EG 750 On-Line Dolev 4press Manual

English

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EG Processors Table of Contents

1.1 Topics Covered

This manual provides installation, operation, maintenance, and replacement parts information for the series of EG processors prepared for On-Line. Figure 1-A shows a typical procesor (EG 750 On-Line).
Special versions of EG processors for on-line processing from exposure units (scanners, etc.), are covered in special manuals or sections.

Fig. 1-A

1.2 Processor Description

General: The EG processors are high volume, easy to use, three-bath, replenishment processors. The EG processors are ideal for Rapid Access processes, Contact and Line work as well as for photo-typesetting. Among the range of possible film types and applications, we can mention contact work, camera work, scanner work, laser or conventional, photo-typesetting and camera projections.

Standard Accessories: Replenishment containers for dev. and fix., customer spare parts kit (assortment of gears, bearings, etc.). Features include; chemical replenishment (automatic and manual) with recirculation, variable speed control, separate developer and fixer temperature controls, automatic monitoring of chemical levels, automatic anti-oxidation programme (AOX), built-in exhaust blower, standard plumbing and a built-in dryer that delivers completely dry output.

Optional Accessories: For two-room installation in a darkroom wall a set of darkroom panels can be supplied on order. For use with two-room installations also a top feed from outside the darkroom into the developer rack and a rewash feed into the wash rack can be supplied (29" and wider).
If the daylight inlet to the developer rack is to be used intensively. An optional photocell for this inlet will start and stop and replenish automatically.
A standard daylight lid accepts various sized cassettes and allows processing in normal room lighting (using a take-up cassette), thus eliminating the need for a darkroom.

Chemical Solutions: The processor will process a wide range of Rapid Access and RALI (Rapid Access Lith) chemicals such as Kodak Ultratec, Agfastar, Typon Typotec, Fuji Grandex, etc. Always check with the supplier of developer, fixer and film (paper) that the materials used are compatible.

Replenishment and Recirculation: Two individual replenishment pumps add fresh chemistry (either automatically or manually) to the exhausted chemistry. As the replenishment takes place the excess exhausted chemistry drains into holding containers. The replenishment chemistry is drawn up by replenishment pumps and recirculated by the recirculating pumps, when the relays of the two individual replenishment pumps are activated, ensuring thorough mixing. This produces a consistent density throughout the sheet or galley being processed, regardless of its length, and reduces chemical build-up on the rollers.

Material Path: The EG series of processors features four sizes of input width: 71 cm (29"), 91cm (36"), 135 cm (54"). Processors in each input width come in two different tank sizes/ path lengths: 44 cm for medium capacity or 67 cm for high capacity film processing. The transport system of the EG processors has proven to give a very safe transport.

Night Mode: The night mode heats up the chemistry in the processor's first two stations and maintains it at an operator-set temperature. This mode also ensures that the chemistry does not oxidize or drop to a low level, circulates all chemical fumes and de-activates the transport system. This mode will automatically turn the heaters, recirculating pumps and replenishment pumps on and off as needed. The built-in exhaust blower will always be ON. The night mode extends the life of the chemistry, reduces wear on the system's components, and saves energy. (The daylight lid should always be left open in night mode).

Stand-by Mode: The stand-by mode operates exactly as the night mode. The only difference is that the dryer's upper heaters are on and the processor's transport system can be activated by the presence of paper or film. This mode also extends the life of the chemistry, reduces wear on the system's components and saves energy. The daylight lid should always be left open in stand-by mode.

Process Mode: The process mode will only operate with the presence of paper or film. When either paper or film is inserted into the processor a sensor is activated and the recirculating pumps, plumbing valve, transport rollers and both dryer heaters with fans all turn on. The processor will remain in this mode until the material exits the dryer at which time the processor will automatically return to the stand-by mode.

Solution Temperatures: The first two stations are separately maintained at the operator-set temperature by two efficient heaters in line with the recirculation pumps. The heaters are monitored and controlled by two temperature sensors, which turn the heaters on and off as required. The temperatures of each station can be displayed at any given time by the toggling of the temperature display switch.

Roller Drive/Transport Speed: The three roller assemblies and dryer rollers are driven by an operator-controlled variable speed DC motor, drive shaft, gears and a series of sprockets. The transport system will only function in the operating mode. NOTE: The transport system will not operate if a low level of chemistry is present or if the processor is in night mode.

Pumps: The processors is equipped with three pumps. The pumps circulate the developer and fixer chemistry with its own tank (bath). Their pumping rate is preset at the factory and requires no operator adjustments. The circulation of the water (in the wash station) is controlled by the water valve.

AOX: The anti-oxidation programme (AOX) automatically replenishes the chemistry every 20 minutes in both the night and operate mode. AOX is reset back to zero minutes each time material is processed.For example: If material is processed every 19 minutes no AOX will never occur, however, if material is processed every 21 minutes AOX will occur every 20 minutes. This not only keeps fresh chemistry in the tanks but also helps eliminate a low tank level condition. With every AOX signal the drive runs for a few seconds to prevent that the rollers sticks together.

INTERNAL CONTROLS: The internal controls are described in paragraphs a. through m.

a. **Power on/off Switch -** The power ON/OFf switch controls the main power to the processor. Any time the power switch is turned OFF for an extended time the top cover schould be lifted so that chemical moisture does not accumulate. The power switch should always be turned OFF and the top cover liftet at the end of each work day. The power switch is located at the rear of the maschine.

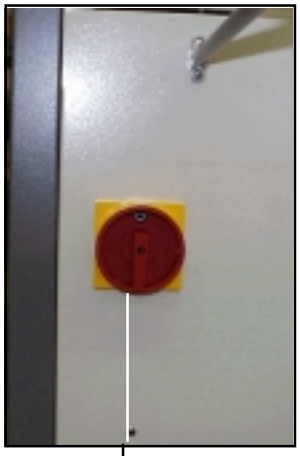


Fig. 1-B

a *- power on/off*

Fig. 1-C

b *- main fuse*

b **Main Fuse -** This 16 Amp. 230 volts fuse protects the processor from a possible power surge or a short circuit. The main fuse is accesible from the left side of the machine when the side cover is removed.

c. **Gear Train** - This series of sprockets are driven by the drive motor. When the system requires the rollers to be turning, the gear train transmits turning power from the drive motor to the roller racks through a series of sprockets and gears. Fig. 1-D.

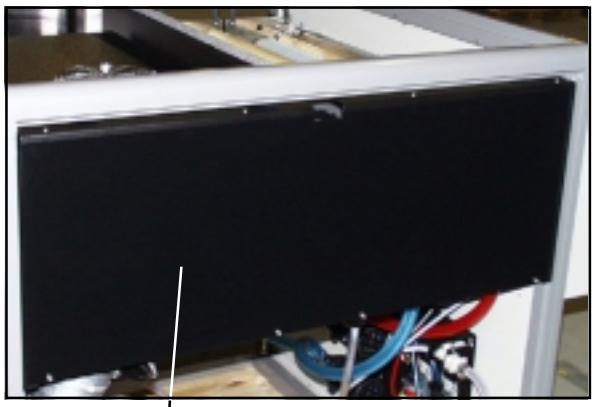


Fig. 1-D

c **-** *geartrain situated behind plate*

d. **Drive Motor** - The drive motor speed is controlled by the electronics. The drive motor turns the rollers to transport the film through the processor.

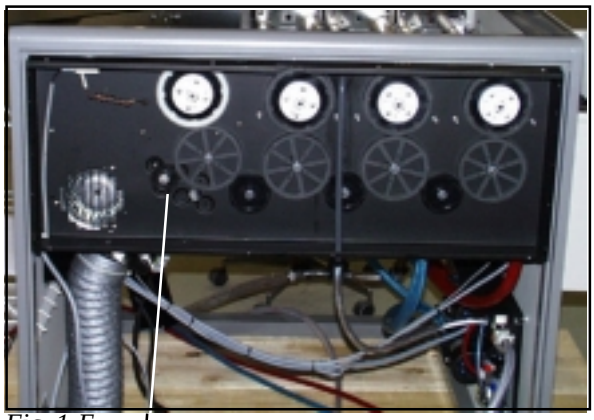


Fig. 1-E

d **-** *drive motor*

e. **Recirculating Feed** - Recirculated chemistry enters the tank here from the recirculating pump.

f. **Water Feed** - Fresh water enters the tank here, whenever processing takes place, or in a low level situation. Fig 1-E.

g. **Temperature Probe** - This probe (on the side of the tank) senses and controls the temperature of the chemistry through the interface box and temperature PCB. When the temperature reaches its setting the probe sends a signal to shut down the heater. The probe also has the ability to display the current chemical temperature. The wash station does not require a temperature probe.

h. **Overflow Pipe** - As replenishment occurs the exhausted chemistry is drained through the overflow pipe, thus keeping the chemistry at a prescribed level. The chemical levels are adjustable by the adjustable overflow piece on top of the overflow. Fig. 1-F.

i. **Low Level Sensors** - If the chemistry level falls below these three sensors, the heat and the transport drive will not operate. Also, a number indicating which tank is low will be displayed. Fig. 1-F.

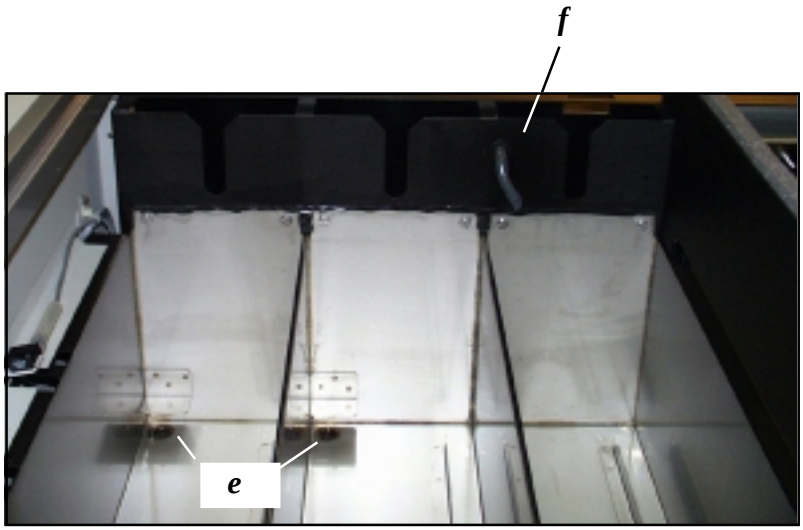


Fig. 1-F

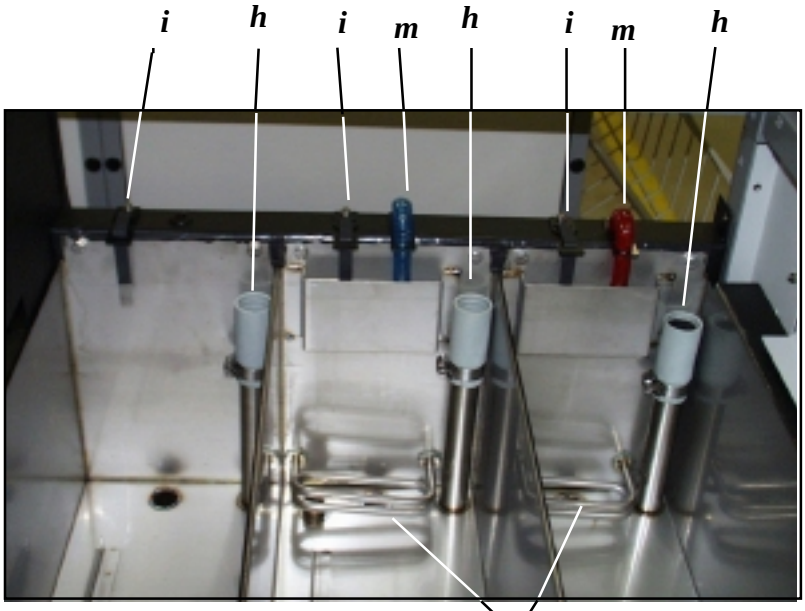


Fig. 1-G

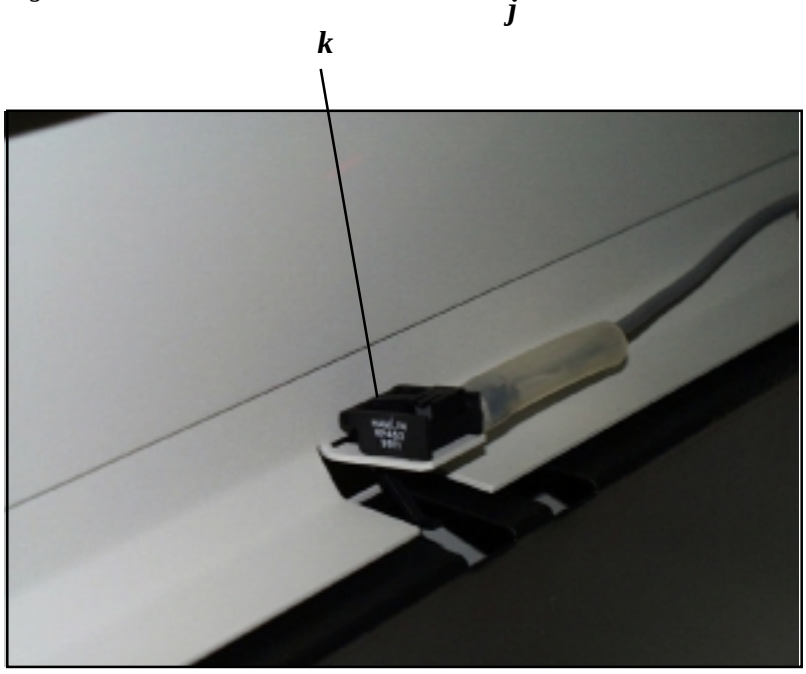


Fig. 1-H

j. **Heating Element** - Heats the chemistry to the operator-set temperature. The wash station does not require a heating element. A safety thermostat will act directly on the heating element in case of failure in other systems.

k. **Media Feed Sensors** - When material is fed into the processor the sensors turn on the no-feed light (only in offline position), circulating pumps, transport system, dryer, and auto replenishment. Fig. 1-G.

l. **EG Blower** - There are two blowers , one under and one over the dryer rack, which blow hot air on the dryer rack rollers and on the film.

m. **Replenishment Feed** - When replenishment takes place fresh chemistry enters the tanks here.

1.3 To Order Accessories and Supplies

Contact your dealer for accessories, supplies, technical service and spare parts.

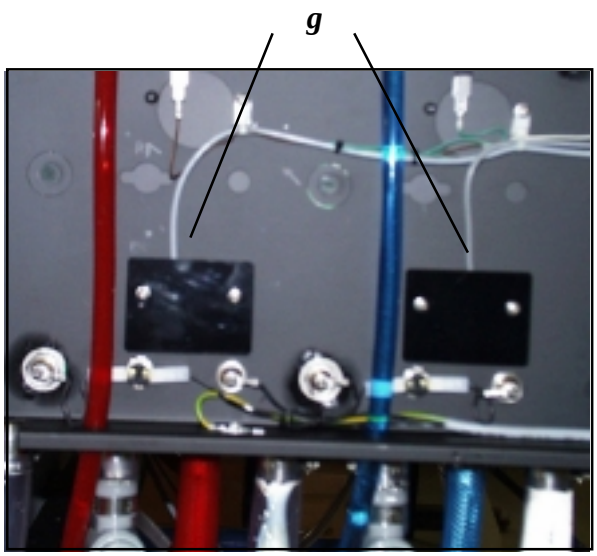


Fig. 1-I

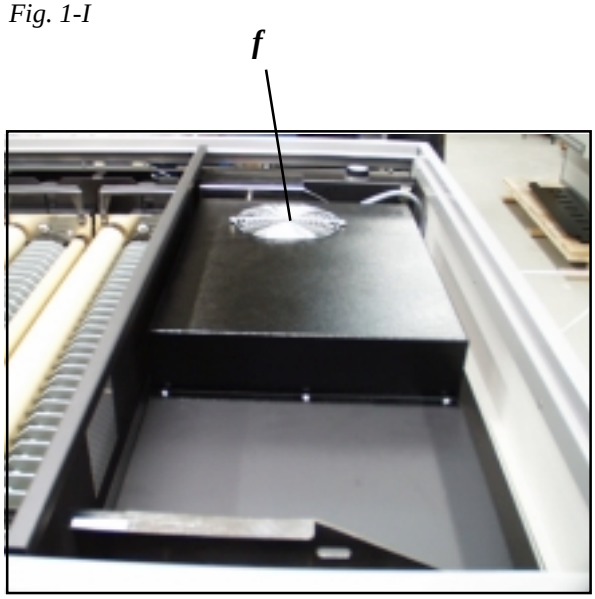


Fig. 1-J

1.3 Specifications*

The processor specifications are listed in Table 1

Table 1

Technical Specifications

	EG750
Dimensions of processor:	
Lenght:	2280 mm/89.8”
Width:	1400 mm/55.1”
Hight:	1100 mm/43.3”
Schipping Dimensions:	
Length:	156 cm/61.4”
Width:	120 cm/47.2”
Height:	129 cm/50.8”
Weight:	
Kg net:	240 kg/529 lb.
Kg gross	320 kg/706 lb.
Specifications:	
Inlet width:	73.3 cm/29”
Tank capacity(rack mounted)	25 l/6.6 US gal.
Rack lenght:	32.0 cm/12.6”
Developing time min. - max.:	20-80 sec.
Speed at 30sec. dev. time:	64 cm/min./25.2/”
Max. film length off-line:	5 m/16.4 ft
Min.film size off-line:	18 x 10 cm/7 x 4”
Max. format (set by imagesetter):	66 x 54 cm/26 x 21”
Dev./fix./wash temp. range:	20-45°C/68-113°F
Exhaust blower:	Built in
Exhaust connection:	Ø 10 cm/3.9”
Circolation rate dev./fix./Wash.:	22 l/min./5.8 US gal.
Water consumption:	3.5 l/min./0.8 US gal.
Emission of heat to room (operate):	2000 W
Water connection:	3/4” thread
Drain connection:	3 x 1”
Replenishment containers:	Dev./fix. 30 l/8 US gal.
Max. power consumption	3700 VA
Average power consumption	3100 W
Power save	600 W
Night mode	550 W
Power supply:	1 x 230ACV +/-10% / 50/60 Hz 20 amp 2 x 115ACV +/-10% / 50/60 Hz

* Specifications are subject to change without notice.

2.1 Processor Operation

Never allow loose clothing or jewelry to come close to the gear train, media transport area, an electrical connection or any terminal block.
Service work that must be performed while the processor is operating or that necessitates removing the processor's panels should be performed only by qualified service technicians. The main power to the processor must be turned off and the main switch locked by a padlock before panels are removed by anyone but trained service personnel.

When the processor is in stand-by mode it will periodically start up, run and then shut down. The processor must be turned off before servicing drive motor and gear train dryer compartment and electrical components.

2.2 Electrical and Mechanical Hazards

Follow safety precautions to minimize the risk of electrical shock, burns and equipment damage when operating any equipment. Photographic processing machines are mechanically and electrically complex and contain volumes of chemicals for which reason extreme caution is required.
Periodical check of all wiring for loose connections and worn or frayed insulation. To prevent accidents, check mechanical parts for loose hardware and broken parts.
The risk of receiving electrical shock is reduced by removing all jewelry while servicing equipment. Turn off and lock the main switch by a padlock before making repairs. Make sure the processor has good electrical grounding.

2.3 Fire Prevention

The area around the processor must be kept clean. Keep dust, wood shavings, paper cuttings and waste materials out of the dryer compartment. Do not remove dryer blower channel from an operating processor.
In the room where the processor is operated and where paper and chemicals are stored fire extinquishers must be available.

2.4 Chemical Hazards and Handling

Misuse of almost any chemical may create a hazard of some type. Generally, photochemicals are no more hazardous than many common cleaning products, however, there is still a risk of danger. When handling and storing chemicals follow the precautions and procedures below.

a. Never sniff a container or open bottle to determine its contents. A cautious sniff of the cap or lid is safer.

b. When needed, wear protective clothing and equipment. Wear safety goggles when servicing equipment and rubber gloves when handling chemicals.

c. Label storage containers properly. Avoid storing hazardous chemical on high shelves or in unprotected glass containers. Keep chemicals away from children. Do not store chemicals in a refrigerator used for food because they may contaminate food or be mistaken for edibles.

d. Ensure proper ventilation in the area where chemicals are being used or stored.

e. Observe the manufacturer's recommendations for using and mixing chemicals.

Overexposure to photographic chemistry may cause skin irritation to certain individuals.

PHOTOGRAPHIC CHEMISTRY EMERGENCY AND FIRST AID PROCEDURES:

- SKIN - Flush thoroughly with water.
- EYES - Flush thoroughly with water and consult a physician.
- INGESTION - Consult a physisian immediately.

2.5 Chemical Disposal

Photographic processing wastes normally contain diluted chemicals. These chemicals should be collected and disposed of in accordance with local environmental codes. Dumping chemicals into a drain system could lead to a pollution problem. Contact local water treatment and sewer district authorities before disposing of chemical solutions.

2.6 Exhaust, Temperature and Humidity

It is important to establish correct exhaust to obtain troublefree processing. Make sure that the exhaust hose from the built-in exhaust blower in the processor is properly connected to the stud at the rear end below the receiwing basket, fig. 2-A. The built-in exhaust removes chemical fumes from processor and installation site. Chemical fumes are corrosive and if the processor is switched off at night, the wet section top cover must be opened to ventilate condensation, or order an external exhaust blower (our order no. 250199) with separate power connection which cannot be switched off.

Room temperatures between 18-26°C (65-80°F) with a relative humidity between 35% and 75% are ideal for photographic processing and comfortable working conditions.

Fig. 2-A

2-7 Important safty information

IMPORTANT SAFETY INFORMATION

READ BEFORE OPERATING AN EG PROCESSOR

The processor is a complex machine with moving parts such as the gear train and media transfer components. It uses photoprocessing chemicals which are irritating to eyes, lungs and skin. High voltage is used to power the processor. The dryer compartment produces heat.

- **High voltage may cause electric shocks, burns or even death.**
- **Hands or fingers may be pinched or injured by moving parts or while handling heavy parts.**
- **Dryer compartment heat may ignite combustible materials and cause fires.**
- **Eyes, skin and lungs may be irritated by photochemicals. Before using photo-processing chemicals always read the Material Safety Data Sheets (MSDSs) for information about the hazards of the particular chemicals and how to use them safely.**

This alert symbol indicates specific safety hazards and ways to avoid accidents. Ignoring safety information may lead to serious injury or property damage.

ELECTRICAL HAZARD

HAZARDOUS VOLTAGE CAN CAUSE ELECTRIC SHOCK, BURNS
OR EVEN DEATH

- Processor must be permanently and continuously grounded according to standards in the National Electrical Code and manufacturer requirements.

- If the processor is hardwired to the building's electrical system do not remove processor panels unless an OSHA-approved lockout/tagout procedure is followed. If the processor is cord and plug equipment, unplug the processor before removing processor panels.

LOCKOUT/TAGOUT

Lockout/Tagout procedures must include these steps:

1. **Training for employees conducting servicing or operating or using the processor.**
2. **Employees are notified that servicing or maintenance is required.**
3. **Turn off the processor using the power ON/OFF switch.**
4. **Turn off the circuit breaker at the main power source for the processor.**
5. **Employee servicing processor affixes a lock or identifying tag to the circuit breaker.**
6. **Relieve, disconnect, restrain, or make safe all potentially stored hazardous or residual energy in the equipment by methods such as grounding, repositioning, blocking or bleeding down.**
7. **Verify that equipment is disconnected from energy source by pushing the power ON/OFF switch.**

ELECTRICAL HAZARD

HAZARDOUS VOLTAGE CAN CAUSE ELECTRIC SHOCK, BURNS,
OR EVEN DEATH

- Do not connect processor to main power source unless an emergency shutdown switch, which can disconnect all power to the system, is present.
- Do not service electrical components while processor is in night, stand-by or operation modes.
- Remove all jewelry while servicing equipment.

ELECTRICAL HAZARD

'HAZARDOUS VOLTAGE CAN CAUSE ELECTRIC SHOCK, BURNS OR EVEN DEATH

- At the beginning of each week, check all wiring for loose connections and worn or frayed insulation.
- At the beginning of each week check that grounding cable is connected.
- Servicing that must be performed while processor is operating or that requires removing processor panels must be performed by authorized service technicians only.
- When cleaning reservoirs or changing water or liquid chemistry, do not splash liquids on electrical components.

IN STAND-BY MODE THE PROCESSOR STARTS UP AND RUNS PERIODICALLY

PINCHING ACCIDENTS POSSIBLE

- Do not service processor while it is in stand-by mode.
- If the processor is hardwired to the buildings electrical system, perform lockout/ tagout, according to an OSHA-approved procedure before servicing drive motor and gear train dryer compartment. If the processor is cord and plug equipment, unplug before servicing drive motor or gear train dryer compartment.

GEAR TRAIN MOVES AND TURNS

PINCHING ACCIDENTS POSSIBLE

- Keep hands clear of gear train while processor is operating or in stand-by mode.
- If the processor is hardwired to the building's electrical system do not remove guards on the processor unless an OSHA-approved lockout/tagout procedure is followed. If the processor is cord and plug equipment, unplug before removing guards.
- Never operate processor after using mind-altering drugs or alcohol.
- Do not wear jewelry or loose clothing while operating the processor.
- At the beginning of each shift, check mechanical parts for loose hardware and broken parts.

FIRE HAZARD

DRYER COMPARTMENT PRODUCES HEAT
PAPER OR OTHER COMBUSTIBLES CAN BE IGNITED

- Keep the area within 10 feet of the processor clean. Do not store combustible materials, including paper, within 10 feet of the processor.
- Clean dust, wood shavings, paper cuttings, waste materials or other combustibles out of the dryer compartment at the beginning of each shift.
- Verify that a functional 10 lb. ABC fire extinguisher is located within 10 feet of the processor.

BURN HAZARD

DRYER COMPARTMENT PRODUCES HEAT
DRYER PANELS AND GUARDS GET HOT

- Do not touch dryer panels or guards when dryer is operating.
- Do not lean against dryer panels or guards when dryer is operating.

CORROSIVE LIQUIDS

CHEMICALS MAY IRRITATE EYES, LUNGS,
SKIN AND DIGESTIVE TRACT

- Wear safety goggles, protective glove, and chemical aprons as indicated on Material Safety Data Sheets (MSDSs) when handling film chemistry.
- Drain tanks carefully, avoiding splashing. Always drain the system thoroughly before starting any procedure that involves working on one of the fluid circulating systems.
- Read the MSDSs for more information regarding the proper safety procedures for working with photoprocessing chemicals.
- Do not allow untrained personnel to handle photoprocessing chemicals or operate the processor.

CORROSIVE VAPORS

CHEMICAL VAPORS MAY IRRITATE EYES, LUNGS AND SKIN
IF ALLOWED TO ACCUMULATE IN WORK AREA

- The most effective engineering control for prevention of indoor air quality problems is assuring an adequate supply of fresh outdoor air through natural or mechanical ventilation. The American Society of Heating, Refrigeration and Air conditioning Engineers (ASHRAE) recommends 50 cubic feet per minute (CFM) of outdoor air per occupant for darkrooms or 0.5 cfm/square foot, whichever is higher.
- At the beginning of each shift, verify that the exhaust hose for the built-in exhaust blower is connected to the stud in the front of the feed tray box. Verify that the built-in exhaust system is operating.
- Read the Material Safety Data Sheets (MSDSs) for more information regarding the proper safety procedures for working with photoprocessing chemicals.

The specific sequence of tasks necessary to accomplish the installation of the processor are listed in the table below.

