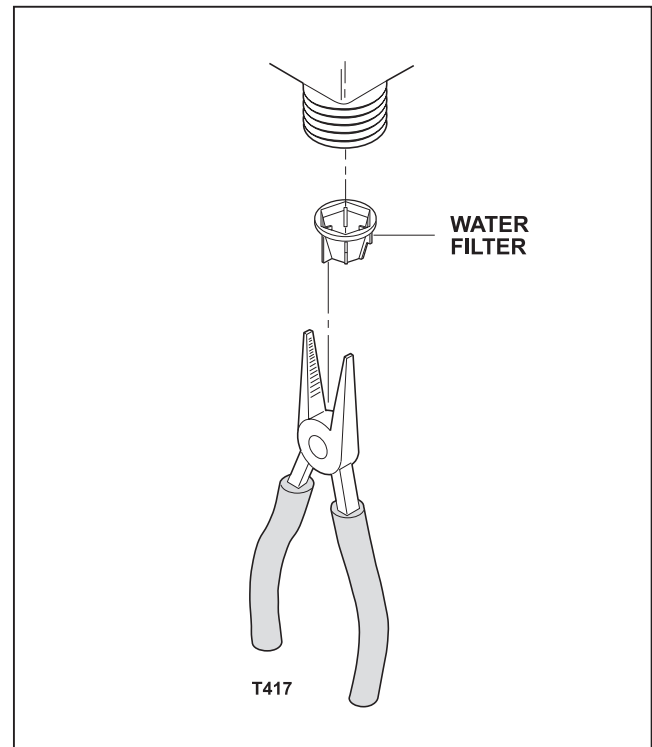
NOTE! Do not use abrasive materials on the processor.

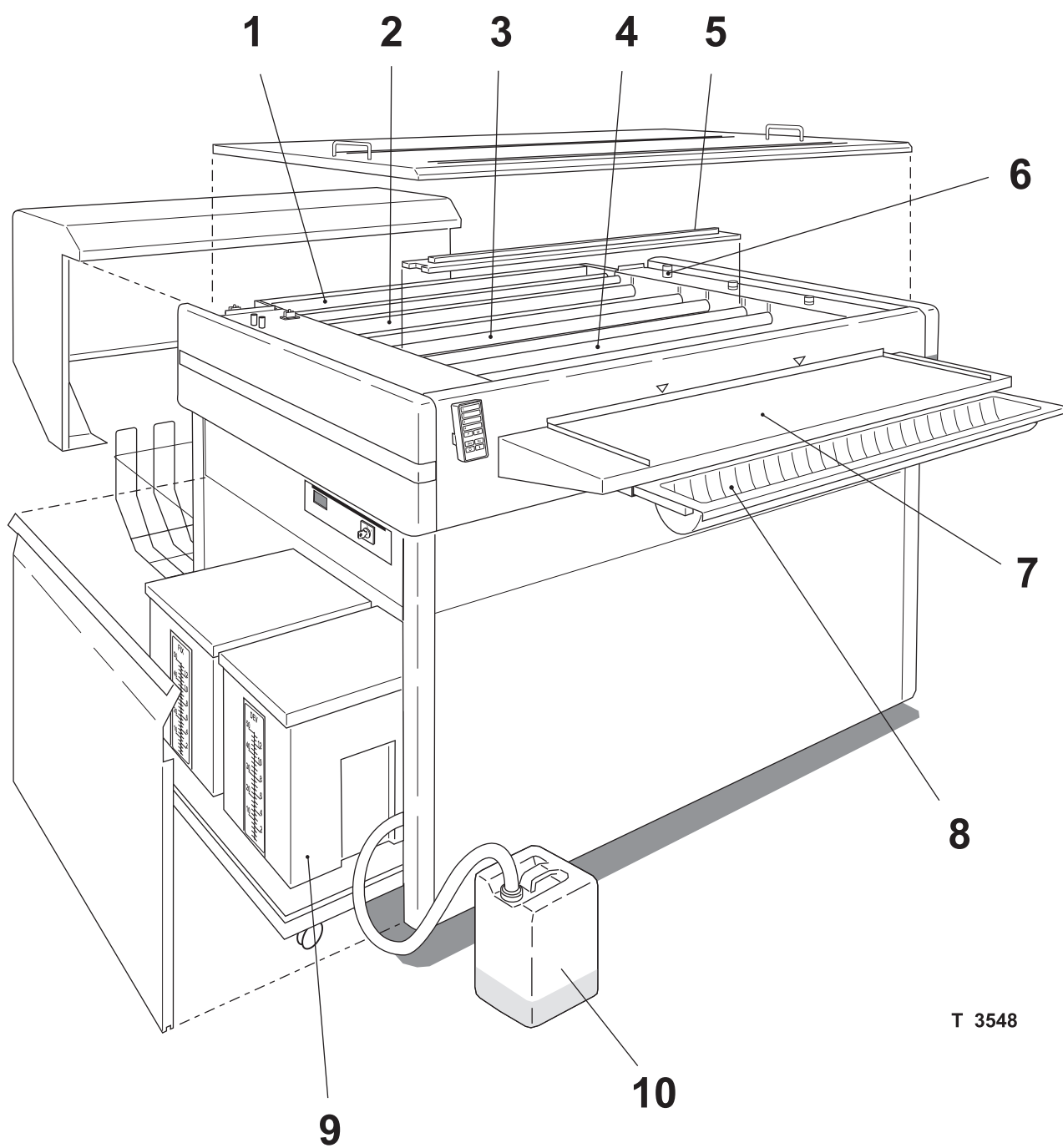
NOTE! Never cover the machine with a cloth or piece of plastic to protect it from dust, as this prevents free circulation around the machine and can lead to overheating and increased condensation.