Table 3A
Processor Installation Sequence

Paragraph	Description
3.1	Pre-Installation Environmental*
3.2.	Pre-Installation Electrical*
3.3	When Shipment Arrives**
3.4	Pre-Installation Verification**
3.5	Set-Up and Operational Verification

* The customer is responsible for these tasks.
** The customer may be responsible (and so noted) for certain tasks in this paragraph.

3.1 Pre-Installation Environmental
(Customer Responsibility)

Ambient Conditions: The processor's operation area should be dust free and maintained at a controlled temperature and humidity. This will help ensure that the best possible output is achieved. The processor's recommended temperature and humidity ranges are: Temperature: 18° to 26°C (65° to 80°F), Humidity: 35 to 75% non-condensing.

Temperature will affect the quality of the copy. If the temperature is consistently out of the specified range, the operator should take appropriate action to provide either heating or cooling of the processor's environment, until the ideal ambient temperature range is achieved and remains constant.

Physical Location: The processor should be placed on a floor that is uniform enough for leveling, and firmly enough to accommodate the weight without movement. The floor should have a hard surface that is easy to clean, e.g. concrete, linoleum, vinyl or hard wood. Do not use carpets near the processor as spilled chemicals will be difficult to remove. Consider installing the processor on a floor drip tray.
A connection for the air from the built-in exhaust fan should be available to be connected to the processor with max. 6 m of ø 100 mm tube. The exhaust fumes are corrosive and should be ventilated out of the building.

There should be a sufficient working area around the processor to allow the operator or a service engineer accessibility for cleaning, preventative maintenance, or (if necessary) repair. Allow at least 60 cm of working space on all sides of the processor (Fig. 3-A) and the electrical outlet and switch should be placed near the machine on the outside of the darkroom wall.
In a two-room installation the water supply and outlet should be placed on the inside of an darkroom wall if possible. When the processor is fully plumbed, the wash inlet and drain hoses must be straight (no bends in the hoses) when in use.

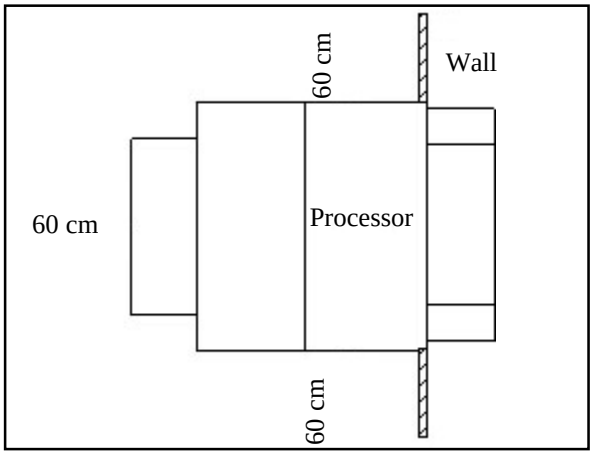


Fig 3-A

Maintenance Facilities: A sink with hot and cold water, large enough to accommodate the racks, should be installed near the processor. 17"/63 x 30 x 10 - 29"/91 x 30 x 15 - 36"/110 x 30 x 5 - 54"/160 x 30 x 15.

Equipment recommended:
- Drip tray for racks are available from your dealer as optional accessory (see optional accessories in section nine).

- Rack hoist; especially for wider models 91 cm (36"), 135 cm (54"), and models with tank size 2 and 3. (A rack hoist is available from your dealer as optional accessory, see Section nine).

Before plumbing, check your local environmental specifications on waste disposal.

a. Water Supply and Hose Information - The water supply to the processor must be at least 0.3-10 bar (4.3-145 PSI - pounds per square inch) with a shut-off valve at its source. It is recommended that inline filters be used in areas where water purity is a problem. Filters should also be considered to prevent the small water inlets from clogging. If the photographic materials to be used require a certain wash temperature then a temperature mixing valve should also be installed.
The water temperature should be at least 5°C lower than the developer temperature to ensure proper cooling of developer.
The hose must be rated and capable of handling a pressure applicable to local building codes. ***DO NOT use an ordinary hose***. The inner diameter of the hose must be at least 3/8", and it must have a female hose fitting to attach to the processor. (The other end is hooked to the building's water supply.)
It is recommendable to install an additional water hose near the tank section for cleaning of the tanks.

b. Floor Drain - A floor drain should be installed under the processor's drain fitting so the drain tubing must slope down from the processor to the drain. Avoid traps created by tubing sag because foam may back up in the tubing, overflow from the standpipes into the processor and contaminate the chemistry.
Do not use brass, copper, and aluminium in the processor's drain system. Black iron, tile, ABS, PVC and cast iron are acceptable drain materials. A drain system using a sump pump requires a unit with no brass, aluminium or copper parts contacting the effluent. If a silver recovery unit is used, connect the input on the silver recovery unit to the output on the fixer overflow standpipe. The output of the silver recoveryunit goes to the recollecting container.

Service engineers are not authorized to perform any plumbing other than the connections outlined in the installation procedures of this manual.

3.2 Electrical Pre-Installation
(Customer Responsibility)

Operational stability of the processor depends upon proper electrical installation. In accordance with warranty requirements, each processor must be on an individual power distribution branch (dedicated line) that is free of any other equipment.

Voltage and Frequency: The voltage and frequency must be 220V ± 10%, 50 Hz, on phase with ground and neutral. 2 x 115 V + 10%/-0%/50 Hz is available on request, - 60 Hz on request.

Wiring: The processor must be hard wired to the building supply by an electrician. In „through the wall installations" a breaker should be installed on the right side near the processor. ***NOTE:*** proper grounding is essential for safety and operation.

Circuit Breaker: A 20/32 Ampere industrial-rated circuit breaker must be in series with the power distribution hot line so that all wires are dead at the outlet when the breaker is tripped.

Circuit Breakers:	
1 phases 230 V	20 A
2 x 115 V	2 x 32 A

Optional Transformer: If voltage is outside specified ranges you can order an optional transformer at your dealer.

3.3 When the Shipment Arrives
(Customer Responsibility)

Package Inspection: Although the processor is shipped in a wooden crate that has been carefully designed and tested to provide optimum protection, the processor should be examined closely upon delivery to determine if any shipping damage has occured.
Check all the items received against the order forms, invoices and shipping documents. If missing or wrong items are received or your shipment arrives visibly damaged, sign for the shipment as either "damaged" or "open" and request an inspection by the delivery carrier. In the event of concealed loss or damage notify both the delivery carrier and your dealer. Refer to Paragraph 1.3.

DO NOT return accepted shipments until authorization is established by your dealer. Otherwise, credit and/or replacement may be delayed.

Packages On-Site: The processor shipment should be on-site, in the room where it is to be unpacked and installed. When moving the processor with a fork lift reference the symbols on the outside of the box to ensure it is lifted properly. If the processor package(s) have come from a very cold or very hot shipping environment, allow a sufficient amount of time for the packages to stabilize to room temperature before opening.

3.4 Pre-Installation Verification

Before unpacking, inspecting, or installing the processor, the service engineer will verify that the following exist:

a. A 220 V ± 10% 50 Hz 1 phase line or a line with the supply ordered and confirmed is available.

b. Earth grounding of all dedicated lines.

c. A 20/32 amp fuse or circuit breaker protection for the dedicated line(s).

d. The processor's environmental conditions (plumbing requirements included) are within the specifications listed in Paragraph 3.1. (Pre-Installation).

e. All shipping containers are in the proper area.

Upon verification of all the above the service engineer should next complete the Set-Up and Operational Verification Procedure. If any of the above conditions do not hold true, advise the customer of your findings and call your dealer for further instructions.

3.5 Set-Up and Operational Verification
(Customer and Dealer Responsibility)

Table 3B is the sequential list of paragraphs to complete the set-up and operational verification for the processor.

TABLE 3B
Set-Up and Operational Verification

Sequence	Description
1	Unpacking and Initial Set-Up
2	Operational Check
3	Chemistry Installation

In the event that the processor should ever need moving or troubleshooting, the customer should become familiar with these procedures.

Unpacking and Initial Set-Up: When unpacking the unit, take care not to throw away any documentation that is included. Ensure that bits of packing material do not remain in the tanks or roller assemblies.

Unpacking and Set-Up Procedure

3.5.a. Unpack the Processor.

1. Unscrew the screws securing the cover to the pallet with a screwdriver. Thereafter cut the banding that also secures the cover.

2. Remove the cover by lifting from one end and resting the other end on the floor.

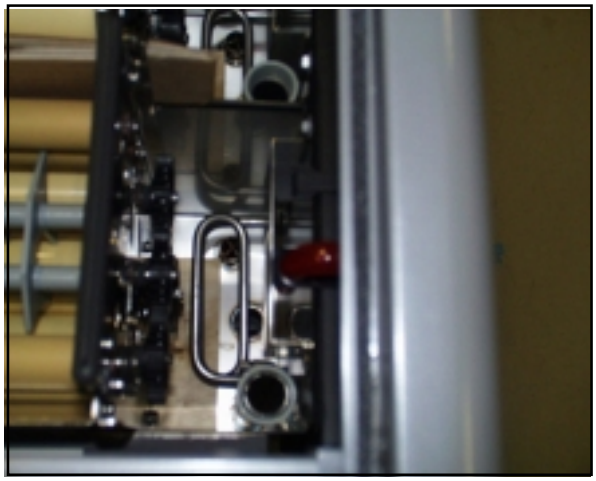


Fig. 3-B. Racks on wood blocks.

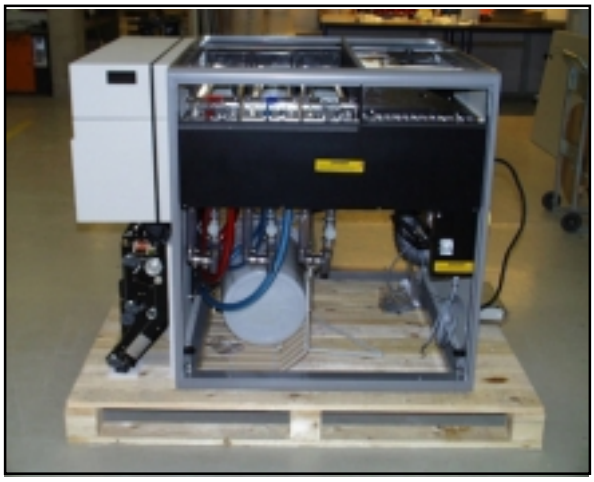


Fig. 3-C. Processor packed on pallet.

Fig. 3-D. Processor on pallet. Screws are holding it on..

3.5.b Install the Processor

1. **Unpack the Processor**
   The upper plywood crating is fastened to the pallet by a number of screws along the upper pallet edge. When the screws have been unscrewed in with a screwdriver, the upper plywood crating is free of the pallet, can be lifted upwards and then removed from the crate.

2. **Dismantle the Processor from the Shipping Pallet**
   The processor is fastened to the shipping pallet by four transportation bolts. If possible, the processor should remain fastened until the installation location has been reached.

   Unscrew the four transportation bolts (wrench # 19), remove the four side panels, the two covers, all racks and slide the processor sidewards related to the pallet long edge so that the holes in the bottom frame along the long side of the processor are free of the pallet.

   Screw in the adjustment bolts (user kit box) until 50 mm (2") remain free under the frame bottom. Use two adjustment bolts under the wet section and one under the rear of the dryer. At each side each adjustment bolt should have one nut and one disc below the fram, and one nut and one disc above the frame inside the processor. Slide the processor further sidewards, until the processor tilts by itself. Make sure to hold contra, to prevent damage.

   Screw in the remaining adjustment bolt, until 50 mm (2") remain free under the frame bottom.

   Tilt the processor until the shipping pallet is free and pull it away. Carefully lower the processor again. Slide the processor to the foreseen installation place.

   Level the processor by adjusting the adjustment bolts.

3.5.c. Prepare the Dryer

(horizontal dryer only)

Remove the transport securing wires from the fixation rails on which the dryer rack is resting. Also remove the flat washers and screws securing the upper blower channel to the dryer rack.

Vertical dryer

No tasks at this time.

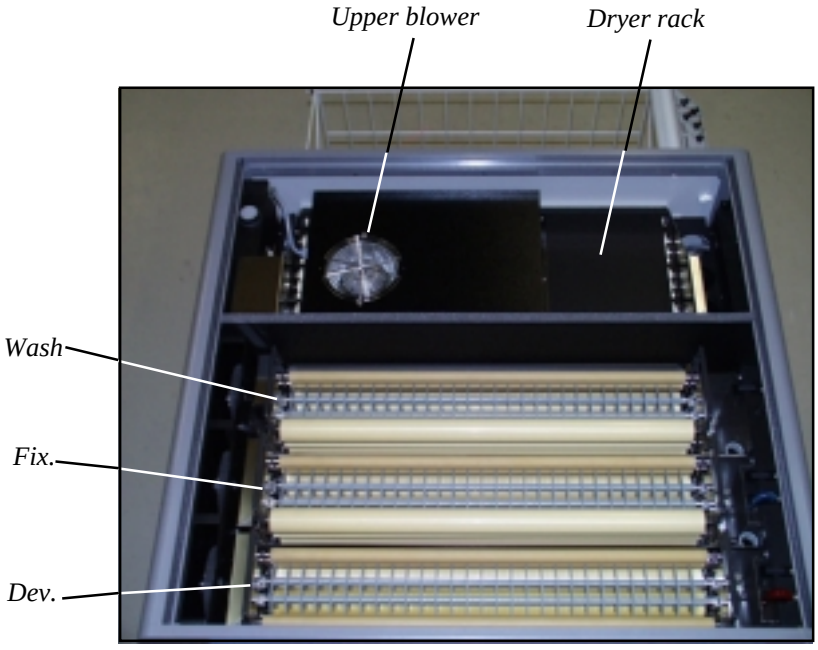


Fig. 3-F

3.5.d Connect The Processor Hoses

In the bottom plate holes to feed all the hoses except exhaust are provided. If drains are not at floor level a better installation will result if the hoses are fed through the front or rear panel. In these cases holes must be drilled or cut (approx. 19 mm / 3/3" and 32 mm / 5/4").

The seven hoses that should be connected to the processor at the installation are, fig. 3-G, 3-H, 3-I:

- one 3/8" developer replenishment tube (3.5 m is supplied along with the dev. replenishment container).

- one 3/8" fix. replenishment tube (3.5 m is supplied along with the fix. replenishment container).

- A hose approved by the local authorities for water supply must be supplied by the customer. The hose must have a 3/4" female pipe thread at the processor end, minimum inner diameter 3/8" (10 mm). A water supply hose for washing machines or dish washers will offen do.

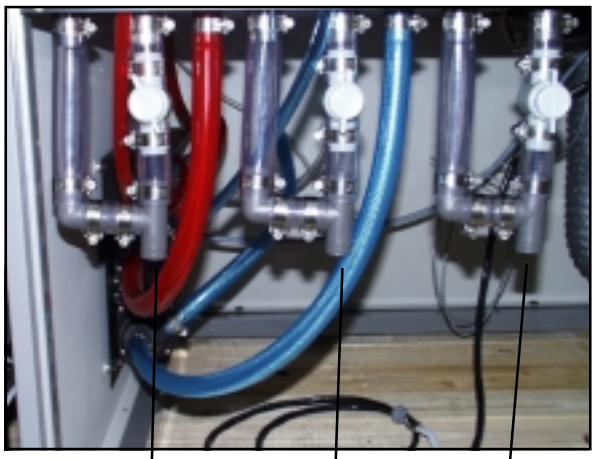


Fig. 3-G

Developer drain connection

Fixer drain connection

Water drain connection

- one water drain hose. Inner diameter 1" (25.4 mm) to be connected inside the processor. Can come out of the processor through the bottom. The hose should be connected to the drain system without any loops. Must be supplied by the customer.

- one developer drain hose and
- one fixer drain hose, both have inner diameter 1" (25.4 mm), to be connected inside the machine. Can come out through the bottom of the processor. The tubes should be connected to recollecting container, which must be supplied by the customer.

- 1 pc 100 mm diameter hose for exhaust. The hose (supplied by the customer) is secured to the stud on the front below the feed tray (on the rear for 17" processor).

Fig. 3-I

Exhaust hose connection

1. Inside of the processor below the tank section the hose connections are mounted. Place each hose on its respective connection and push all hoses on as far as they will go.

2. Place the hose clamps on the hoses. Slide the hose clamps up to the connections and fully tighten them.

3. Connect and fully tighten the water inlet hose (supplied by the customer) to the 3/4" standard hose fitting below the tank section inside the processor.

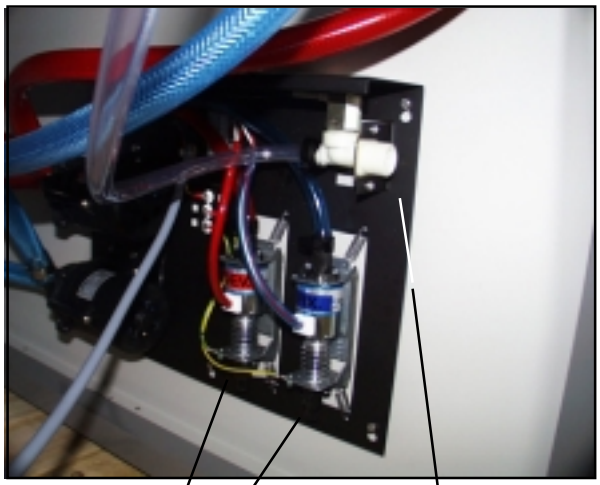


Fig. 3-H

Repl. hose connection

Fresh water supply

3.5.e Connect Opposite End Of The Hoses

1. Place the fixer (blue) drain hose and the developer (red) drain hoses into two separate recollecting containers (supplied by the customer) near or under the processor. The recollecting containers should have covers with a hole for the drain hoses (covers will help eliminate fumes). ALWAYS use two containers, DO NOT allow any of the drain hoses to bend in any way, cut them to fit (fig. 3-J).

2. Two replishment containers and two replishment container covers are supplied with the processor. Place the replenishment hoses onto the angled end of the PVC tube and clamp the hose (fig. 3-K).
   Extending the replenisher hoses will affect the capacity of the replenishment system. Extending the tubes may only be allowed depending on the amount of replenishment needed by the specific chemicals and photographic job. A higher setting than normal of the replenishment dial may be necessary. Using larger diameter hoses will minimize the effect of long hoses.

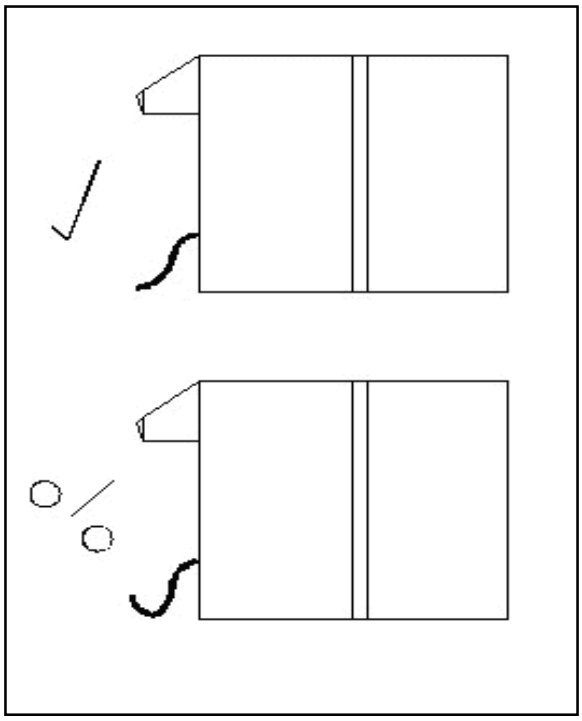


Fig. 3-J

Cut the drain and replenishment hoses as short as possible. A shorter hose will prevent problems with replenishment and draining.

3. Connect and fully tighten the water inlet hose to the water supply. *DO NOT TURN THE WATER ON AT THIS TIME!*

4. The 100 mm diameter exhaust hose should not be longer than 6 m and should run out of the building with as few bends as possible. If the distance out of the building is too long, extra fans in cabinet 250199 should be ordered.

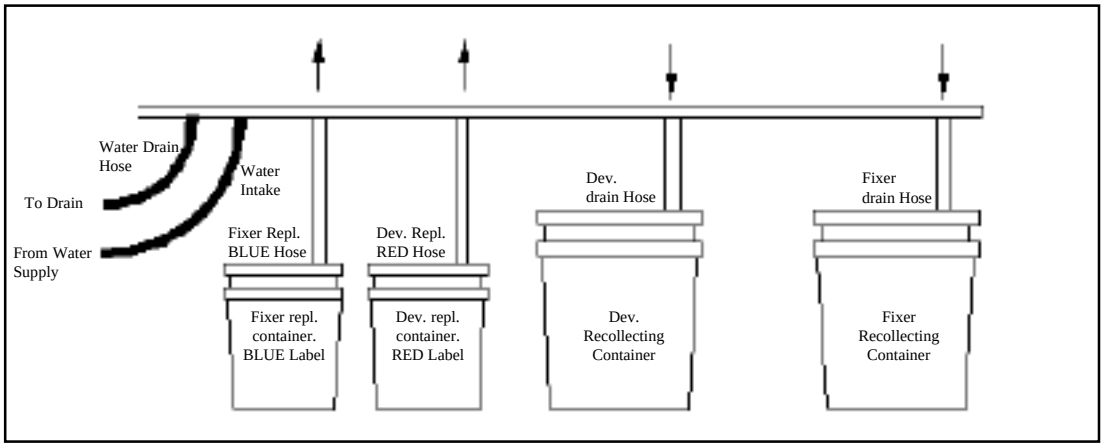


Fig. 3-K

3.5.f Connect Electrical Power

1. Remove the screw holding the cover over the power box, fig. 3-L.

2. Feed the power cable through the bottom plate and in through the hole in the bottom of the power box.

Fig. 3-L

Feed power cable through

Fig. 3-M

Main connection terminal block

Power combination:
One phase (230VAC) and one neutral(Europe)
Two phases(2 x 115VAC)(USA, Norway)

3. Reinstall the cover for the power box by the screw, fig. 3-L.

3.5.g Clean Trays

With a damp sponge clean all three tanks. Be sure to remove all dust and shipping debris before operating the unit.

3.5.h Level the Processor

1. Ensure the processor is in its permanent location.

2. Carefully pour water (do not splash) into the developer tank until the overflow level is reached. Use the rollers to visually level the processor, from right to left. From front to back a spirit level must be used on top of the frame.

3. If leveling is necessary use the #19 open end wrench to adjust the processor's leveling feets, (fig 3-N), until the water appears level. (Rotating the wrench in a clockwise manner will raise the processor). All leveling feet must make contact with the floor so that rocking cannot occur.

Unpacking and Set-up is Complete.

Perform the Operational Check Procedure
3.6 Operational Check: The operational check ensures that the system is operating properly.

Important Notes:

- It is IMPERATIVE that the processor is flushed with water before chemistry is installed. Therefore, the operational check procedure requires the use of water (not chemistry).

- NEVER RUN THE PROCESSOR DRY!

- Exercise extreme care when operating the processor with the cover open. Keep clothing and jewelry away from the media transport and terminal block ares.

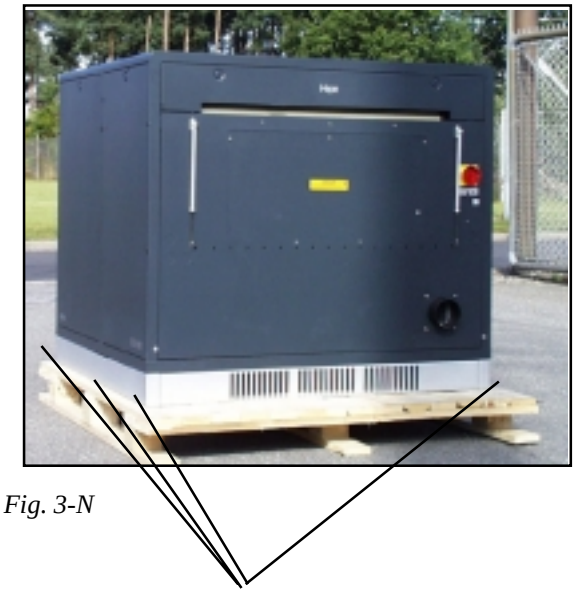


Fig. 3-N

Levelling feets

3.7 Chemistry Installation:

NOTES:

1. **Safety glasses, a chemical apron and rubber gloves should be worn when changing chemistry.**

2. **To Prevent chemical contamination. Never allow chemistries to intermix.**

3. **Always change the fixer first as this will help eliminating the possibility of chemical contamination.**
4. **See section four for chemical disposal information.**

5. **The processor should be rinsed with water each time the chemistry is changed (see section five).**

6. **Cap any unused chemistry and check replenishment containers every morning.**

4.1 General

This section contains the processor's basic operating instructions and guidelines with respect to photographic supplies.

Before operating the processor, the procedures in Section Three Installation must be performed. Read this entire section before attempting to operate the processor.

4.2 Night/Stand-by/Process

Various system components will be operational in each of the three modes. The Night/Stand-by/Process table below illustrates the operational components in each mode.

Night/Stand-by/Process

(With Main Power Switch ON)

Night	Stand-by	Process
Dev./Fix. heat ON/OFF.	Dev./Fix. heat ON/OFF.	Dev./Fix. heat ON/OFF.
Circulator pumps ON	Circulator pumps ON	Circulator pumps ON
Level control: when a low level is present - heater in the actual tank turnes OFF, Dev./Fix. is replenished (max. 70 seconds). Low level message flashes and tank with low level is showed.	Level control: when a low level is present - heater in the actual tank turnes OFF, Dev./Fix. is replenished (max. 70 seconds). Low level message flashes and tank with low level is showed.	Level control: when a low level is present - heater in the actual tank turnes OFF, Dev./Fix. is replenished (max. 70 seconds). Low level message flashes and tank with low level is showed.
	Manual replenishment possible.	Manual replenishment possible.
	Preset speed, temp and prg. displayed.	Preset speed, temp and prg. displayed.
	Dev./Fix. and Dry temperature can be displayed.	Dev./Fix. and Dry temperature can be displayed.
AOX ml/h & %24h	AOX ml/h & %24h	AOX ml/h & %24h
		Water valve ON.
Drive motor running slow if motor creep is enabled, otherwise it will be off.	Drive motor running slow if motor creep is enabled, otherwise it will be off.	Drive motor ON at the preset speed.
	Dryer: Lower part ON Upper part OFF	Dryer: Both upper and lower part ON
		Continuous replenishment ON while material is present at feed sensor.
Exhaust fan ON.	Exhaust fan ON.	Exhaust fan ON.
		After the material has been processed the processor will return to Stand-by mode

4.3 Temperature/Speed/Replenishment

Depending on the chemistry used and the materials being processed, the operator-accessible temperature, speed, and replenishment may need adjusting. Adjustment of each of the controls will have an affect on the output copy (see Section One Controls and Indicators). The Control Panel Settings Table recommends the ideal temperature, speed and replenishment settings with respect to the chemistry and material being used.

Paper and Film Processing Specifications*

Material	Chemistry	Dev. Temp.	Fix. Temp.	Speed	Dev.** Repl.	Fix.** Repl.
Phototype-setting paper	Rapid Access developer Fixer with hardener	35°C (95°F)	35°C (95°F)	20	600ml/m ^{2}	600ml/m ^{2}
Line Film	Rapid Access Dev. Rapid Access Fix.	35°C (95°F)	35°C (90°F)	35	600ml/m ^{2}	600ml/m ^{2}

* The temperature, speed, and replenishment settings are only recommended. Since ambient conditions vary, settings may be slightly different.

** If you notice a significant drop in density compared to using fresh chemistry, then increase the replenishment rates. Replenishment rates is by 50% density.

Temperature will affect the quality of the result. If the processor's ambient temperature is consistently higher than the set temperature the operator should take the appropriate action to provide cooling of the processor's environment until the ideal ambient temperature range is achieved and remains constant.

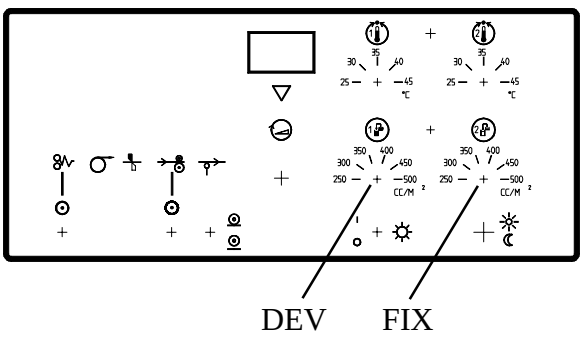
4.4 Replenishment Settings

The replenishment must be proportional to the amount (area) of film passing the processor and it depends on the overall average density.
The area of film processed is determined by the input sensors. Every time a certain amount of material (15-60 cm depending on model and film width) has passed the input sensors the replenishment system is activated. The duration of the replenishment programme can now be set by the operator depending on film width, overall average density of the film and the necessary max. replenishment per m^2 of 100% black as informed by the manufacturer of chemicals.
The EG processor has beenadjusted from the factory to obtain 750 cc/m^2 with full width material when the replenishment buttons are set to its max. position.

Example:
The manufacturer specifies that 500 cc/m^2 replenishment is necessary by 100% black material. The material developed is 30,5 cm (12") wide and has an average density of 60%, and the processor has a 73cm (29") inlet with.

$$\frac{\text{film width}}{\text{processor width}} \times \frac{\text{cc/m}^2 \times 100}{\text{average density in \%}} = \text{setting}$$

The necessary replenishment setting for this film is (30,5/73) x (500*100/60)=348cc/m²



4.5 Daily Operation

Performing the basic daily operation guidelines outlined below, along with preventive maintenance, will aid in the the troublefree performance of the processor.

4.6 General Operation:

1. NEVER RUN THE PROCESSOR DRY!

2. Remove the top cover over the wet section whenever the units power supply is turned OFF. This will prevent chemical condensation inside the processor.

3. Always turn the building's water supply to processor OFF at night.

4. Check hose connections, tighten any that may have come loose.

5. Keep processor CLEAN! Keeping the processor clean (inside and out) will produce better results and extend the life of the processor and components (see Section Five).

4.6 b Each Morning:

1. Check the level in the developer and fixer tanks.

2. Check the replenishment containers and refill if necessary.

3. Wipe off any dried or spilled chemistry.

4. Turn the processor ON and put the processor into night mode.

5. Turn ON the water supply to refill the wash station.

6. Place the top covers on the processor.

7. Verify the temperature when the warning goes out.
8. When the set temperature is achieved put the processor into day mode and process a piece of "Cleaning Film" in the full width of the processor to clean off any dirt or dried chemistry that may have settled on the rollers overnight.

4.6 c The End of a Work Day:

1. Turn the water supply OFF.

2. Turn the processor OFF.

The Exhaust blower will be on, even when the main circuit bracker on the processor is off. If working on the Exhaust blower please remove the blower fuse or Turn of the external power supply.

4.7 Processing

FOLDING PAPER MATERIALS: All phototypesetting paper should be folded, back to back, prior to processing. Phototypesetting film should be folded, emulsion to emulsion, prior to processing. 0.1 and 0.18 mm polyester film does not require any folding prior to processing. ***Folding provides a stiff leading edge that removes the natural curling tendency and decreases the probability of wrapping around the rollers.*** Fig. 4-A illustrates the proper folding and cutting instructions for paper and film.

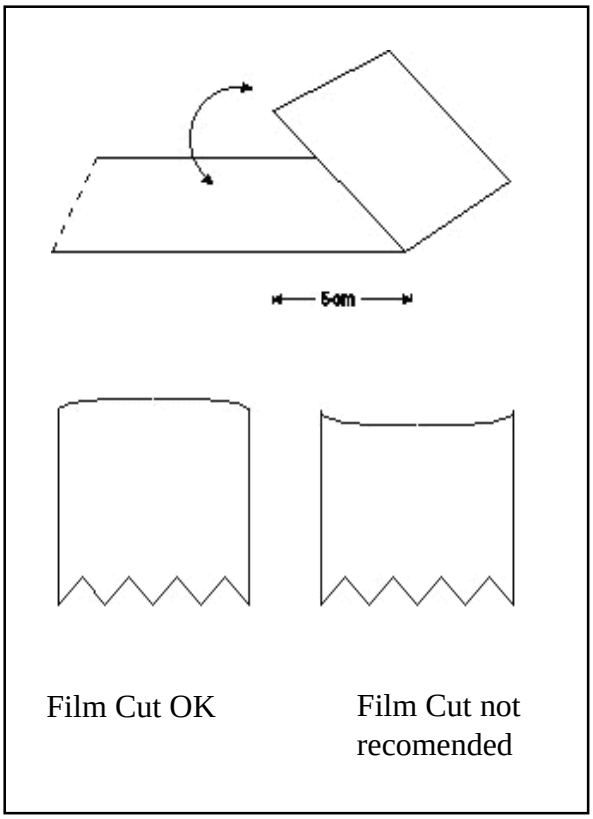


Fig. 4-A

General: When the chemistry is installed and the heater lamps are out the operator may: set the speed control, check the temperatures, set the replenishment rates, press the mode switch to stand-by, fold the paper and insert the paper into the processor.

The processor will NOT go into PROCESS MODE if: a low chemistry/water level exists, or if the processor is in night mode.

SECTION 4

Processing Procedure

The heater lamps may turn on in the process mode with no effect on the output copy. Check the temperature before processing if a heater light is ON.

a. Place the processor's mode switch to the stand-by/process position (fig. 4-B).

b. Adjust the transport speed to the desired rate (fig. 4-B) (see the Control Panel Setting Table).

c. Check the temperature of the developer and fixer (fig. 4-B) (see the Control Panel Setting Table).

d. Set the developer and fixer replenishment rates (fig. 4-B) (see the Control Panel Setting Table).

e. Fold the leading edge of the phototypesetting paper, and then insert it under one of the sensors as straight as possible. **The photo sensors are activated by the material, causing the processor to go into Process Mode.** When processing sheet film: place the film on the feed table and insert it into the processor as straight as possible. The film photo sensor will be activated (fig. 4-B).

Sheet film except daylight film requires pro-cessing in a darkroom.

f. After the material completely exits the processor remove it from the paper catch.

g. The processor will return to stand-by mode in approximately 5 minutes. The water supply can be left ON until the end of the work day.

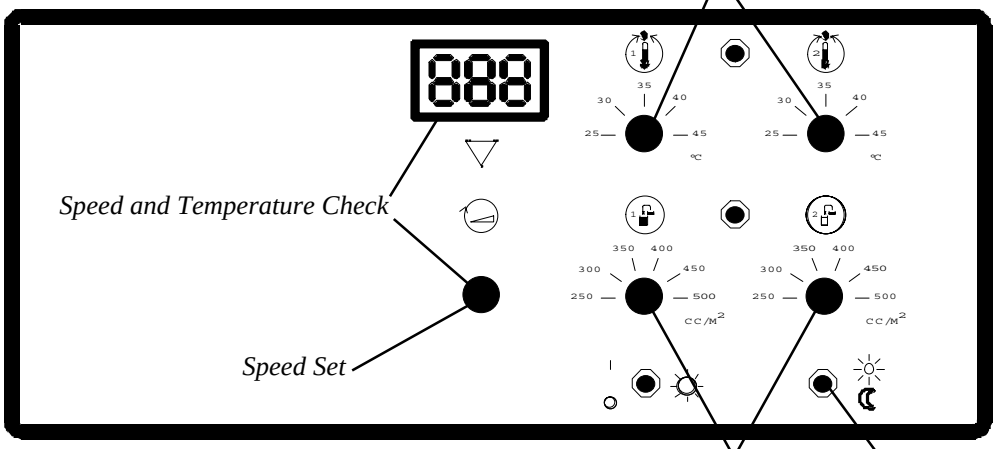


Fig. 4-B

4.8 Changing Exhausted Chemistry

Chemistry life is greatly extended by the processor's stand-by and AOX features. The Chemistry Change Table provides the approximate chemistry life with respect to the materials processed.

TABLE 4B
Chemistry Change Schedule*

Material	Frequency
Phototypesetting paper	every 1-2 months
Line or Daylight film	every 1-2 months

* These are only recommended times. Ambient conditions vary, therefore the frequency of your chemistry changes may have to be altered. The chemistry should also be changed before or when the operator observes:

- Phototypeset copy characters and lead edge appearing gray rather than black.
- Pinkish tint on film or paper background.
- Phototypeset copy characters face with time (contaminated/dirty wash). Change wash water more frequently.

Gray characters can also be caused by a low typesetter intensity or a low developer temperature. (If the galley's lead edge is black, check typesetter).

Always recirculate clean warm water and clean the roller racks whenever the chemistry is changed. (See Section Five, Maintenance).

By their nature, and consistent with the best manufacturing processes we employ, some of the chemical products you purchase may be subject to certain laws regarding their proper handling and disposal. You should familiarize yourself with our material safety data sheets and with any laws which may be applicable to wastes generated from use of our products or resulting from the discard of any products unused.

Overexposure to photographic chemistry may cause skin irritation to certain individuals.

PHOTOGRAPHIC CHEMISTRY EMERGENCY AND FIRST AID PROCEDURES:

- SKIN - Flush thoroughly with water.
- EYES - Flush thoroughly with water and consult a physician.
- INGESTION - Consult a physician immediately.

5.1 Introduction

This section details the general and specific tasks which must be performed during preventive maintenence, mechanical/electronic adjustments, and troubleshooting.

Before performing any task read through the entire subsection. By doing so you will gain a better understanding of each procedure and any other procedures that may also have to be performed plus tools and/or parts, which may be needed.

If a procedure is labeled for technicians only, either a trained service engineer or a qualified technician should be called to perform the procedure.

Finally, always take care when performing any procedure - ***SAFETY is the most important concern. Always turn off the main switch and lock by a padlock (where stated) before starting a procedure. Always drain the chemistry when working on the recirculation system.*** Never allow loose clothing or jewelry to come into close proximity with the gear train or media transport area.

5.2 Preventive Maintenance

(Customer Responsibility)

The objective of preventive maintenance is to maintain the reliable, troublefree performance of the processor. There are specific preventive maintenance tasks which must be performed on a scheduled basis to meet this objective. These tasks are identified in Table 5A.

Table 5A

Recommended Preventive Maintenance Schedule

Daily Maintenance

- Clean the feed tray or inlet if it is an on-line processor.
- Clean all rollers and guides above liquid level with a wet sponge and check that the guides again are in correct position.
- Check the replenishment tanks, the pumps may not run dry. Remember hardener in fixer.
- Before start of processing check that temperature, speed and water flow are correct.
- Run a cleaning film through the processor every morning to ensure that the chemical activity level in baths is correct.
- Check that the exhaust system is working

Weekly Maintenance

- Clean the processor for chemical stains with a wet cloth or sponge.
- Empty the wash tank before the weekend and refill after the weekend to avoid algae growth.
- Only use anti-algae agents without chlorine (bleach) and clean as required.

Preventive Maintenance *)

- Good developing quality and troublefree processing are conditioned by regular cleaning and maintenance. Use only qualified personnel.
- Exchange chemistry and clean racks and tanks with warm water max. 40°C.

*) Every 2-4 months, depending on how intensively the processor is used.

A maintenance record should be held in order to control the change of chemistry and cleaning. This should be filled in every time a maintenance function is performed. This will aid the operator in processor operation and technical personnel to know if the processor needs servicing.

CLEANING PROCEDURES

(Customer Responsibility)

5.2.a Water Cleaning: The processor should be rinsed with water every time the chemistry is changed. The roller racks and tanks should also be cleaned at this time. This cleaning will not only keep the processor and output copy clean, but also aid in the prevention of chemical contamination.

Water Cleaning Procedure

Equipment required: Soft bristle scrub brush
Paper towels

Equipment recommended:
- Drip tray for racks (available from your dealer as optional accessory - see Optional Part List, Section 9).
- Rack hoist, especially for wider models: 91 cm/36", 135 cm/54" and models with tank size 2 and 3. (A rack hoist is available from your dealer as optional accessory - See Optional Part List, Section 9).

1. ***Turn the main power switch OFF and remove the top covers.***

2. Open the drain valves and drain the chemistry. Ensure the drain containers are in place and are empty enough to accommodate the chemistry being drained, table 5B

	29"	36"	54"
1	25L	33L	45L
2	39L	50L	66L
3	53L	62L	74L

Table 5B

3. When the chemistry is completely drained, close the drain valves. Place the developer and fixer drain hoses into the drain.

4. Dispose all chemistry in the replenishment containers. Fill the replenishment containers with clean warm water and reconnect them to the processor.

5. Fill the developer, fixer and wash stations with clean warm water.

6. When positing the mode switch in day operate, position and place a piece of film (paper) under the inlet sensor. The film should not engage the inlet rollers. Turn the main power switch on and set the dev. and fix. replenishment dial to max. Leave the main power switch on for appx. 15 minutes.

7. When the 15 minute rinse is through turn the main power switch OFF.

8. Drain the water from the three stations.

9. Remove the roller racks one station at a time.

10. Clean the roller rack with warm water in a sink. Use a soft bristle scrub brush to remove any chemical crustation or sludge.

11. Using paper towels, wipe out the tank. Ensure no bits of paper are left in the tank. If deposits are beginning to build up in the first station, then the processor should be cleaned with universal processor cleaner.

 *Discoloration of the rollers is normal, especially in the developer rack.*

SECTION 5

12. Return the roller rack to its proper station (identified by label).

13. Repeat tasks 9 through 12 until all stations have been cleaned.

14. Place the developer and fixer drain hoses back into their recollecting containers.

15. Add chemistry in accordance with the chemistry installation procedure in Section Three.

16. Replace the top covers.

17. Complete the processor maintenance log.

Chemical Cleaner: When chemistry is changed or if deposits are observed in the first tank station, the customer should clean the processor with universal processor cleaner. The chemical cleaner removes normal chemical build-up from the pumps, hoses and tanks.

To order the processor cleaner, contact your dealer.

5.2.b Dryer Roller Cleaning: The entrance dryer rollers should be cleaned each time the processor is rinsed with water (or every chemical change).

Always turn off the main switch and lock by a padlock when cleaning the dryer rollers.

Dryer Entrance Roller Cleaning Procedure

Equipment required: Lint-free cloth

1. ***Turn the main power switch OFF and lock by a padlock.***

2. Use a lint free cloth dampened with water to wipe down the surfaces of the dryer's two entrance rollers.

DO NOT spray any water or cleaning solution on the surfaces of the rollers. Dampen the cleaning cloth with water only.

5.2.c External Surface Cleaner: The external surfaces of the processor should be cleaned on a periodic basis or any time the surfaces come in contact with chemistry.

Always turn off and lock the main switch when cleaning the external surfaces.

External Surface Cleaning Procedure

Equipment required: Lintfree cloth
Mild detergent

DO NOT spray any cleaning solution on the surfaces of the processor. Dampen the cleaning cloth only.

1. ***Turn the main power switch OFF and lock by a padlock.***

2. Use a lint free cloth dampened with a mild detergent to wipe down all external surfaces.

3. Allow all cleaned surfaces to **DRY** before turning on the power again.

5.3 Mechanical Adjustments
(Technicians Only)

The processor must be within certain specifications to operate properly and produce the finest output. These specifications are set and checked at the factory. Occasionally, the processor may stray out of the specification range and may require minor adjustments. Below is a short list of all the mechanical adjustment procedures. Due to electrical and mechanical hazards ONLY a qualified technician should undertake these adjustment procedures.

• AOX

AOX Adjustment Procedure

5.3.b AOX:
Equipment required: Common screwdriver

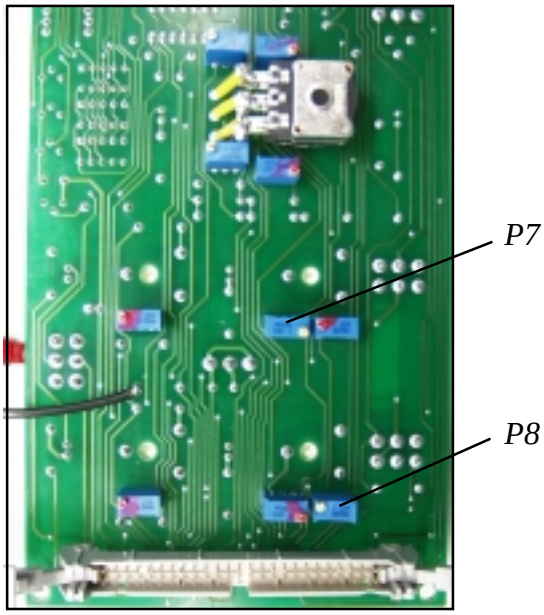
1. Turning the AOX screw(s) (developer *P7* and/or fixer *P8*) completely counterclockwise lowers the amount of AOX replenishment. Turning the AOX screw(s) (developer *P7* and/or fixer *P8*) clockwise raises the amount of AOX replenishment.

TO TEST THE ADJUSTMENT

2. Remove metal cover above receiving basket.

3. On the pulse generator PCB there are two pins labeled AOX Test. A short circuit across the two pins will turn the AOX on every 10 seconds. This will allow the technician to measure the amount of replenishment controlled by the two AOX adjustment screws.

4. Replace the control panel.



5.4.Printed Circuit Boards And Electronic Adjustments

(Technicians Only)

All of the Printed Circuit Boards (PCBs) have been calibrated and set at the factory. An adjustment to a PCB should ONLY be performed after a problem has been isolated to the PCB. Figure 5-D illustrates all of the PCBs, and their adjustments, located in the Interface Box.

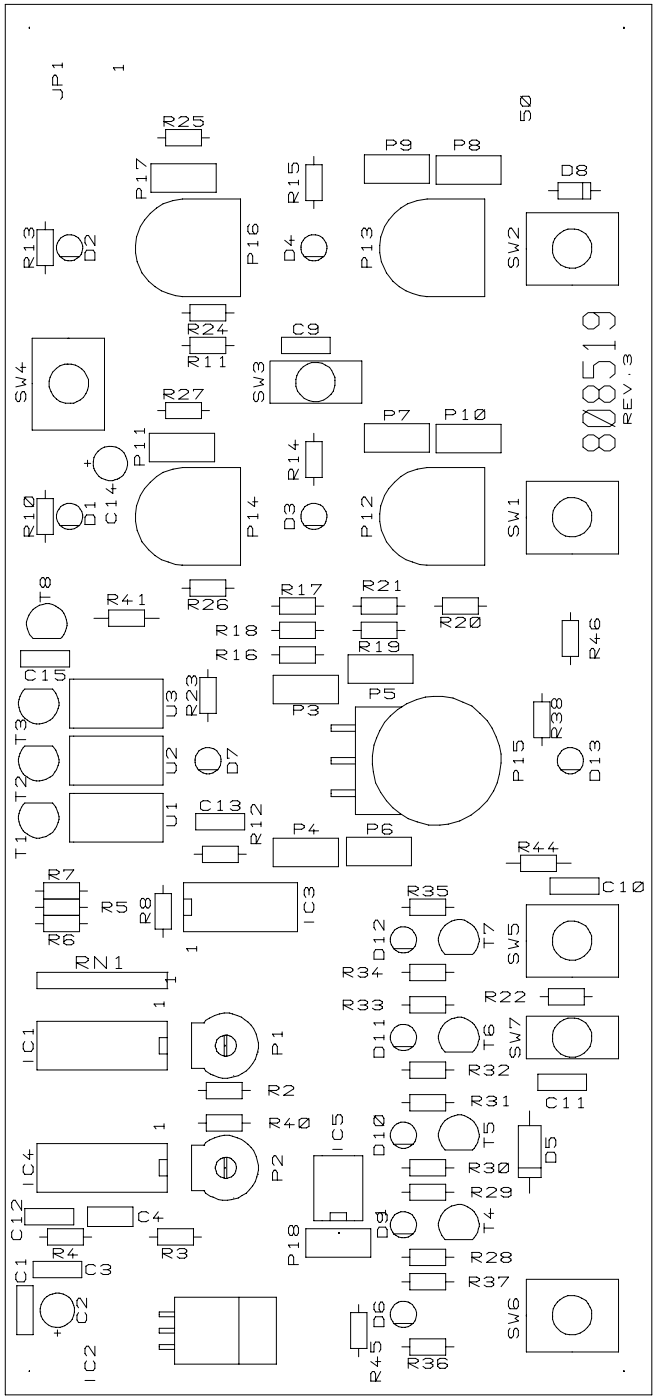
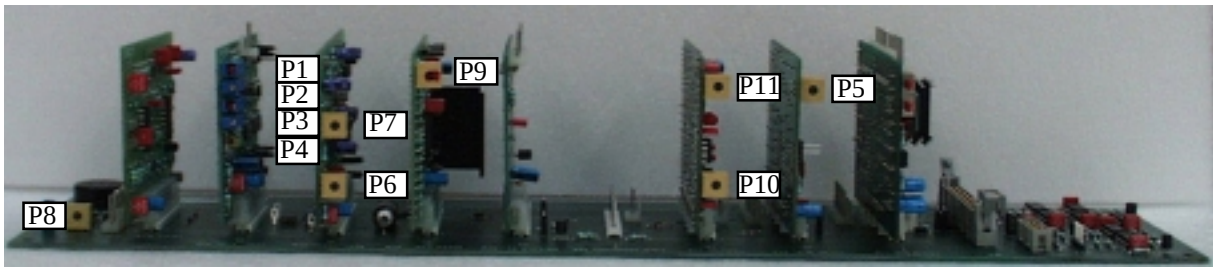


Fig. 5-D



A. Thermostat PCB

Senses the developer and fixer temperatures. Turns the heat relays (fixer and developer) on and off. Controls the operator temperature settings. +15 VDC can be measured on pin 4.

B. Pulse Generator PCB

Along with the replenishment/AOX PCB, controls: manual replenishment, AOX time and trigger, auto replenishment (process), replenishment display (LED), operator replenishment setting. +15 VDC can be measured on pin 2.

C. Replenishment/AOX PCB

Along with the pulse generator PCB, controls: manual replenishment, AOX time and trigger, auto replenishment (low level), replenishment display (LED), operator replenishment setting. +15 VDC can be measured on pin 2.

D. Interface PCB

Desciption in chapter 8

E. Level PCB

Senses a low level condition in one of the tanks. When a low level condition is present the level PCB sends instructions to: display PCB, thermostat PCB, replenishment/ AOX, process/no-feed PCB's. +15 VDC can be measured on pin 2.

F. Process/No-Feed PCB

Along with the film sensor PCB, turns ON and time out the process mode. +15 VDC can be measured on pin 3.

Adjustments

P1. Do not adjust

P2. Developer thermostat output adjustment.

P3. Do not adjust

P4. Fixer thermostat output adjustment.

P5. Continuous replenishment pulse period (10 sec. / 15 dev/sec.).

P6. Developer replenishment programme time.

P7. Fixer replenishment programme time.

P8. Buzzer volume adjustment.

P9. Do not adjust.

P10. Process time adjustment (Film drops into receiving basket before return to power save).

P11. No-Feed time, 7sec.

Adjustment Procedure

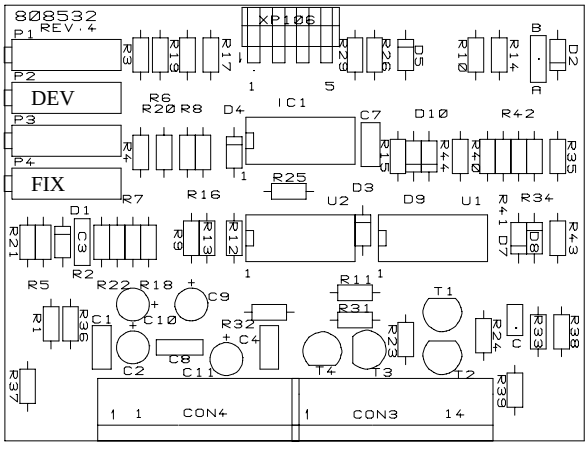
Provided sufficient liquid is in the baths and replenisherbuckets, the processor is switched on into its process mode.

Temperatures

Developer temperature is now preset to 30 degr., while **Fixer** is preset to 25 degr. By means of the use of a mechanical thermometer placed in the developer bath the digital read out is now adjusted on Thermostat PCB, trimpot P2, so that correspondence between actual bath temperature and digital read out is obtained. Utilise display select switch (switch SW4 on Panel PCB).

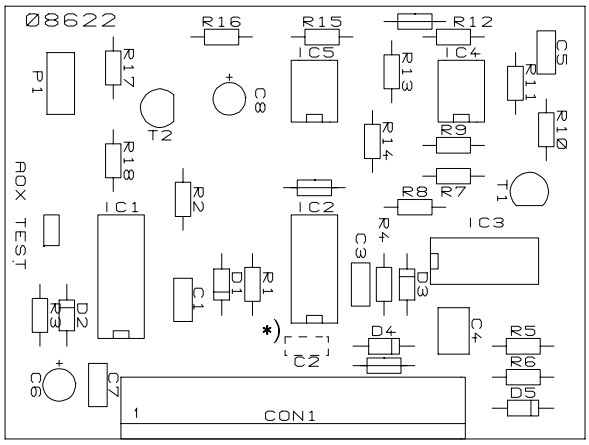
Heat on signal lamp should be on when temperature goes below 29.8 degr. and switched off when temperature exceeds 30.2 degrees (+/- 0.2 degr.).

Fixer temperature is now preset to 30 degr. and above procedure is repeated. Fixer temperature read out is adjusted on Thermostat PCB, trimpot P4.



Replenish - AOX

Provided inlet sensors remain unactivated, an interconnection between test points marked "AOX TEST" on Pulse Generator PCB, will release AOX programme every 10 seconds. The real AOX release frequency will be 20 minutes.

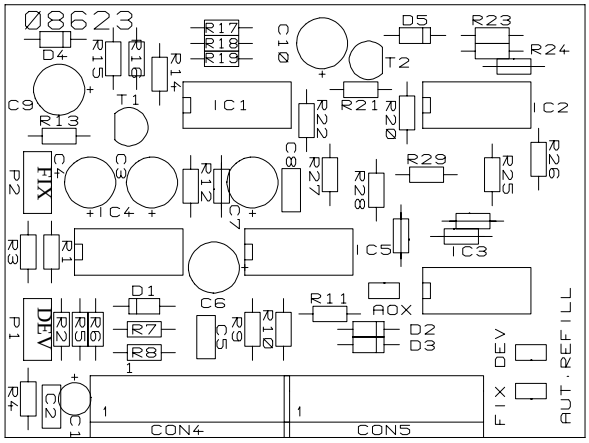


Trimpot P1 on Pulse Generator PCB, adjusts the programmed AOX release frequency.

AOX replenish programme time is preset on panel trimmers placed on Panel PCB (P7 for developer and P8 for fixer). Max programme time is approx 10 seconds.

Provided AOX test points remain unconnected, and provided an inlet sensor is steadily activated, developer and fixer replenish programmes will be released every 10 seconds.

Jumper marked "Dev Refill" and "Fix Refill", on Replenish AOX PCB, establish maintenance of the developer and fixer level.



Check and adjustments of replenish.

The following explains how to check and adjust the replenish function.

First check that the replenishpulses are correct timed !. Set the speed to 30 Dev/Sec. Check That the processor replenishes every 20 sec´s (pumps are running). Adjustment can be made on P1 on Pulse Generator PCB.