NOTE! Never use any hard tool or abrasive materials when handling and cleaning the rollers.

CLEANING OF THE WATER FILTER

Close the external water supply valve. Locate the water solenoid valve under the machine. Disconnect the hose from the valve by unscrewing the union nut, and remove the water filter with a pair of pliers. Clean the filter and reinstall it. When the hose has been connected to the valve remember to open the supply valve again.





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DAILY CLEANING

(See illustration opposite).

It is recommended to clean the processor each day before you start processing. Follow the procedure below:

- Clean the feed table (7) and the roll film tray (8) with a moist cloth.
- Drain the wash tank (2) and close the drain-tube (6) at the end of each shift.
- Check the level in the replenishment containers (9) and refill if needed.
- Empty the waste-chemicals containers (10).

WEEKLY CLEANING

- Carefully lift the rollers out of the developer tank (4) and rinse them with water. Be sure to rinse off possible crystallization on film guides.
- When needed, empty the tank and clean both tank and rollers with tank-cleaner. Ask your dealer of chemicals for advice. Be careful not to get any of this cleaner into the fixer section (3). It is important to get all of the cleaner out of the developer tank after cleaning and to rinse the rack in plenty of water.
- Carefully lift the rollers out of the wash tank (2) and rinse it with water.
- Empty the wash water tank and clear off algae.
- Cleaning of fixer section (3) is described in "MONTHLY CLEANING".
- Remove the oxidation lids (5) from the developer and fixer tank and rinse the lids with water.
- When refilling the developer tank (4), be very careful not to get developer into the fixer section (3).

MONTHLY CLEANING

- Carefully lift the rollers out of the fixer section (3) and rinse it with water. Be sure to rinse off possible crystallization on film guides.
- Remove dryer rack (1) and rinse rubber rollers with water.
- Remove and inspect all worm gears and bearings for excessive wear. Replace any worn or damaged part.
Clean the components of any residual chemicals.
- Clean the filter of the water solenoid valve as described earlier in this manual.

CHECK OF DEVELOPER REPLENISHMENT

The effectivity of the developer can either be checked with a testing strip (ask your dealer of chemicals) or you can use a well exposed and well processed film as reference. If, after a week's work, the density of your film has decreased the replenishment has probably been too low and a higher setting of the DEV REPLENISHMENT RATE (PAR 15, 25, 35 and 45) should be selected. If, however, the density is good, the replenishment is sufficient. If desired, a lower setting can then be tried, until it is established which setting of the control is enough for satisfactory replenishment.

CHECK OF FIXER REPLENISHMENT

While the processor is working at its normal temperature and speed, feed an unexposed film into the processor. The film should be absolutely transparent and without whitish spots or areas spread at random over the film when it comes out of the processor, otherwise the effectivity of the fixer is too low and a higher setting of the FIX REPLENISHMENT RATE (PAR 16, 26, 36 and 46) should be selected.

The effectivity of the fixer and the silver contents of the fixer can also be tested with a special testing strip. Ask your local specialist for application of testing strip.

CHECK OF OXIDATION REPLENISHMENT

If the processor is left in stand by for longer periods, this feature can be used. At the start of a new working period, check the effectivity of the developer as described above, and adjust the OXY TIME REPLENISHMENT RATE (FIX = PAR 53, DEV = PAR 52) correspondingly.