The singlepulse amount for different models and replenish levels could be expressed as :

Model / (ml/m2)		300	400
500			
GL171	40	50	65
GL172	60	75	100
GL173	75	100	130
GL291	65	90	110
GL292	100	135	170
GL293	130	180	220
GL361	80	110	135
GL362	120	165	205
GL363	165	220	280
GL541	120	160	200
GL542	185	250	315
GL543	250	335	415
GL651	145	190	240
GL652	215	285	355

The amount can be adjusted on P1 for developer and P2 for fixer on Replenish PCB

Calculations for the Preset of AOX Programme Time

An AOX release every 20 minutes and an AOX programme time of 10 seconds gives per day:

$$3 * 24 * 180 = 13 \text{ litres}$$

Let's say that the evaporation from the respective baths is 200 cc per hour, the accumulated AOX programme should be preset to obtain

$$200 * 24 = 4.8 \text{ litres per day}$$

which gives an AOX programme time of

$$\frac{4.8}{13} * 10 \text{ sec} = 4 \text{ sec.}$$

Normative pumping capacity is 180 cc per 10 seconds.

The continuous replenishment system is based on your knowledge to processed film width and considered density.

Panel push bottom switch on Motherboard (S2) releases the preset replenishment programmes once per push e.g. max. 180 cc

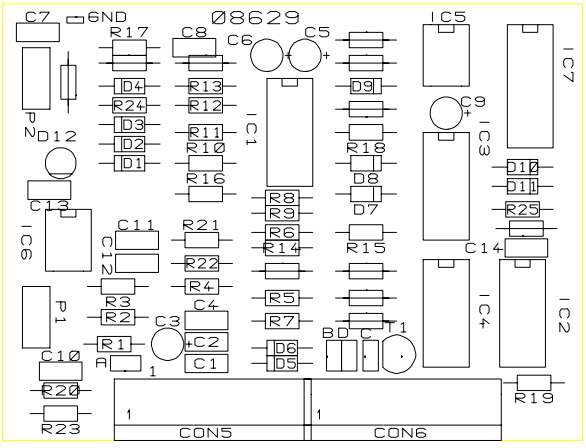
No Feed Time

On Process Control PCB the “no-feed” time is adjusted. The “no-feed” signal lamp will be switched on, when an inlet sensor is activated and will remain on until 7 seconds after the back edge of the processed film has left the inlet sensor. These 7 seconds can be adjusted on trimpot P10 on Process PCB.

As there is no sensor built in the rewash guide, “no-feed” time will be 25 seconds (unadjustable) after the rewash start bottom on external remote box has been activated. In rack version 2, 80 cm of film will be “swallowed” at a preset of 20 developing seconds.

Process Time

Dry to dry travel length in rack version 2 HD is 266 cm. Process time trimpot P11 on Process PCB, is adjusted to 270 seconds at a preset of 60 developing seconds, where the translatoric film speed is 268 cm per minute. Processor will switch over to power save mode when process time has run out. Process time starts to run when back edge of a feed film has left an inlet sensor.



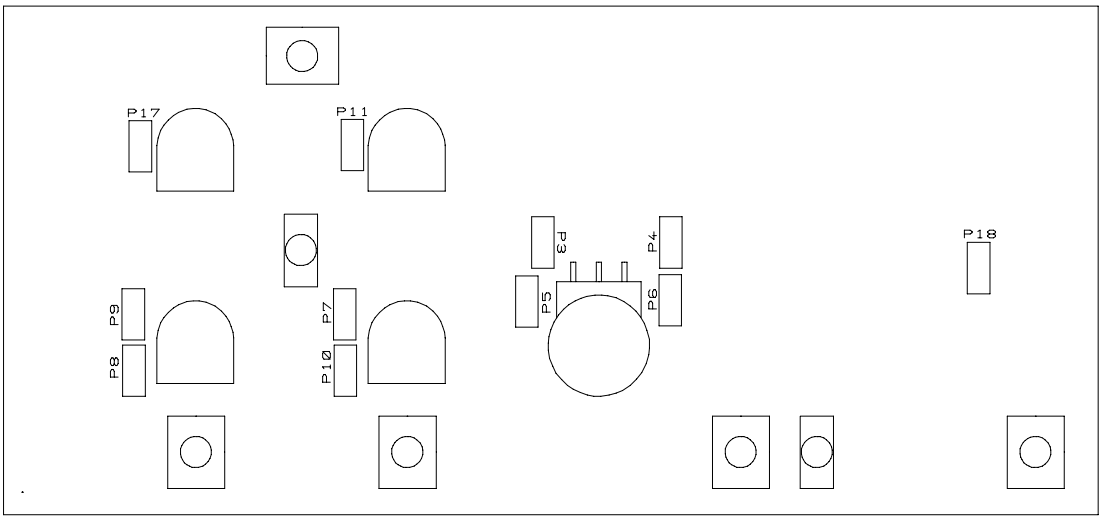
Developer Seconds

Turn the speed potmeter on the control panel until the display shows 20.

Trimpot P4 on the back of the control panel, is adjusted until the obtainment of 20 “travel seconds” for a film front edge, calculated from liquid surface in developer tank, to inlet rollers on fix rack.

Turn the speede potmeter on the control panel until the display shows 50

Trimpot P3 on the back of the control panel, is adjusted until the obtainment of 50 “travel seconds” for a film front edge, calculated from liquid surface in developer tank, to inlet rollers on fix rack.



Control Panel PCB Adjustments

P1 Factory adjusted, do not adjust.
P2 Factory adjusted, do not adjust.
P3 Developer time adjustement, maximum
P4 Developer time adjustement, mini mum
P5 Auto replenishment, maximum.
P6 Auto replenishment, minimum.
P7 AOX replenishment, Developer.
P8 AOX replenishment, Fixer.
P9 Maximum replenishment time, Fixer.
P10 Maximum replenishment time, Dev.
P11 Developer temperature scale.
P17 Fixer temperature scale.
P18 Speed range (15-90 Dev/sec.).

5.5 Troubleshooting

The Troubleshooting Chart contains symptoms which may occur and recommended actions to take if these symptoms do occur.

NOTES:

1. In general, check the simplest items first and perform replacements last.

2. ***Electrical troubleshooting should be performed by a qualified technician as hazardous voltages exist on some components and terminal blocks.***

3. A failure can be caused by:

   a. A control panel PCB.
   b. An interface box relay.
   c. The actual hardware component.

To help determine which of the above three points are causing the failure keep in mind:

a. If the display responds to the operator controls, then the failure is at either the interface box or the hardware component. If the display does not respond to the controls then check the PCB.

b. If the display responds to the operator controls and a "click" is heard from the interface box, then the failure is probably at the hardware component (check voltage to component). If no "click" is heard, check for voltage then check the interface box.

When a fuse has failed replace it with one of the same type, size, and rating. If the replacement fuse or a reset circuit breaker fails remove the power immediately from the system by unplugging the power cord and contact a qualified service representative to inspect the system.

Troubleshooting Chart

Symptom	Probable Cause	Recommended Action
• Output copy characters gray (Light or gray type) (Positive media only)	• Developer temperature low	• Check developer temperature
	• Developer replenishment rate too low.	• Increase replenishment rate
	• Developer replenishment container empty	• Check/refill container
	• Developer replenish pump not operating	• Check pump
	• Developer circulator pump not operating	• Check circulator pump
	• Developer nearly exhausted	• Replace with fresh chemistry
	• Phototypesetter; low intensity (lead edge black, characters gray)	• Consult area service office, adjust typesetter exposure control
	• Speed control set too fast	• Slow down transport speed
	• Contaminated chemistry	• Change chemistry

• Gray background (Positive media only)	• Developer temperature too high	• Check developer temperature
	• Developer contamination	• Dispose of developer; clean developer station
	• Fixer replenishment rate set too low	• Increase replenishment rate
	• Fixer replenishment container empty	• Check/refill container
	• Fixer replenish pump not operating	• Check pump
	• Fixer circulator pump not operating	• Check circulator pump
	• Fixer nearly exhausted	• Replace with fresh chemistry
	• Speed control set too low	• Speed up transport speed
• Background has pinkish tint, film or paper	• Fixer nearly exhausted	• Replace with fresh chemistry
	• Fixer temperature	• Check reset fixer temperature
	• Fixer replenishment container empty	• Check/refill container
	• Fixer replenishment rate set too low	• Increase replenishment rate
	• Fixer repl. pump not operating	• Check pump
	• Fixer circulator pump not operating	• Check circulator pump
• Yellow stain or off white background (Positve media only)	• Low fixer temperature	• Check temperature
	• Wash water loaded with fixer	• Change wash water in recirculator more frequently
	• Wash recirculator/water supply not on	• Turn on recirculator/water
• Processed material has no keeping properties	• Wash water in recirculator dirty or contaminated with fixer	• Change wash water more frequently to optimize keeping properties
	• Wash recirculator/water supply not on	• Turn on recirculator/water
• Background turns yellow with age	• Wash recirculator's water exhausted	• Change wash more frequently
• No electrical activity	• Main switch tripped	• Place main switch ON
	• Power plug fell out	• Check power plug receptacle
	• Main fuse blown	• Check/replace fuse
	• House circuit breaker	• Check house circuit breaker
	• Main switch/circuitry	• Check wiring at switch/replace
	• Power receptacle out of specification	• Check receptacle and wiring.
	• Main board fuse blown	• Replace fuse
	• (Vent. blower only operating)	
• Pumps OK but rollers do not turn	• Rollers will not turn in stand-by	• Check mode
	• Drive pulley slipping	• Check pulley at end of drive shaft and motor
	• Drive gears defective	• Check/replace gears
	• Drive motor wiring circuit open	• Check drive motor wires
	• Drive motor defective	• Check/replace drive motor

	• Control is in night mode	• Put control in standby mode
	• Speed control interface defective	• Check/replace main board
	• An error is present (Sad Smiley)	• Correct the error
• Tank(s) not filling	• Tanks will not fill from container when empty	• Fill tanks partly
	• Replenishment container empty	• Ensure container filled
	• Repl. pump wiring open circuit	• Check pump wires
	• Repl. pump malfunction	• Check/replace pump
		• Check relay on relay board
	• Recirculator pump not pumping	• Pump wiring open circuit
	• Pump assembly defective	• Check/replace pump
	• A low level condition for more than 40 seconds.	• See tanks not filling
• Heater relay led on; developer/fixer not Heating	• Heater wiring disconnected	• Check heater electrical
	• Heater defective	• Check/replace heater
• Heater relay not working when the processor is turned on.	• No power at receptacle	• See no electrical activity
	• Ambient temperature more than set temperature	• Cool down processor environment
	• Chemistry at set temperature	• No action/reset temperature
	• Temperature probe not working	• Check/replace probe
	• Open circuit	• Check wires
	• Relay board relay defective	• Check/replace relay board
• Material wraps around rollers	• Jumping rollers	• Ensure the transport guides are clicked into place
	• Rollers dirty, sticky	• Clean rollers
	• Contaminated wash water	• Change wash water more frequently
	• Contaminated or weak chemistry	• Change chemistry
	• No/poor water flow	• Check water flow
	• Lead edge need fold	• Fold lead edge
	• Too much silver in fix (> 7 g/l)	• Replace fixer
	• No hardener in fix (pH > 5.5.)	• Add hardener
• Foaming	• Replenishment container empty	• Ensure container filled
	• Developer depleted	• Change developer
	• Fixer depleted	• Change fixer
	• Air in pump	• Check hose connections for air leak
• Fluid leakage	• Cracked hose connection	• Repair hose connection
	• Cracked tank connector	• Check/replace tank connector
	• Hose leaking	• Check hose and hose clamps,

		replace if necessary
	• A bend in drain hose	• Ensure all drain hoses are straight
	• Tank drain clogged	• Unclog drain
	• Drain hose too long	• Cut hose to fit
• Material wraps around dryer rollers	• Jumping rollers	• Ensure the crossover guides are properly seated
	• Dryer entrance roller are dirty, sticky	• Clean rollers
	• Lead edge requires fold	• Fold lead edge
	• No/poor water flow	• Check water flow
• Blowers works, but no heat	• Loose heater terminal connection	• Check heater connections
	• Heater defective	• Check/replace heater
	• Defective heater relay	• Check/replace relay
• Heater works, but no blower	• Loose blower terminal connection	• Check blower connections
	• Blower defective	• Check/replace blower

6.1 General

This section details the general and specific tasks which are to be performed by a trained service engineer for removal and replacement of the processor's components.

Before starting any procedure read the WARNINGS listed below.

a. ***Turn off the main switch and lock by a padlock before starting a procedure.***

b. ***Never allow loose clothing or jewelry to come close to the gear train, media transport area, an electrical connection, or any terminal block.***

c. ***Before starting any procedure that involves working on one of the fluid circulating stations, always drain the system thoroughly.***

6.2 Removal/Replacement Procedures

Below is a list of all the Removal/Replacement Procedures outlined in this section:

PROCEDURE DESCRIPTION
Chemistry Heating Elements
PCBs
Drive Motor
Dryer Fans
Dryer Heating Elements
Fuses
Gearwheel
Pumps/Injectors
Rollers, Gears, Bearings, and Transport Guides
Sensor
Temperature Probe
Water Valve

Remove wires, 14 MG nuts and gaskets

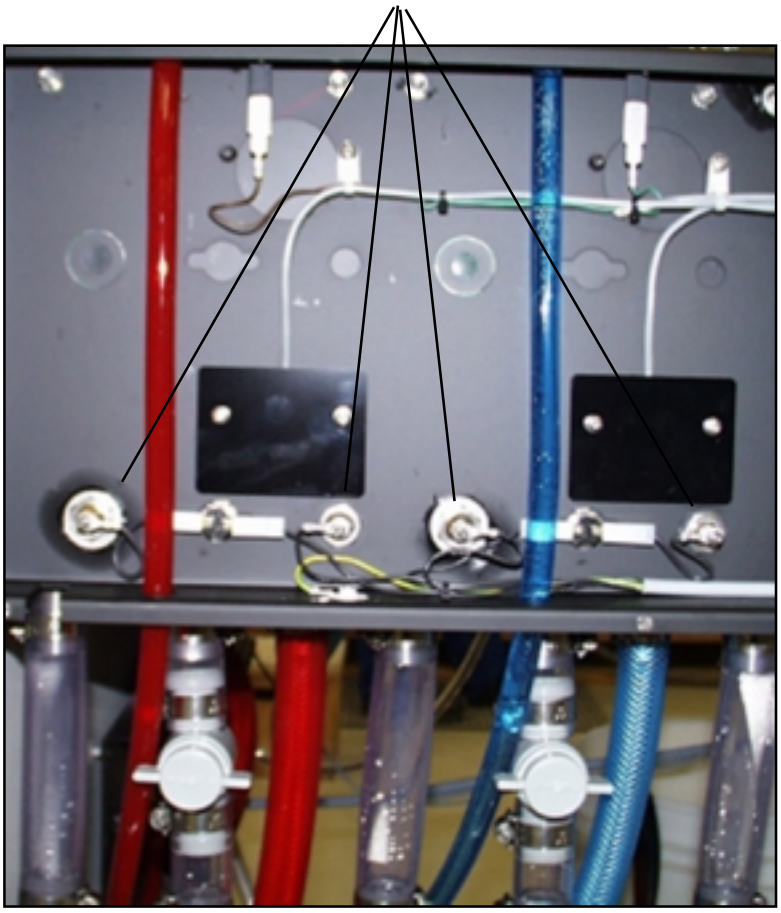


Fig 6-A

6.2.a Chemistry Heating Elements Removal/Replacement Procedure

Equipment Required: Small screwdriver, Open end wrench, Tubular wrench # 19

1. ***Turn the main power switch OFF and lock by a padlock.***
2. Drain the chemistry.
3. Remove roller rack in the relevant tank.
4. Remove the cover on the right side of the machine.
5. Disconnect the wires from the heating elements by the two 4 MG nuts.
6. Remove the two 14 MG nuts holding the heating element in the tank. Use a pair of pliers to hold the element on the inner side. Clean the surfaces around the holes in the tank and mount the new element with new gaskets inside the tank. Tighten the 14 MG nuts while holding counter inside the tank.
7. Replace the wires into the terminals and tighten the screws (fig. 6-A). See task 5.
8. Place the cover on the right side again by its 4 screws.

6.2.b PCBs Removal/Replacement Procedure

Equipment Required: Common screwdriver

1. ***Turn the main power switch OFF and lock by a padlock.*** The power cord can be left connected if an electronic adjustment is being performed.

2. Remove the 4 screws on the front of the Interface Box (fig. 6-B).

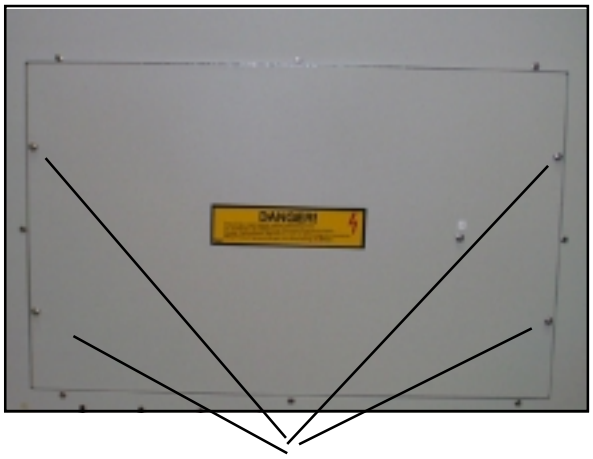


Fig. 6-B. Remove the 4 screws shown.

Fig. 6-c. view of motherboard..

To prevent damage to the PCBs always turn the processor off and wait 15 sec. before pulling out or plugging PCBs or connectors.

3. The PCBs can now be removed or adjusted.

4. Place the front and replace the 4 screws removed in task 2.

6.2.c Drive Motor and Gearwheel in Dry Gear Train Removal/Replacement Procedure

Equipment Required
7 mm wrench
Common screwdriver
A pair of pliers
Side cutting pliers

Fig. 6-D
Gear train and drive motor position in processor.

1. ***Turn the main power switch OFF and lock by a padlock.***

2. Remove the side panel on the left side of the dryer section.

3. Remove the 4 screws holding the plastic cover and remove the cover.

4. Remove the cotter pin holding the gear-wheel to the motor axle and remove the gearwheel.

5. Remove the necessary gearwheels to obtain access to the 3 countersunk screws holding the motor.

6. Unscrew the 3 countersunk screws holding the motor, keep track of the spacers and washers behind the plate between motor and plate.

7. Note the wire locations and disconnect the two electrical connections.

REPLACEMENT MOTOR INSTALLATION

8. Reconnect the two electrical connections to the replacement motor.

9. Place the motor into its mounting bolts. Remember the distance tubes.

10. Place the motor gearwheel onto the motor shaft and mount a new cotter pin.

11. Reassemble the cover to the gear train.

Fig. 6-E
Drive motor

6.2.d Dryer Fans Removal/Replacement Procedure (Horizontal Dryer)

Equipment Required: Common screwdriver
Small common screwdriver

1. ***Turn the main power switch OFF and lock by a padlock.***

2. Get access to both sides of the involved EG blower by lifting off the upper EG blower or removing the dryer rack with the EG blower.

3. Remove the 6 screws holding the blower to the chassis.

4. Note the wire positions and unscrew the three blower wires from the terminal block, disconnect the yellow/green ground wire.

5. Remove and replace the blower, make sure to install the new blower with correct flow direction.

6. Remount the 4 screws.

7. Mount the three wires in the correct position of the terminal block. Remove the paint where the yellow/green ground wire is mounted and secure the wire with its screw.

8. Reinstall dryer rack and blower channel.

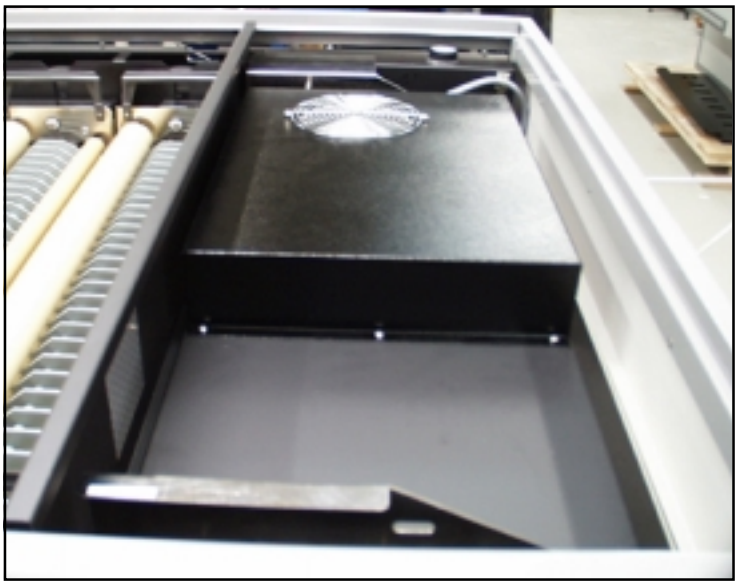


Fig. 6-F

6.2.e Dryer Heating Elements Removal/Replacement Procedure (Horizontal)

Equipment Required: Common screwdriver, Small common screwdriver

1. ***Turn the main power switch OFF and lock by a padlock.***
2. Get access to both sides of the involved EG blower by lifting off the upper EG blower or removing the dryer rack with the blower.
3. Remove the 4 screws holding the heating element.
4. Note the wire positions and disconnect the two / three wires from the heating element and unscrew the yellow/green ground wire.
5. Replace it with the new heating element.
6. Reconnect the wires and the yellow/green ground wire.
7. Reinstall dryer rack and blower.

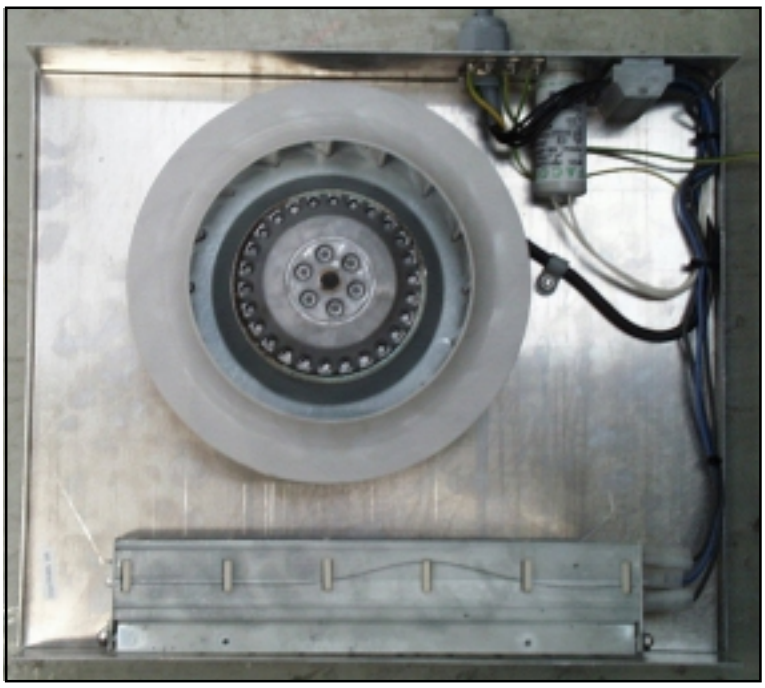


Fig. 6-G

6.2.f Fuse Removal/Replacement Procedure

The processor has a total of three fuses:

One-pole main circuit breaker
Interface power fuse - Internal
2 Interface box fuses - Internal

When a fuse has failed, replace it with one of the same type, size and rating. If the replacement fuse fails, immediately remove power from the system by turning off the main switch and contact a qualified service representative to inspect the system.

1. ***Turn the main power switch OFF and lock by a padlock.***
2. The interface box is situated above the receive basket.
3. Remove the interface box cover and replace the blown fuse or switch in the main circuit breaker again.
4. Replace the interface box cover.

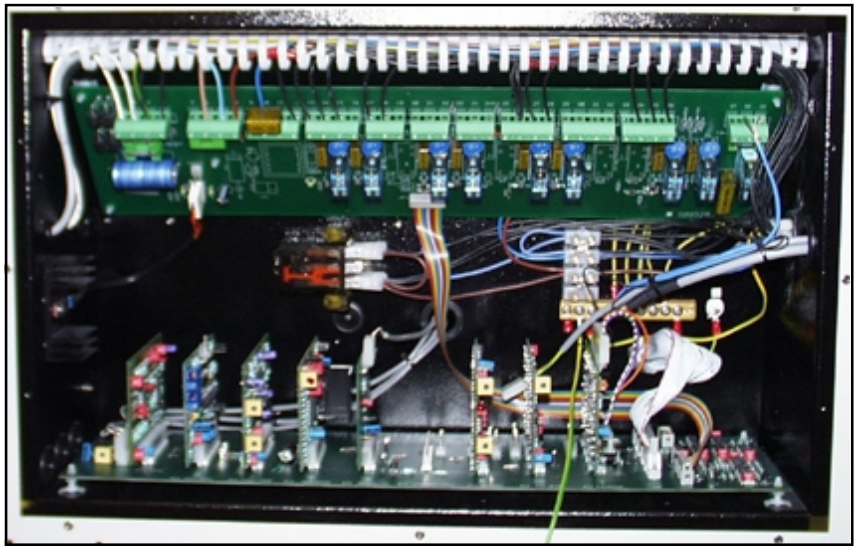


Fig 6-H

6.2.g Gearwheel Removal/Replacement

1. ***Turn the main power switch OFF and lock by a padlock.***

2. Remove the 4 screws holding plastic cover and the cover on the front side of the gear train.

3. The gearwheels can now be replaced.

4. The cover and screws are replaced and tightened.

Fig. 6-I

6.2.h Pump Removal/Replacement Procedure

Equipment required	7 mm box screwdriver (wrench) Common screwdriver Pliers Screw clamp for squeezing hose

1. ***Turn the main power switch OFF and lock by a padlock.***

2. Drain the tank associated with the pump to be replaced. The chemistry remaining in the tubes and the pump housing may be removed by carefully blowing compressed air into the suction studs in the tank. Be careful not to blow too hard - or chemistry drops will splash all over.
   Instead of draining the tank both tubes to the pump may be closed by squeezing the tubes with a screw clamp 20 cm from the pump - in this case be ready to collect chemistry draining out when the tubes are removed from the pump.

3. Remove the hose clamps from the tubes on the pump and remove the tubes, be ready to collect chemistry draining out from the tubes.

4. Disconnect the electrical wires.

5. Remove the 4 pc 4MG set screws holding the pump.

6. Reinstallation goes in reverse order.

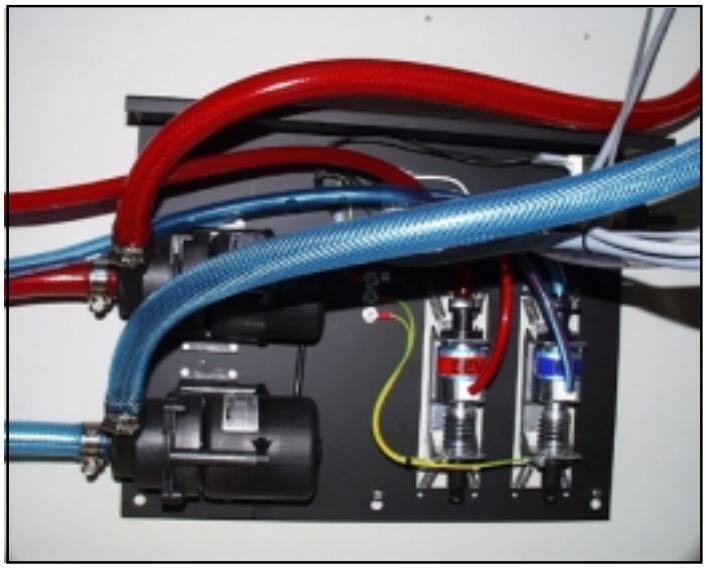


Fig. 6-J

6.2.i Rollers, Gears, Bearings and Transport Guides Removal/Replacement Procedure

Equipment Required	Common screwdriver Side cutting pliers Pliers

1. ***Turn the main power switch OFF and lock by a padlock.***

2. Lift the rack to be repaired out of the processor and place it in a tray or a sink.

It is recommended to flush developer and fixer racks with water before any major work to protect against skin irritation and tools rusting.

3. **Removing Rack Main Gearwheels**
   The main gearwheels are retained on the studs on the rack side with a plastic lock washer, which can be lifted off with a screwdriver or a small pair of pliers. The number and position of distance washers should carefully be noted. When the gearwheel is reinstalled it is recommended to use a new lock washer.

4. **Removing Rollers**
   The stainless steell lock washers on each end should be cut off with side cutting pliers. In the dryer rack nylon lock washers are used. Now with most of the rollers they can be pushed to the end with the D-axle, and the other end can be lifted out from the rack.

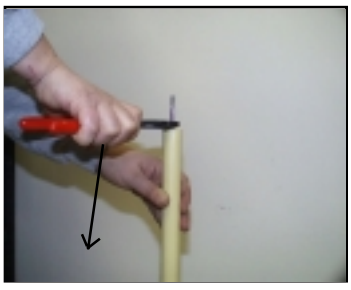


Fig. 6-K

5. With a few of the rollers which have two long axles, it is necessary to remove one of the axles from the rollers to remove the rollers.

6. The axles can be pulled out from the roller by gripping the axles with a side cutting pliers, resting the jaws against the end of the roller. Now the axle can be worked out. Take care not to damage the part of the axle running in the bearing.

7. The bearings are pushed into the rack sides and can only be exchanged when the rollers have been removed. When a rack is being serviced all bearings with more than 1 mm play should be replaced.

8. The axles are tapped into the end of the rollers with a hammer, normally so far that the knurling just disappears. The axial play of the gearwheels on the roller should be closely examined. It may be necessary to tap some of the axles further in to secure correct mesh of gearwheels and prevent collision.

9. When the rollers are remounted be careful to install the correct washers, pulleys, and springs, if any. Lock the gears with new lock washers.

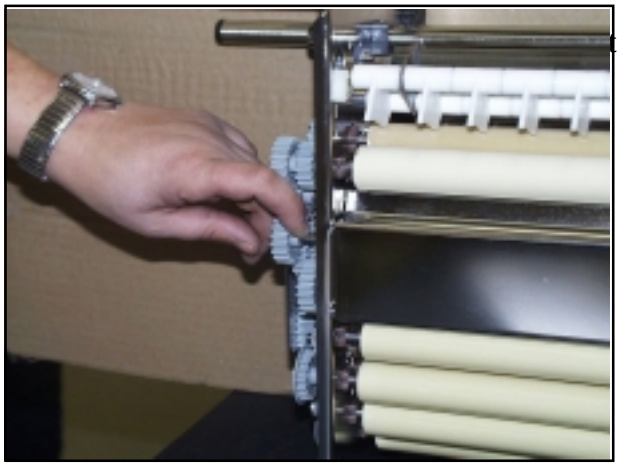


Fig. 6-L

6.2.j Feed Sensor Removal/Replacement Procedure

Equipment Required
- Common screwdriver
- Small screwdriver
- Side cutting pliers
- Cable straps

1. ***Turn the main power switch OFF and lock by a padlock.***

2. Remove the top cover.

3. Disconnect the cable from the sensor.

4. Exchange now the sensors.

5. Plug the cable into the new sensor,. Remember the small tube must bee around the connection.

Fig, 6-M

6.2.k Temperature Probe Removal/Replacement Procedure

quipment Required
Common screwdriver
Small screwdriver
13 open end wrench

1. ***Turn the main power switch OFF and lock by a padlock.***

2. Remove the 4 (four) screws holding the cover over the interface box. (Fig. 6-N).

4. Unplug the sensor plug (jp 9 or 10) from the mother board.

5. Dismount the side cover on the right, the plastic cover and the small covers holding the temp. sensor

6. Remove the old sensor cable.

7. Reinstallation goes in reverse order.

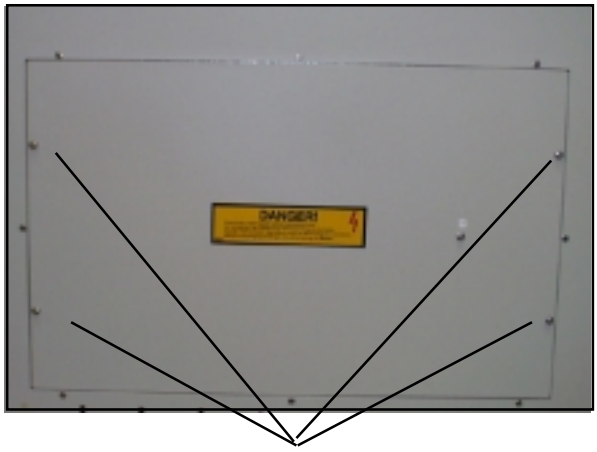


Fig. 6-N *Remove screws*

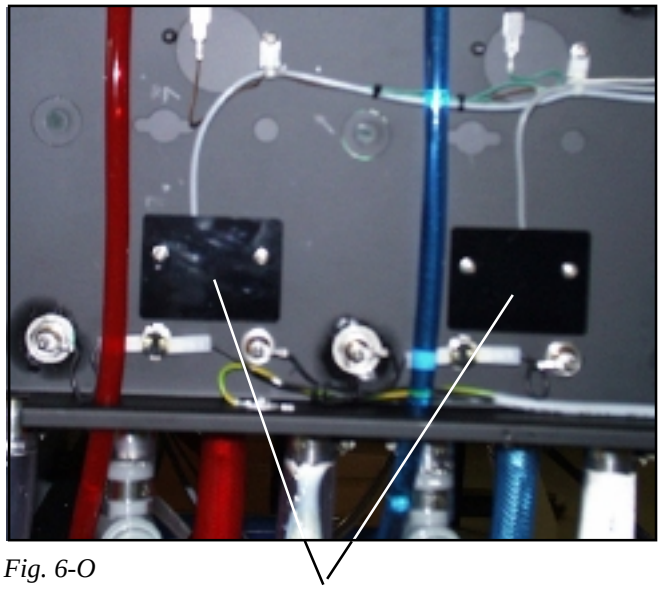


Fig. 6-O

Temp. sensor cover

6.2.l Water Valve Removal/Replacement Procedure

quipment Required

Common screwdriver
Adjustable wrench
Small pipe wrench
Universal pliers

1. ***Turn the main power switch OFF and lock by a padlock.***

2. Turn off the water supply and disconnect the water supply hose from the solenoid valve.

3. Unscrew the housing for the solenoid valve from the pump support under the wash tank.

4. Pull off the electrical connections from the solenoid valve, disconnect the hose from the solenoid valve inside the machine and remove the two 4 MG screws that holds the solenoid valve.

5. Mount the new valve its position by its two 4 MG screws and push on the electrical connection.

6. Reinstall the two hoses.
   The hose clamp on the internal tube must be retightened a week later.

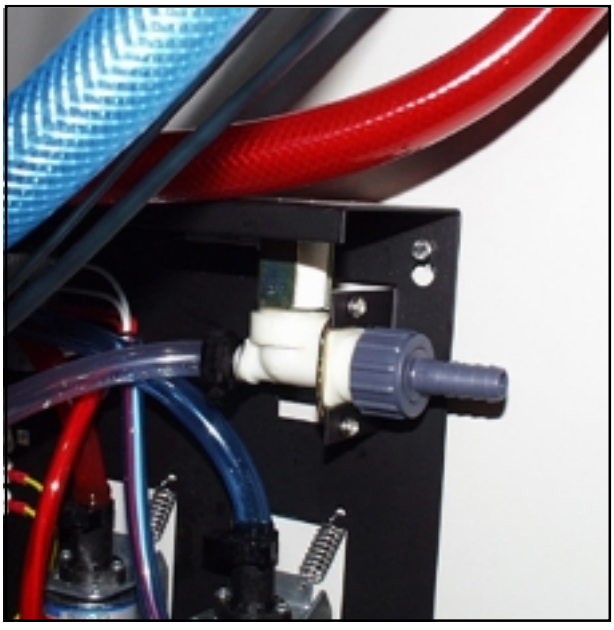
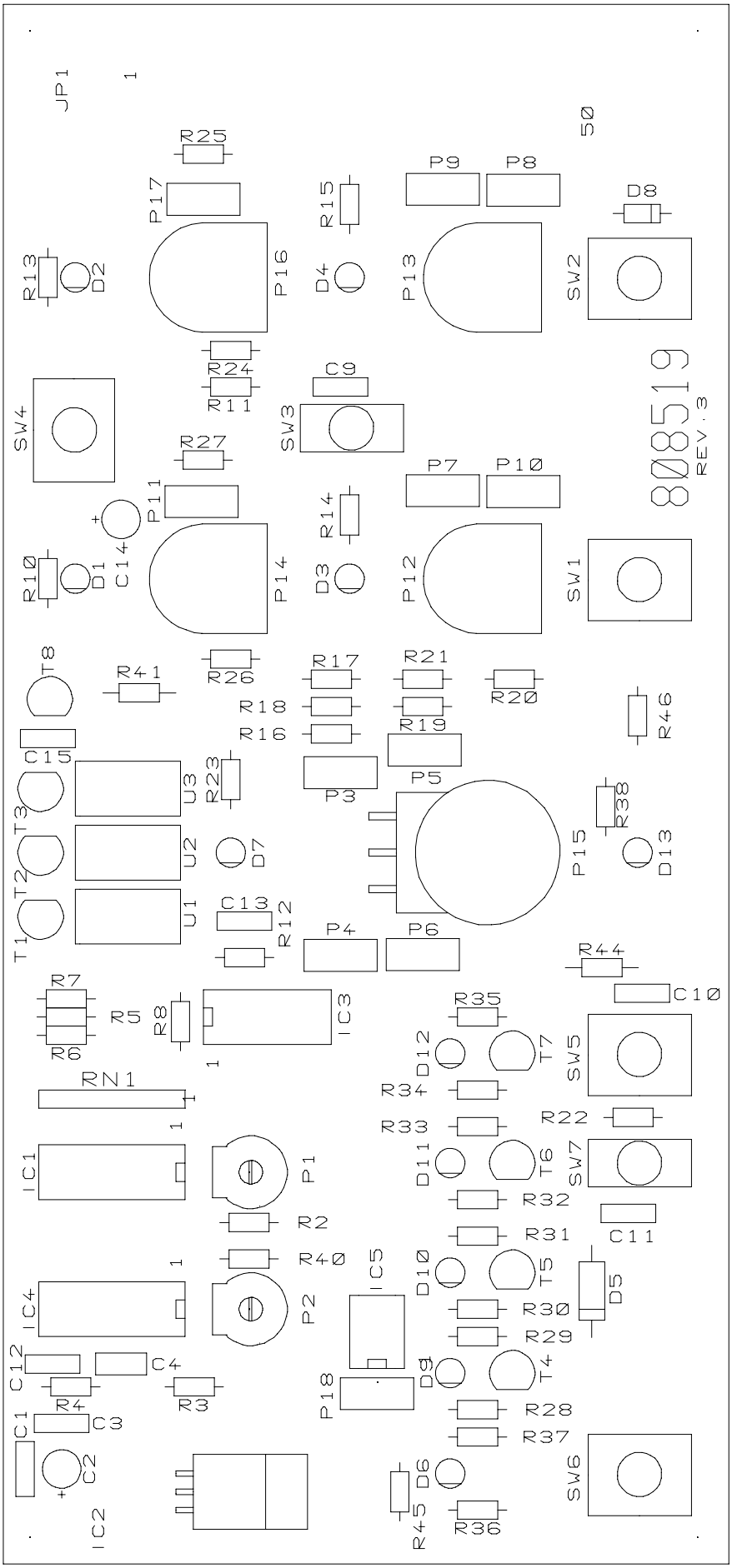
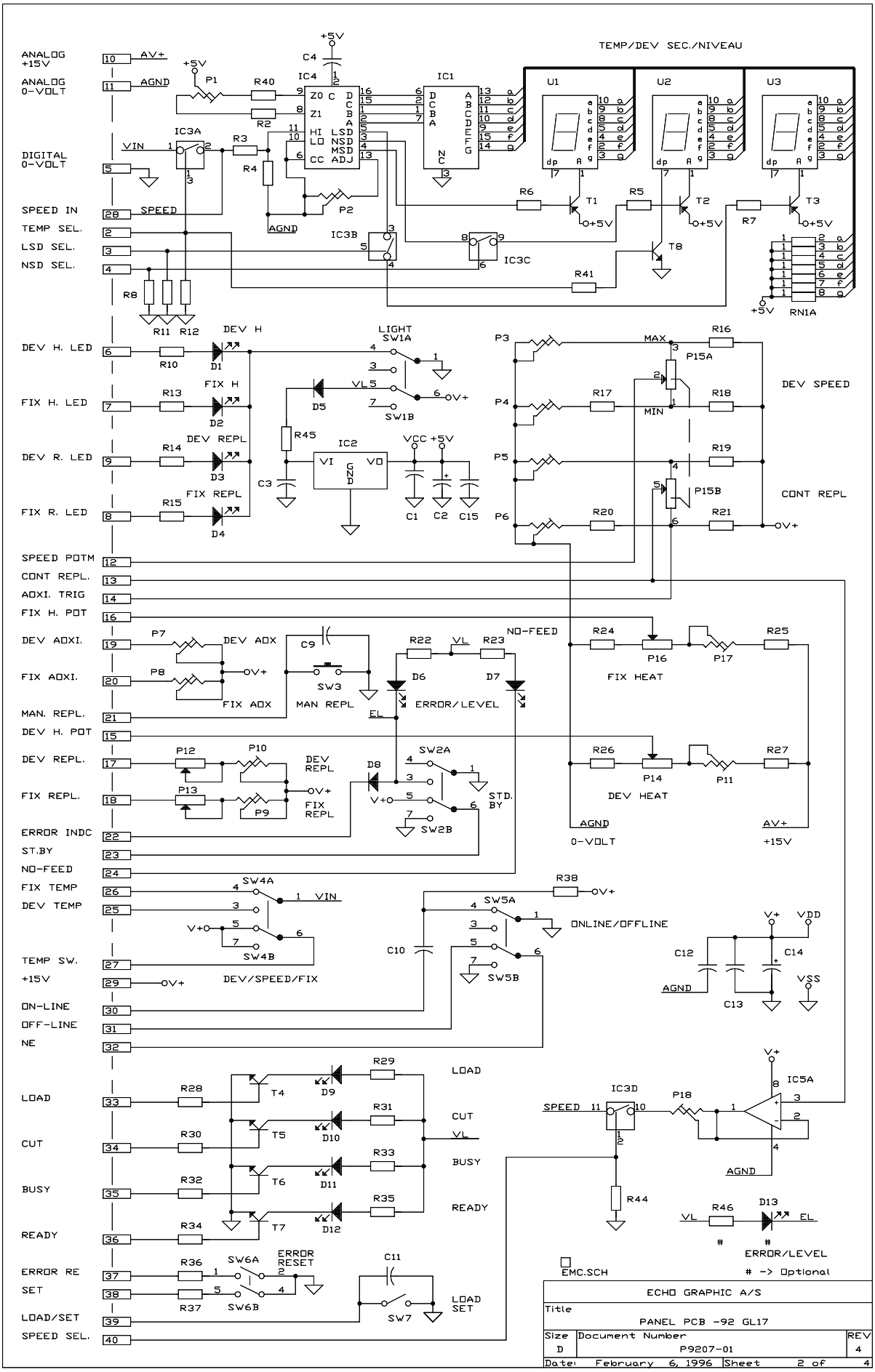


Fig. 6-P

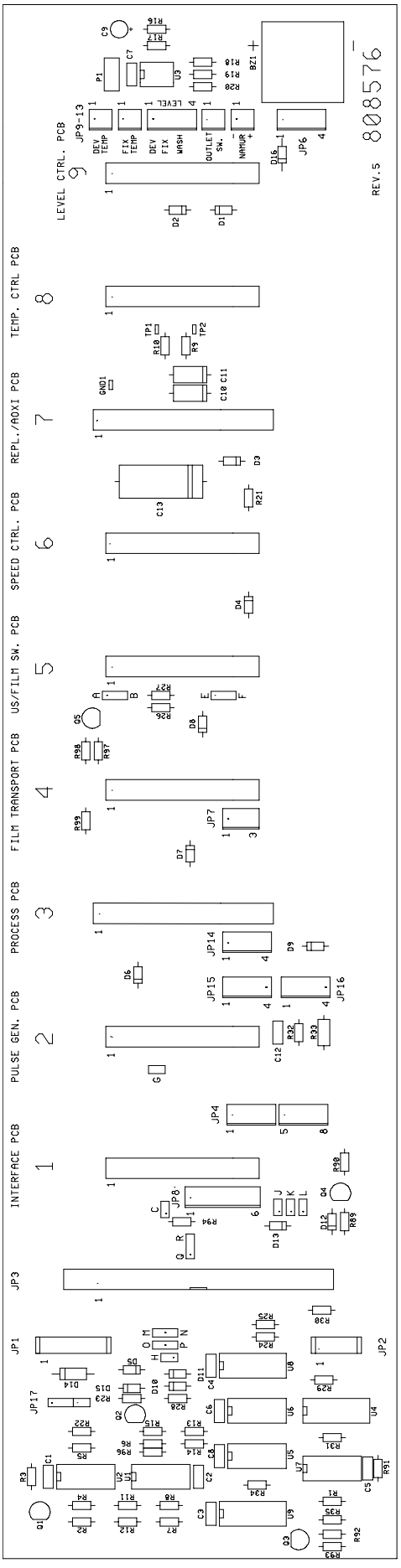
7.1 Table of Contents

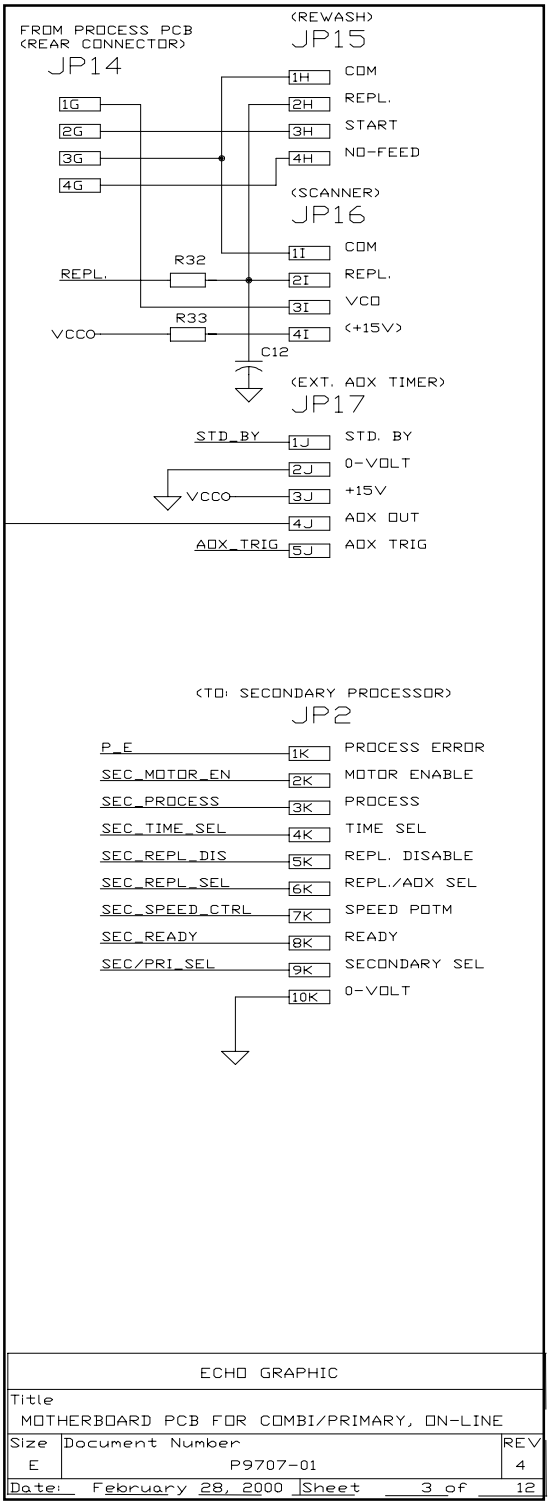


Panel PCB, Location

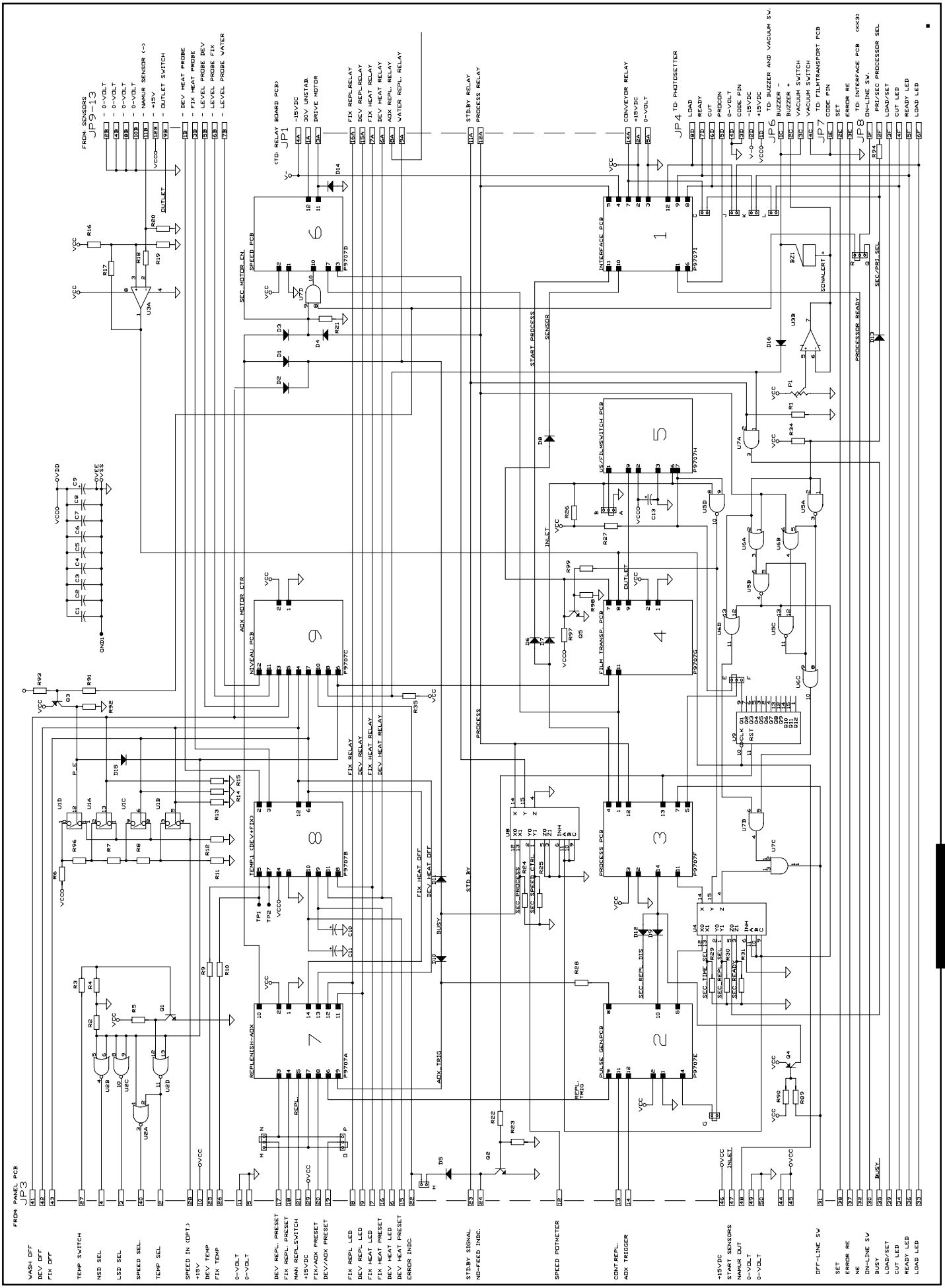


Panel PCB, Drawing

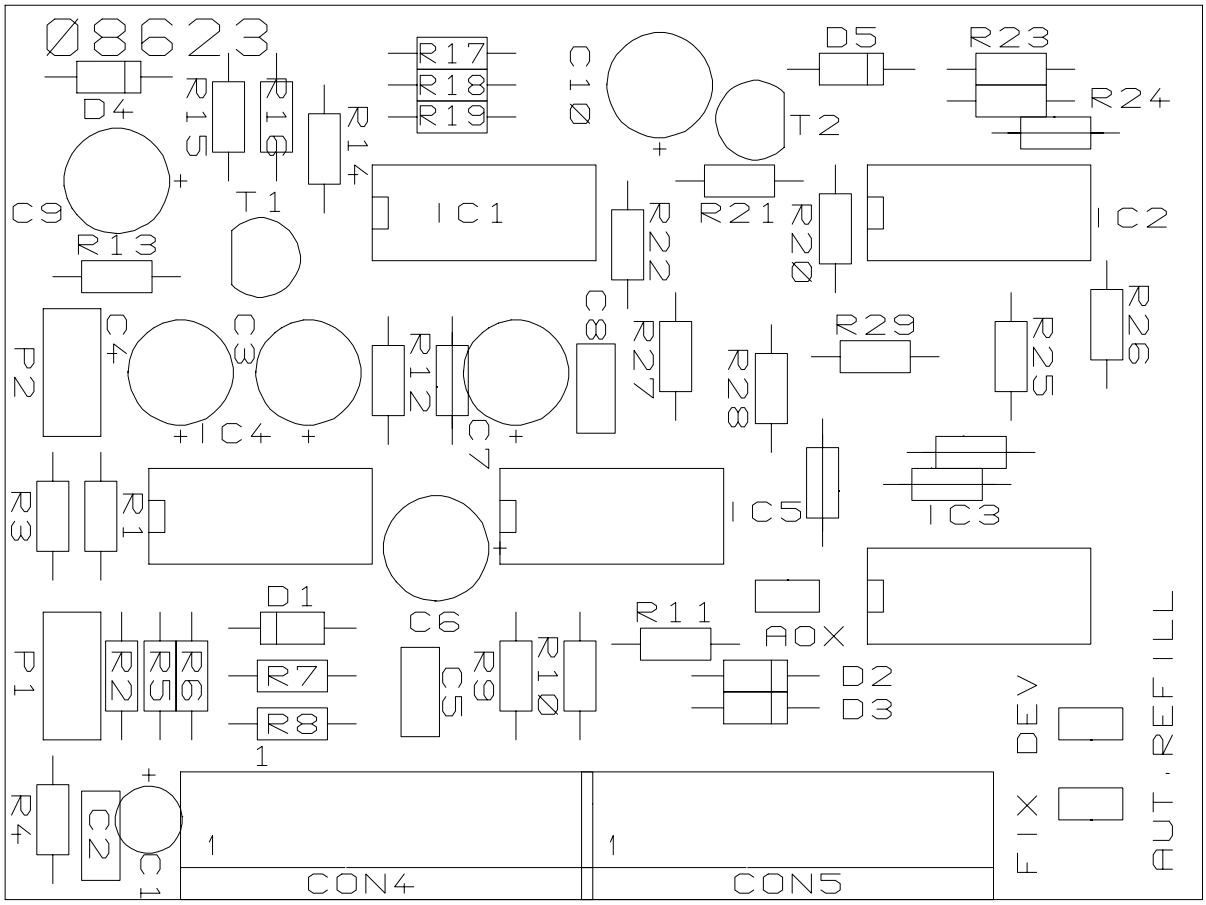




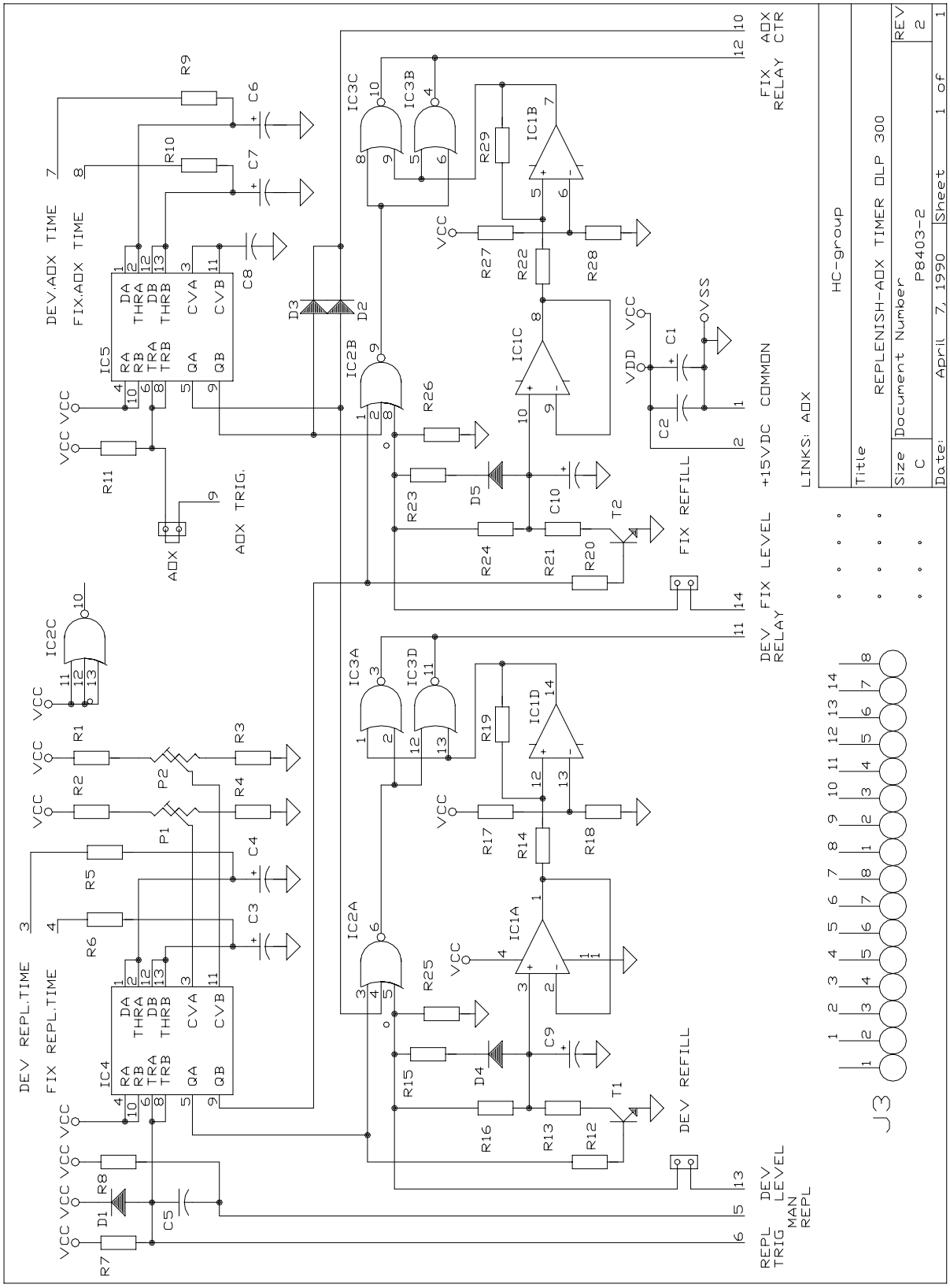
Motherboard PCB, Location P9707



P9707-01 EG 750E

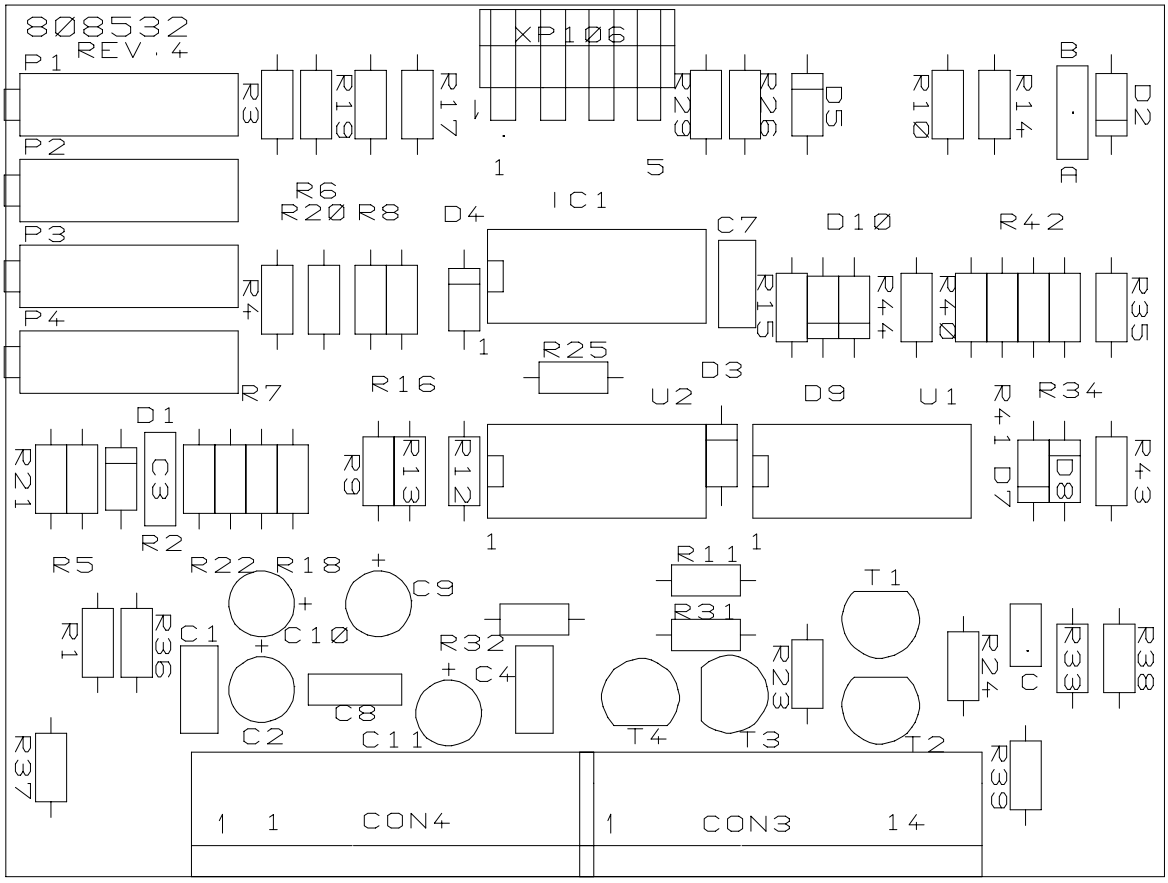


Replenish/AOX Timer PCB, Location and Block

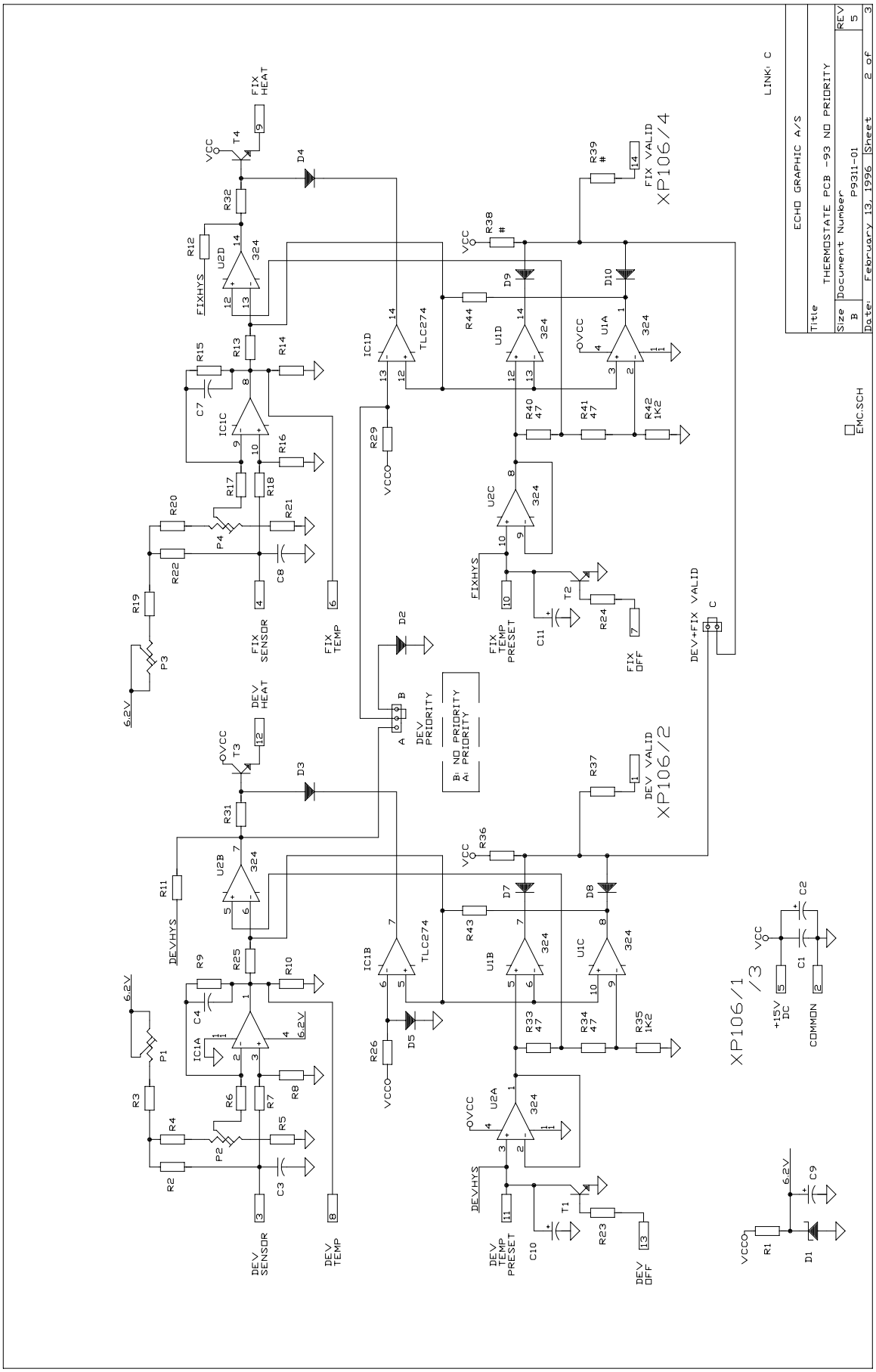


Replenish/AOX Timer PCB, Diagram

SECTION 7

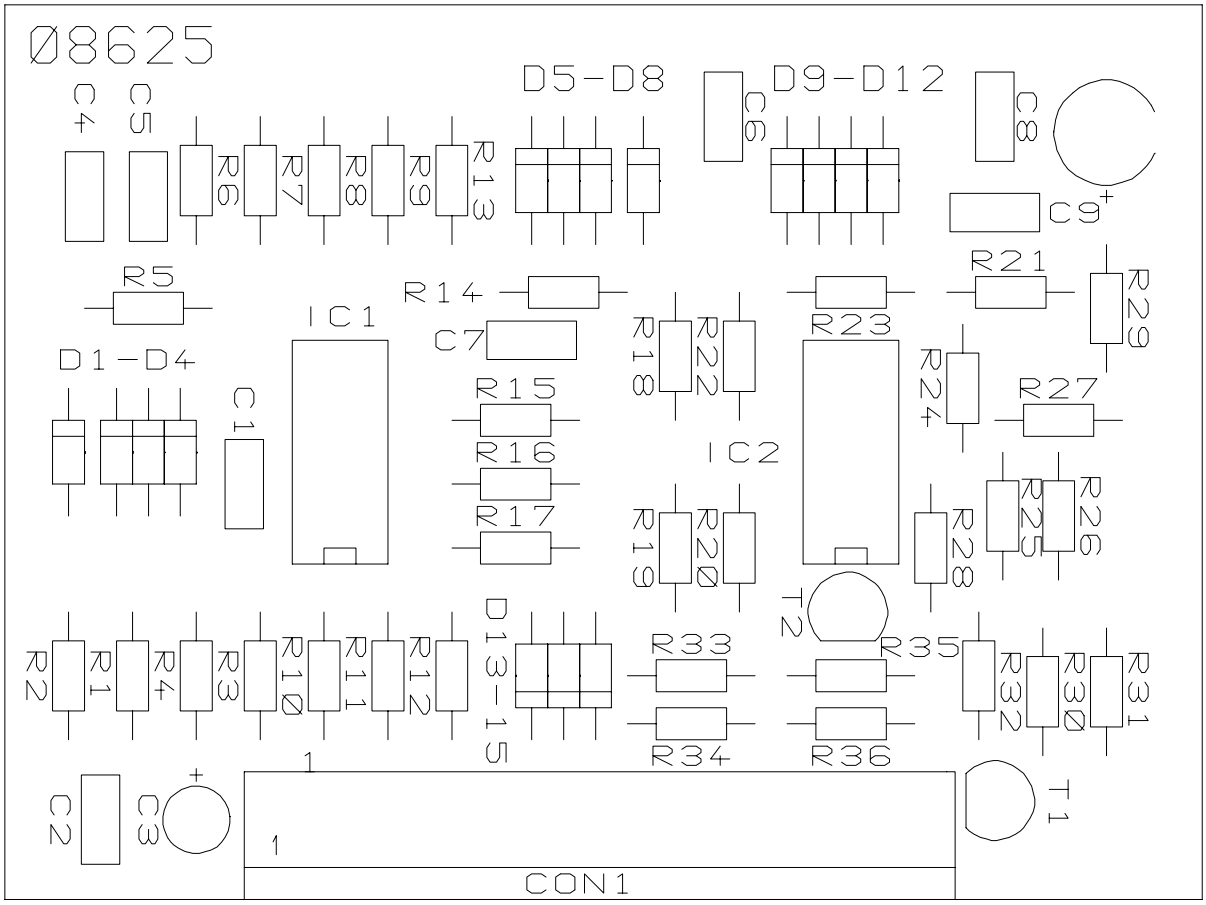


Temperature PCB, Location and Block

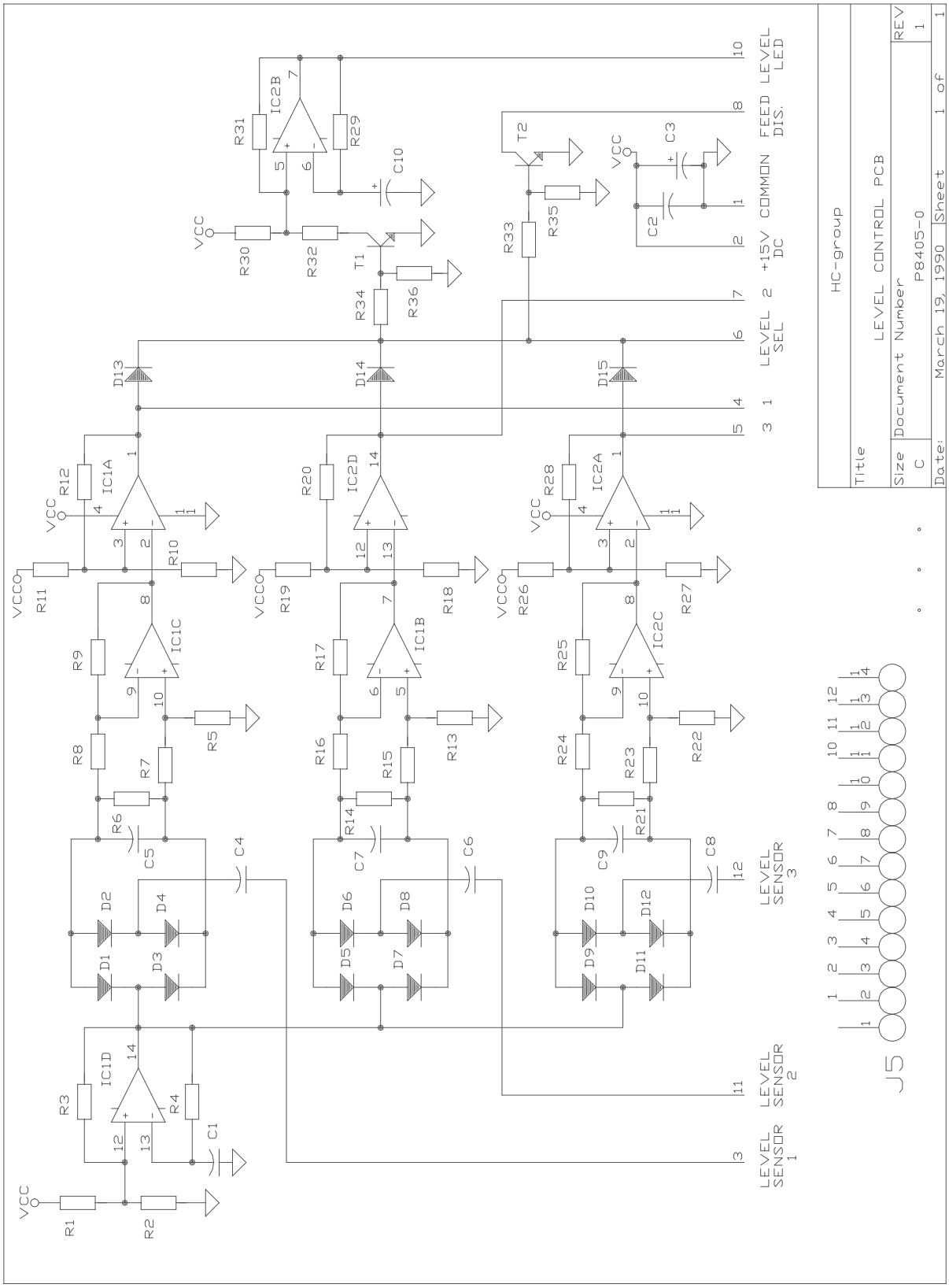


Temperature PCB, Diagram

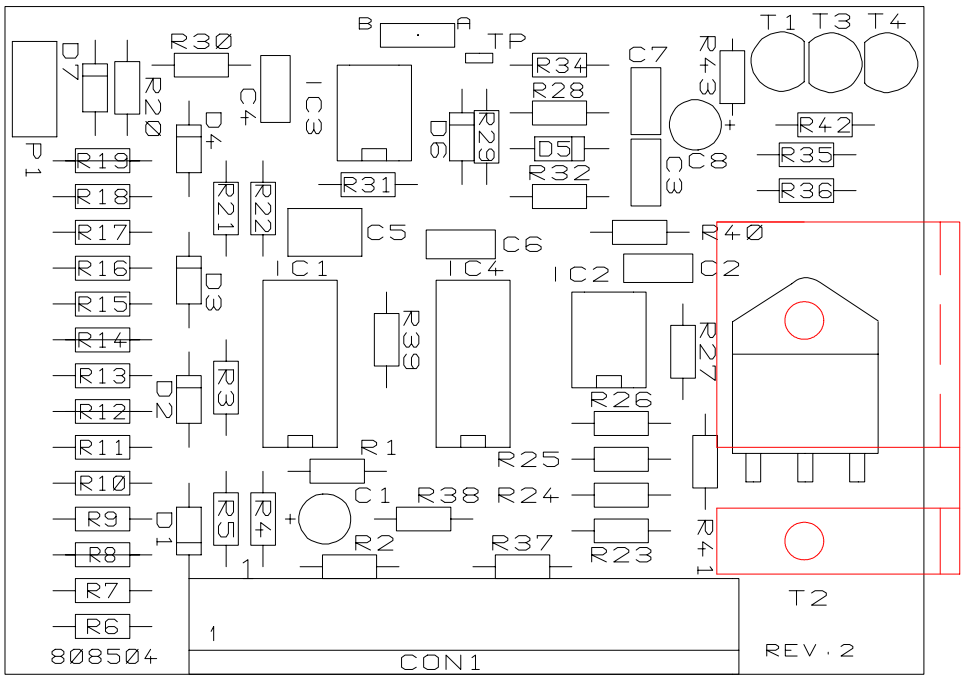
SECTION 7



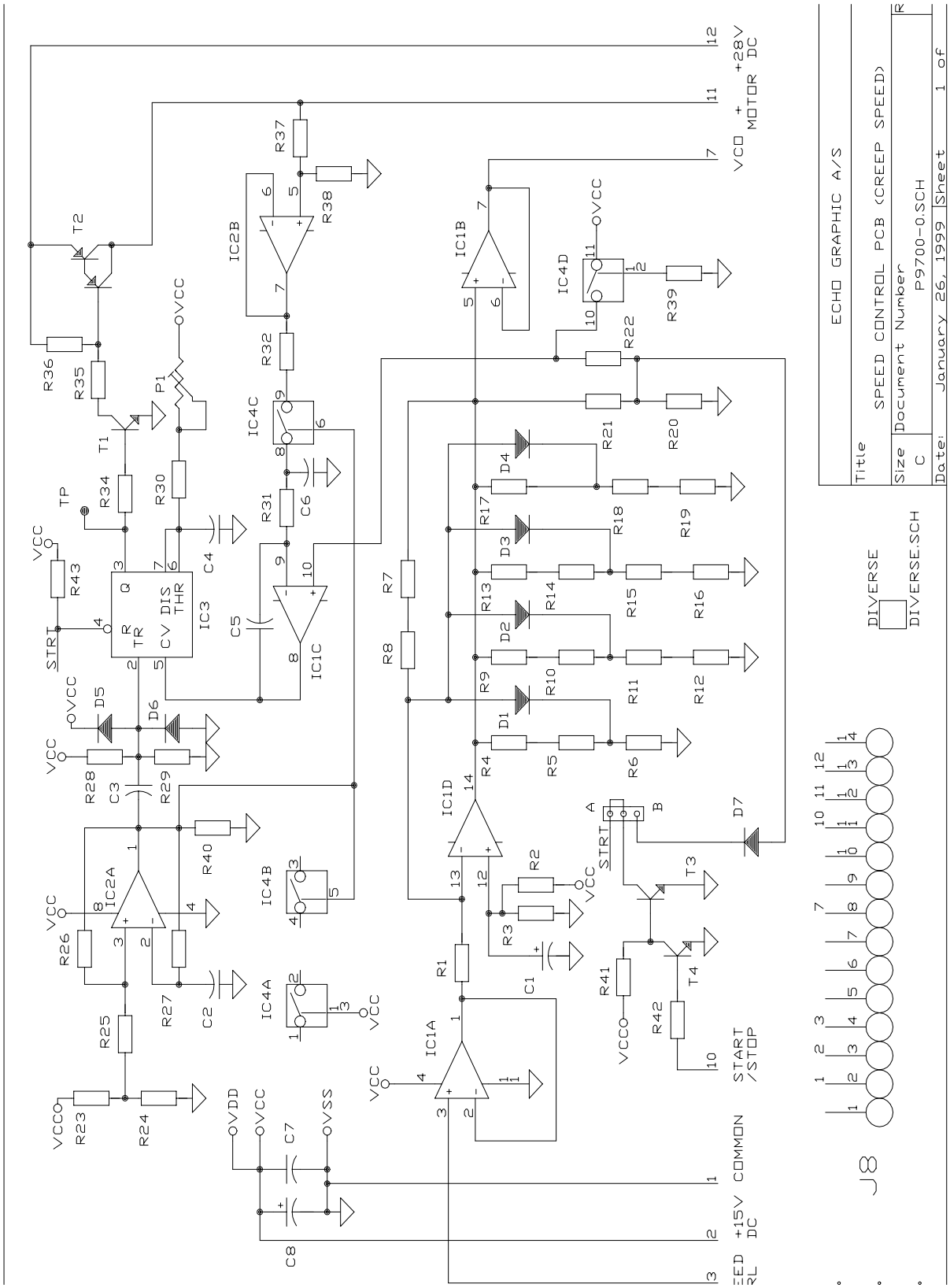
Level PCB, Location and Block



Level PCB, Diagram

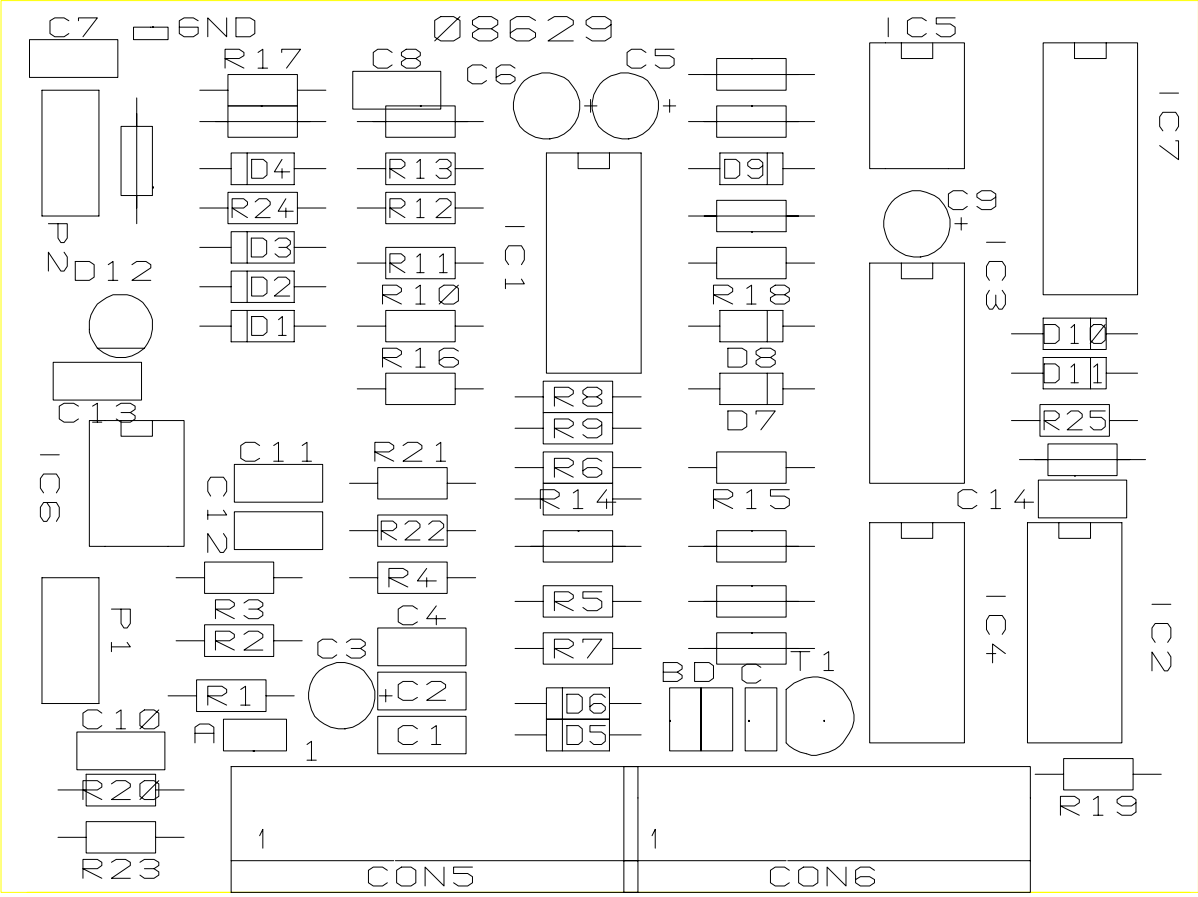


Speed Control PCB, Location and Block

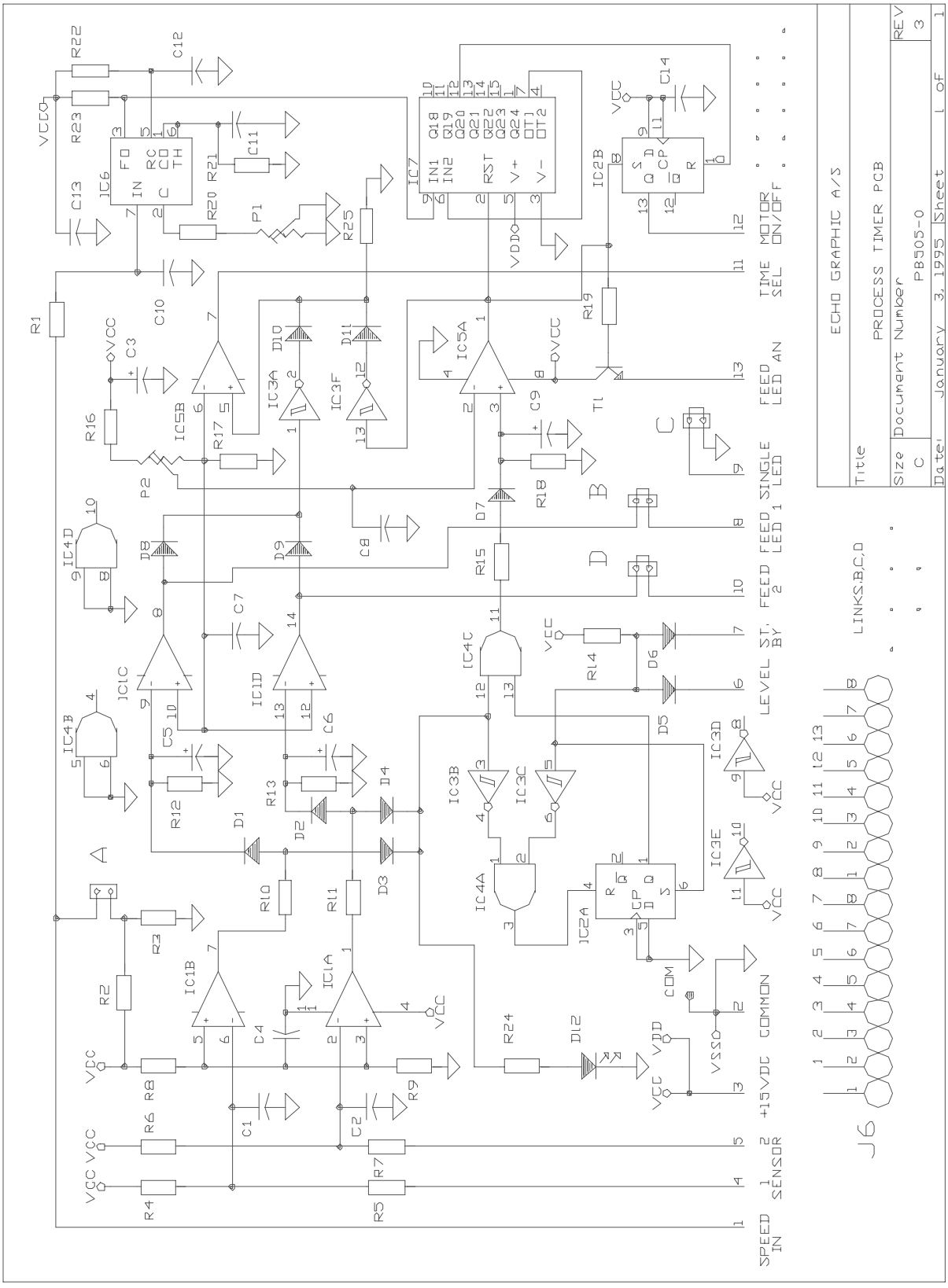


Speed Control PCB, Diagram

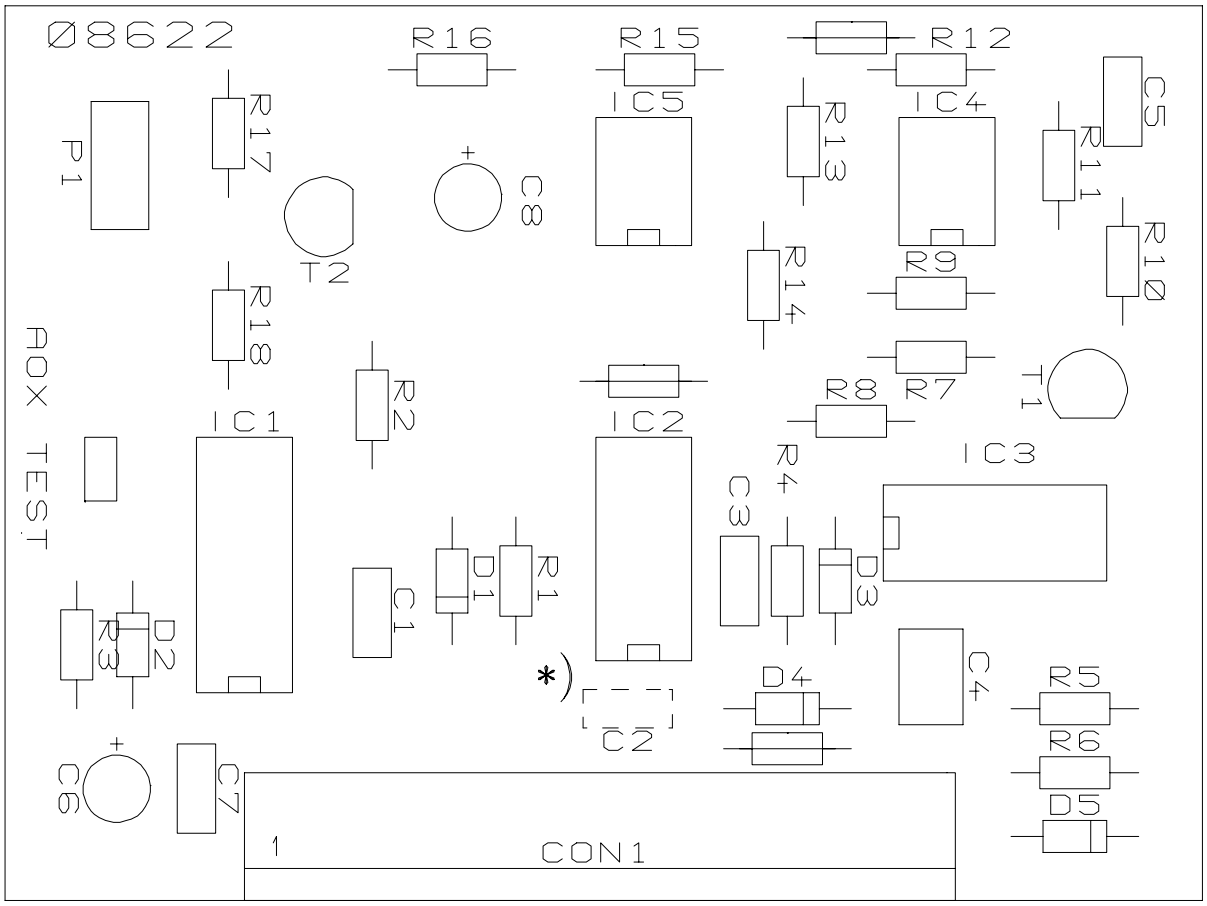
SECTION 7



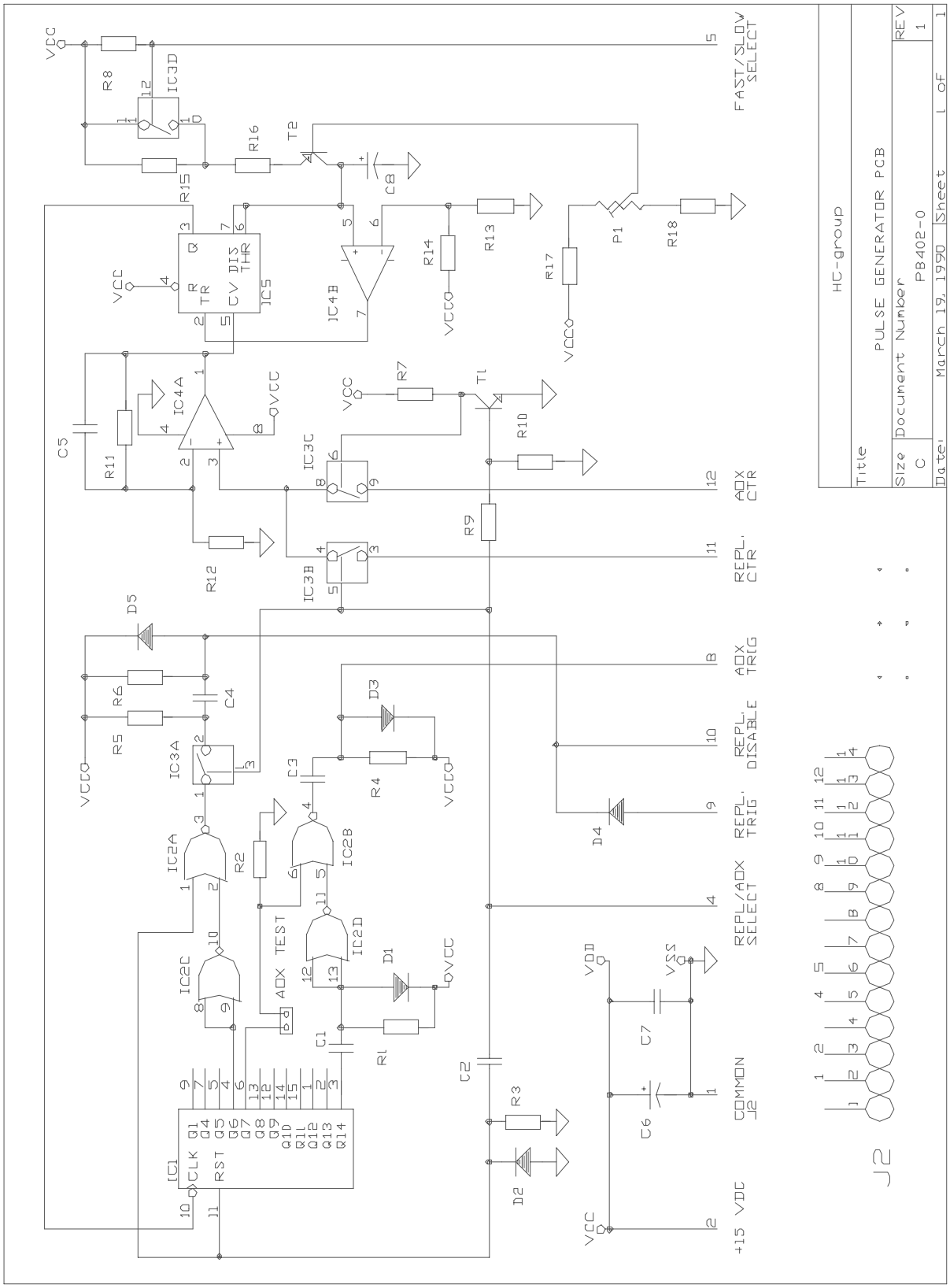
Process/No-Feed PCB, Location and Block



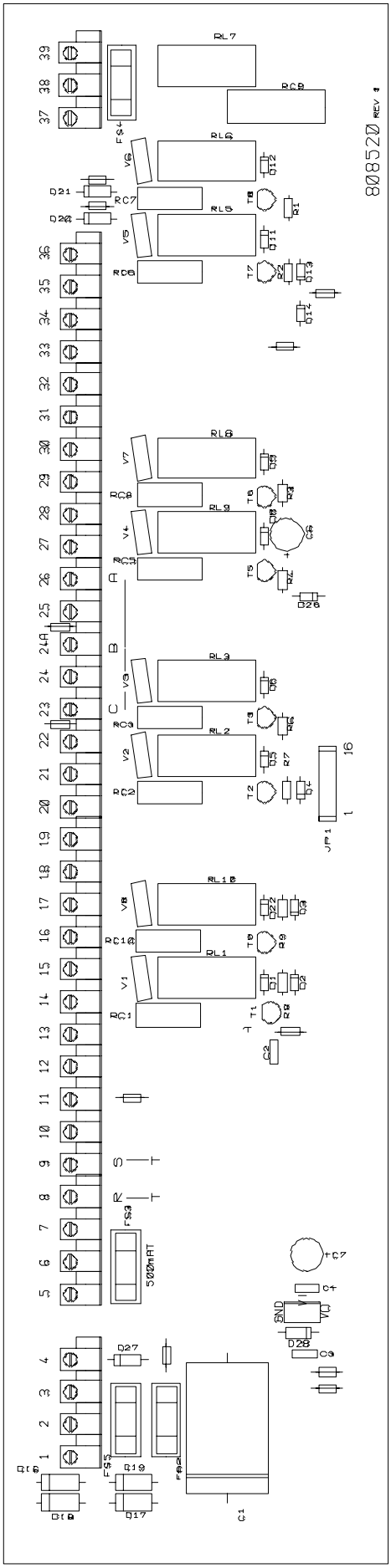
Process/No-Feed PCB, Diagram



Pulse Generator PCB, Location and Block

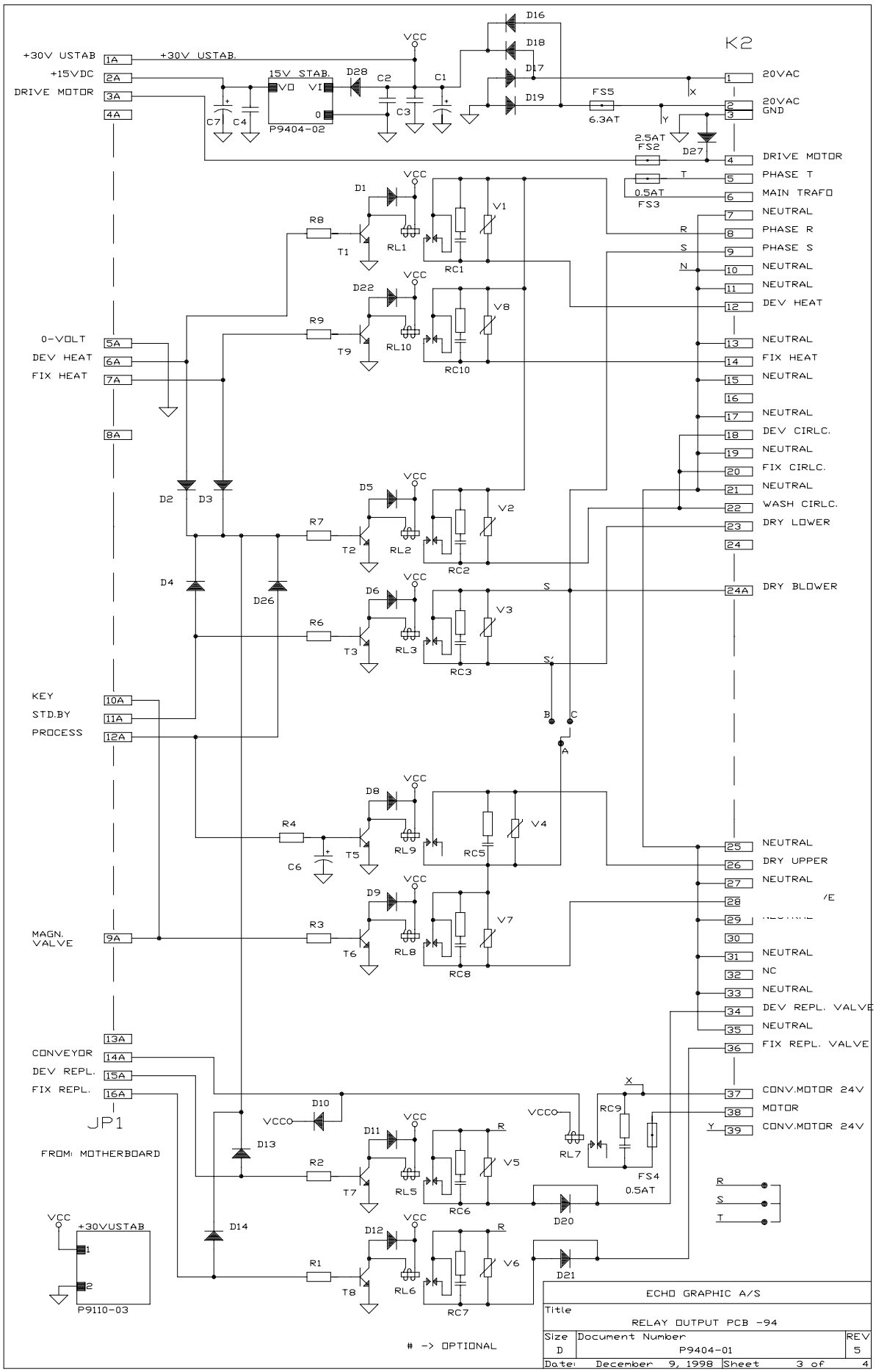


Pulse Generator PCB, Diagram

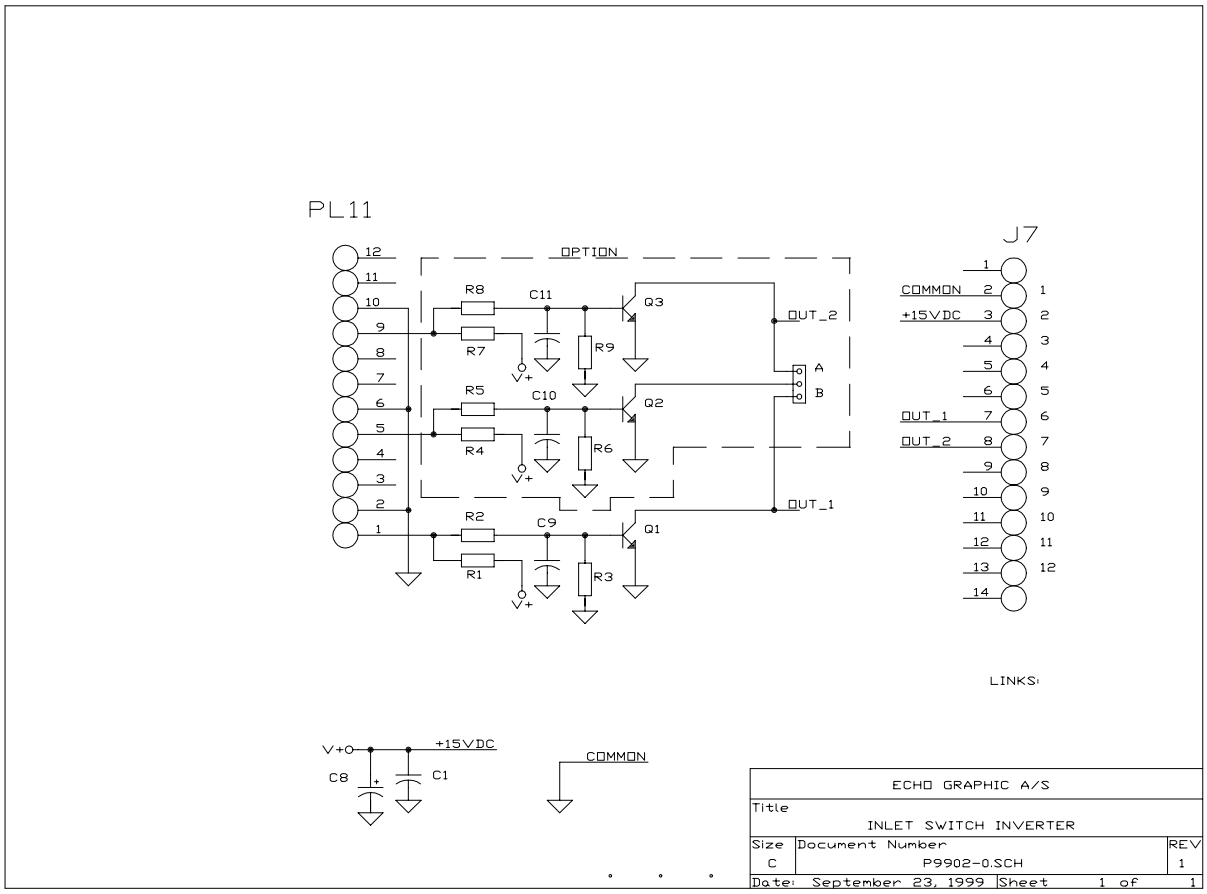


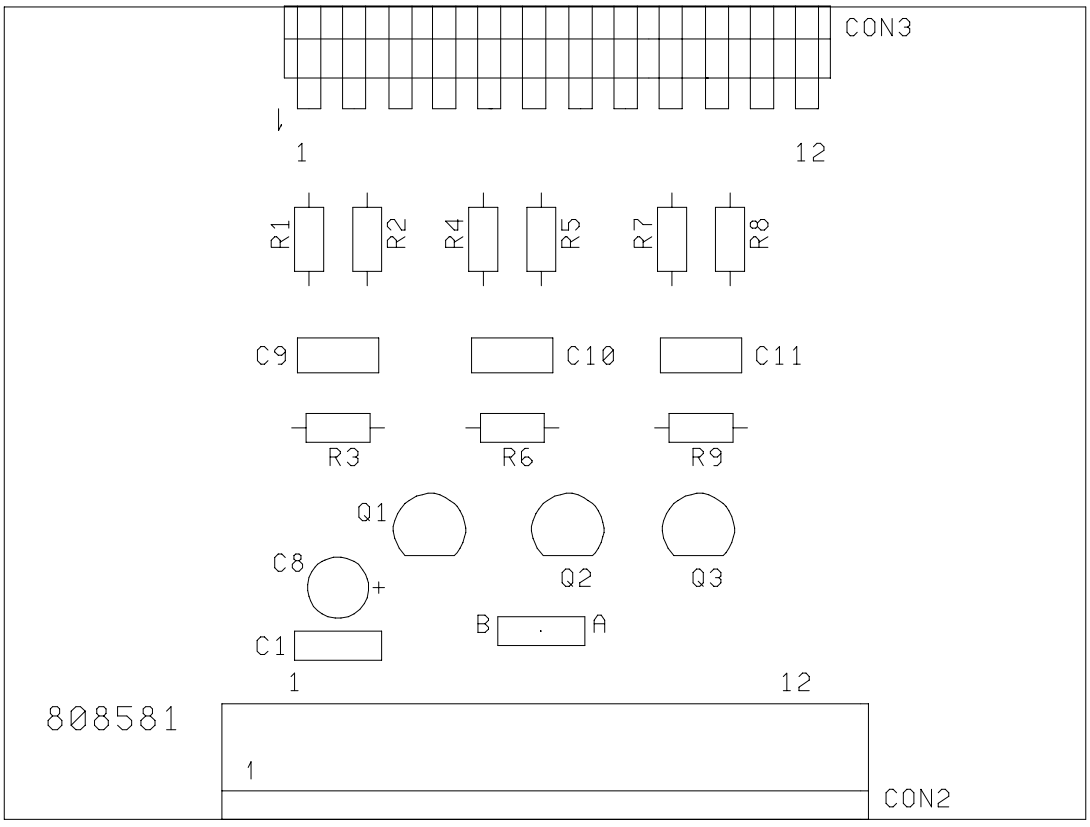
Relay PCB, Location

SECTION 7

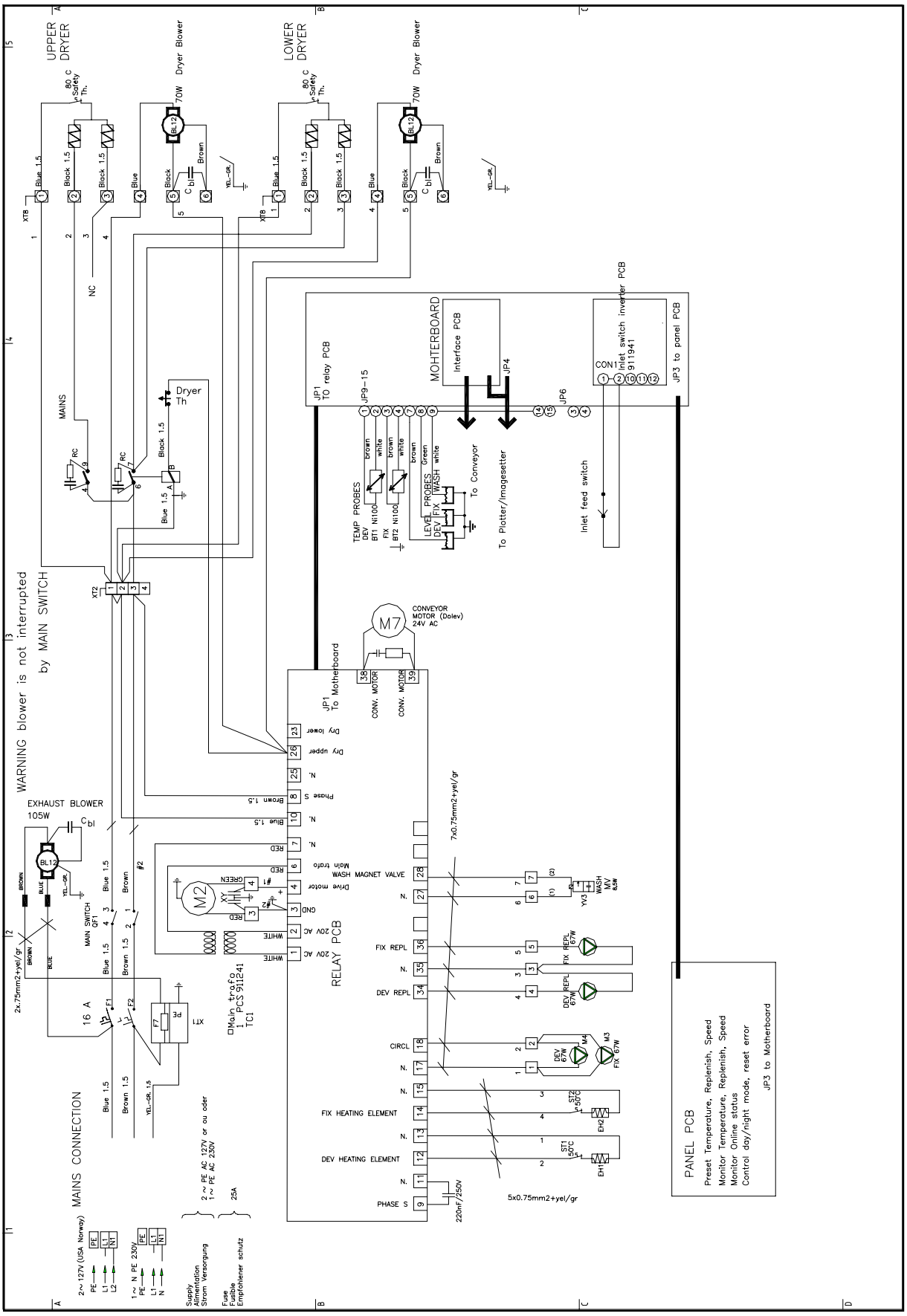


Relay PCB, Drawing P9404-01

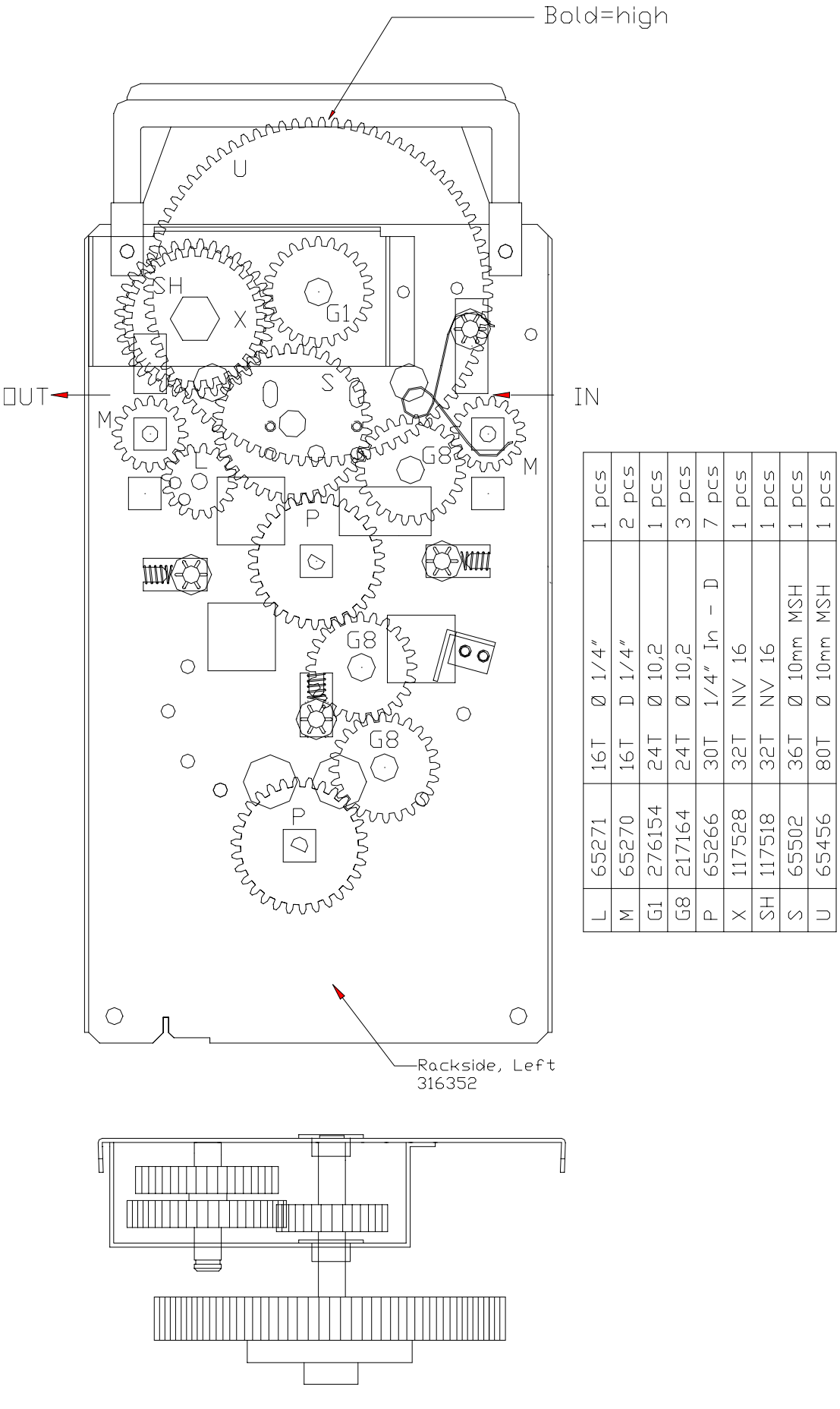




Inlet switch PCB



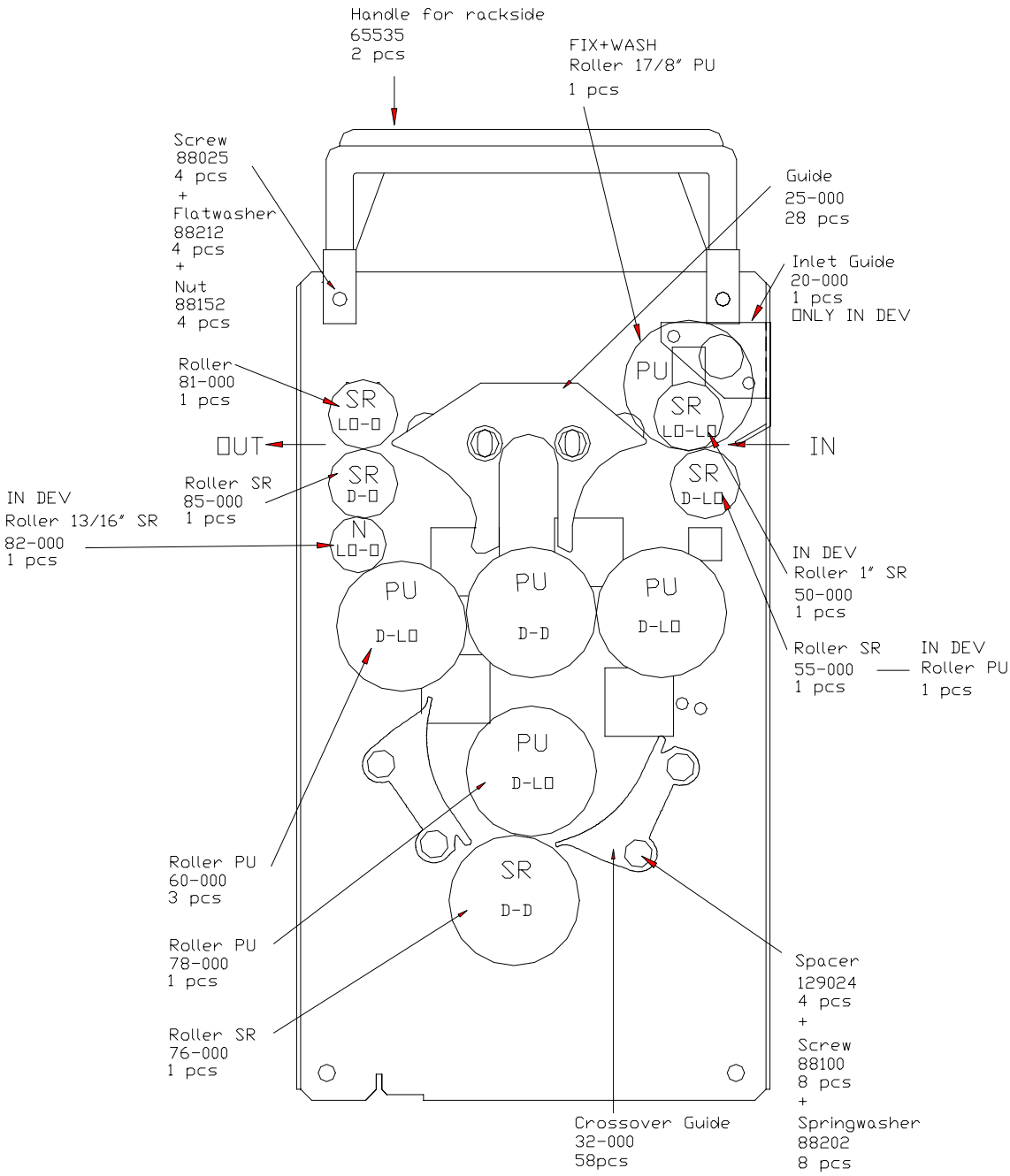
Interconnection diagram, Drawing 6315



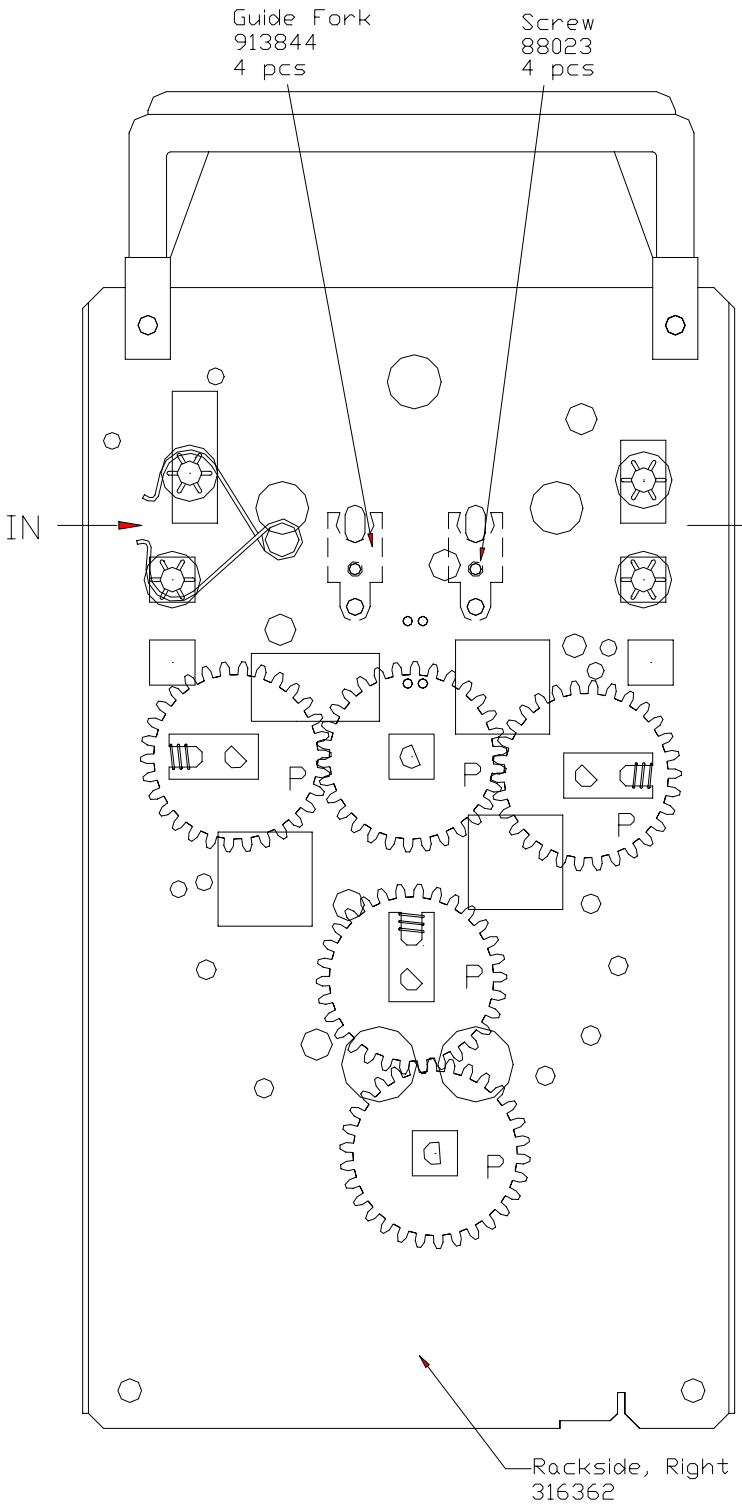
L	65271	16T Ø 1/4"	1 pcs
M	65270	16T D 1/4"	2 pcs
G1	276154	24T Ø 10,2	1 pcs
G8	217164	24T Ø 10,2	3 pcs
P	65266	30T 1/4" In - D	7 pcs
X	117528	32T NV 16	1 pcs
SH	117518	32T NV 16	1 pcs
S	65502	36T Ø 10mm MSH	1 pcs
U	65456	80T Ø 10mm MSH	1 pcs

SECTION 7

R2 Gearwhell Position Left Side, Drawing 316489a

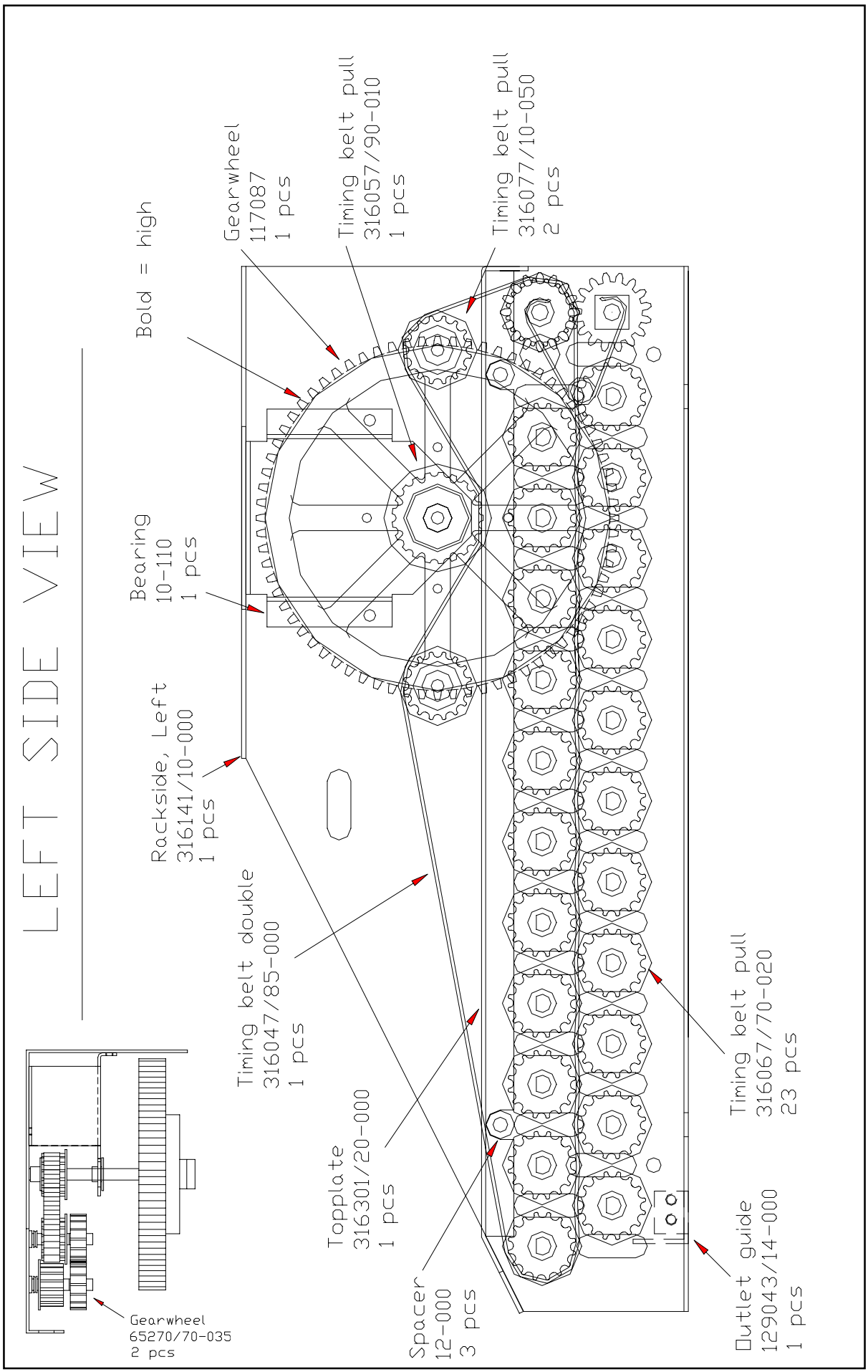


R2 Roller Position right, Drawing 316489b

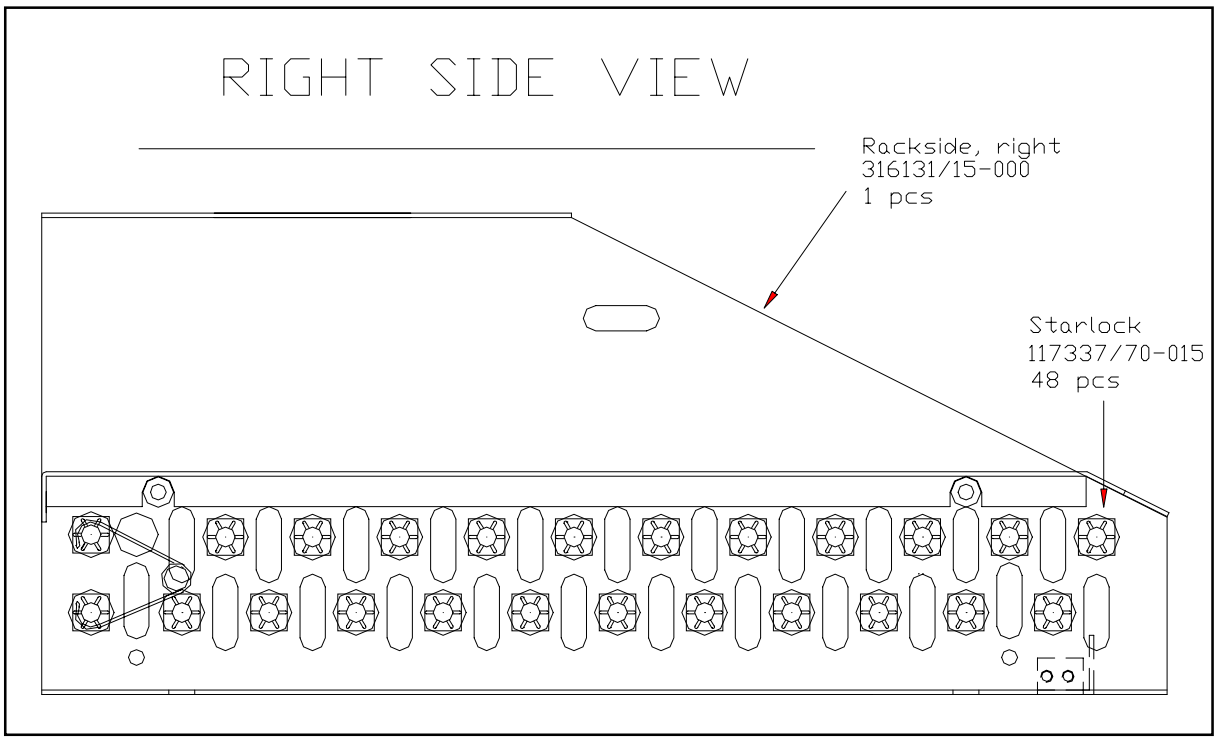


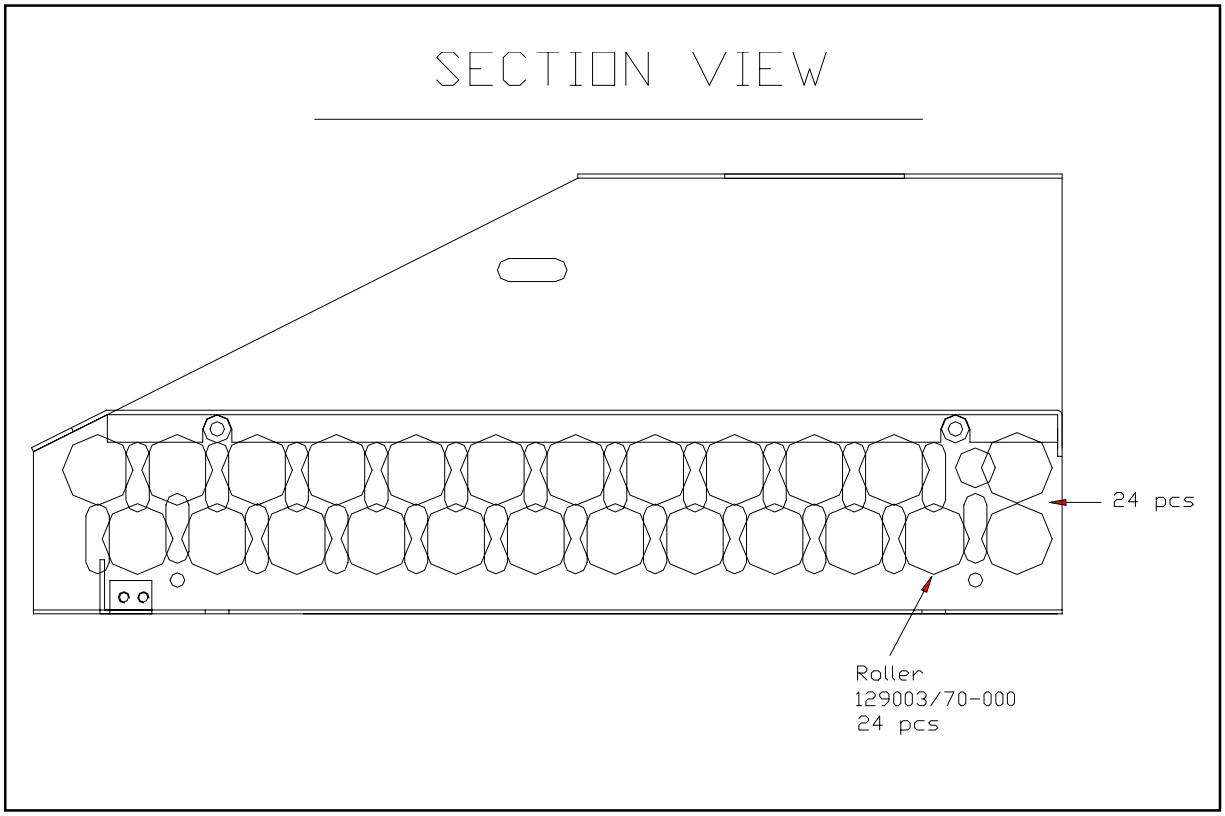
L	65271	16T Ø 1/4"	1 pcs
M	65270	16T D 1/4"	2 pcs
G1	276154	24T Ø 10,2	1 pcs
G8	217164	24T Ø 10,2	3 pcs
P	65266	30T 1/4" In - D	7 pcs
X	117528	32T NV 16	1 pcs
SH	117518	32T NV 16	1 pcs
S	65502	36T Ø 10mm MSH	1 pcs
U	65456	80T Ø 10mm MSH	1 pcs

R2 Rackside Right, Drawing 316489



Rackside right Dry R38, Drawing 316108





Rackside Section view right/left Dry R38, Drawing 316108

Complete Roller Overview

Roller Types	17"	29"	36"	54"	65"
5/8" PU Roller	217023	129534	136533		
5/8" Steel Roller			136544	155536	
13/16" Soft Rubber EPDM	117064	129064	136374	155027	
25mm Aluminium Roller				155474	650504
25mm Steel Roller Solid					650044
25,2mm Soft Rubber EPDM	117074	129074	136484	155084	
25,4mm ALUstar		129275	136275		
1” PU Roller			61131		
1" PU Roller smoot	914009	129013	136163	155023	
1” Roller PU rough		129003		54454	
1" PVC Roller	217373	129223			
1" Soft Rubber EPDM	117020	129054	136354	155355	650234
31,5mm Hard Rubber			136294	155294	650293
1 1/4" steel Roller				155007	650253
1 1/4" Hard Rubber				155227	
1 1/4" Soft Rubber Roller		129283	136284	155284	650284
1 7/8" PU Roller smoot		129453	136453	155453	650453
1 7/8" Foam Roller				54130	
1 7/8" Soft Rubber Roller EPDM		129273	136274	155274	650274
1 7/8" Steel Roller					650243

Axle Overview

Type	Name	Part number
D	Axle D	276044
O	Axle- O >	276034
LO	Axle- O >1/4" x 47.8 Long	235184
D1	Axle-D, Long F.1 Gear Wheel	276074
D2	Axle-D, Long F.2 Gear Wheel	276084
	Axle-D 1/4 IN,Long F.1.G.W.	235234

On location drawings the letter reference only refers to type. **NOT** how long the axle is. Please check the sequence number in the part list when ordering for a specific roller.

Complete Gearwheel View

Number NO: of Teeth	Type of Gearwheel	Drawing Identification	Shaft Diameter	Part
10	D-Center Lock	A	1/4” D	217524
13	D-Center Lock	B	1/4” D	217484
16	D-Center Lock	M	1/4” D	217374
16	O-Center Lock	L	1/4” O	217364
16	D-Center Lock		1/4” D	217504
18	D-Center Lock	E	1/4” D	217474
18	O-Center Lock	Y	1/4” O	217354
20				276037
24	O-Center Lock	G1	10,2mm	276154
24	O-Center Lock	G	14,2mm (*	217534
24	O-Center Lock	N	1/2” O	65268
24	O-Center Lock	N1	1/2” O, 17mm wide type	68011
25	O-Center Lock		10mm (*	66689
30	O-Center Lock	P1	10,2mm (*	54266
30	D-Center Lock	P	1/4” D	217414
30	O-Center Lock	O	1/4” O	217344
32	O-Center Lock	X	10mm	217434
32	O-Center Lock		10,2mm	65993
32	O-Center Lock	X	10,2mm	275155
32	Hexagon		Hexagon	217394
34	O-Center Lock	A1	10mm	54268
35	O-Center Lock	Q	10mm (*	66248
36	O-Center Lock	R	10,2mm	217424
36	O-Center Lock	S	10mm (*	65502
36	O-Center Lock		Hexagon	217384
37	O-Center Lock	W	10mm (*	66263
40	O-Center Lock	B1	10mm	65981
42	O-Center Lcok	J	10,2mm	217464
48	O-Center Lock	K	10,2mm	233454
48	Hexagon		Hexagon	217347
79	O-Center Lock	V	10mm (*	63186
79	Hexagon	H	Hexagon	65960
80	O-Center Lock	U	10mm (*	65456
80	Hexagon		Hexagon	65959
80	O-Center Lock	T	10,2mm	65139
80	O-Center Lock		F. Microswitch	60210
80			Special	276017

(* With hole for Cotter Pin

Number of Teeth	Type of Gearwheel	Drawing Identification	Shaft Diameter	Part NO:
16+18	O-Center Lock	D	16,2mm Dual Gear	233434
16+18	O-Center Lock	D1	10mm Dual Gear	68807
36+24	Gearwheel for Rewinder		Special	250064
48+32	O-Center Lock	C	10,2mm	276104
48+36	O-Center Lock	F	10,2mm	276114
32+36	Hexagon	SX	Hexagon	68216

Steel Gearwheels:

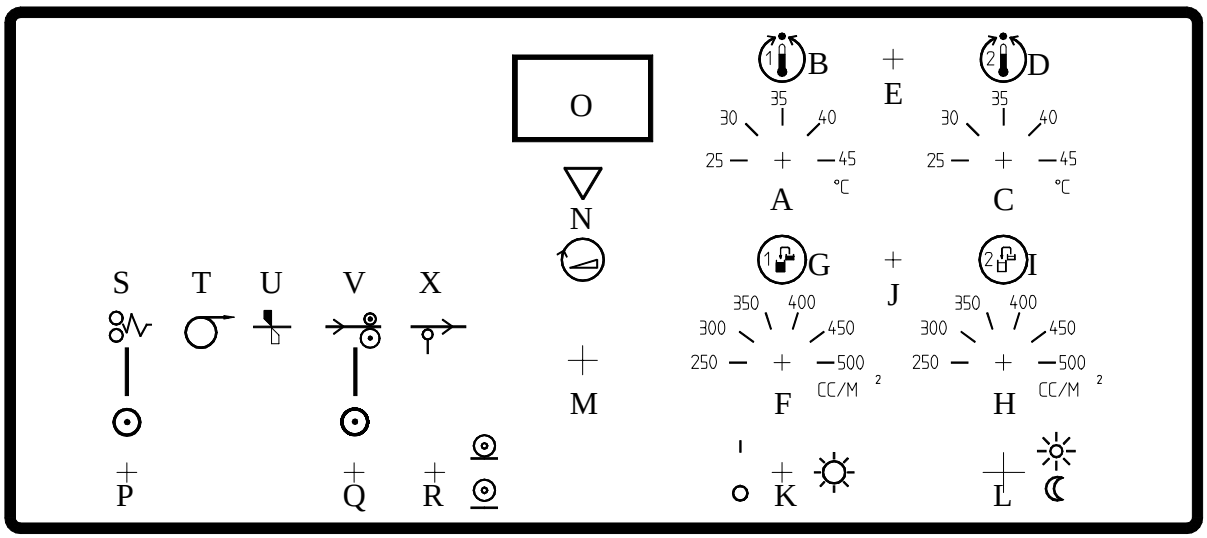
25	O-Center Lock		15mm	65888
32	Hexagon		Hexagon	117528
34	D-Center Lock		15mm	270517
36	O-Center Lock		Hexagon	117518
60	O-Center Lock		15mm	65218
62	O-Center Lock		15mm	65707

NOTE

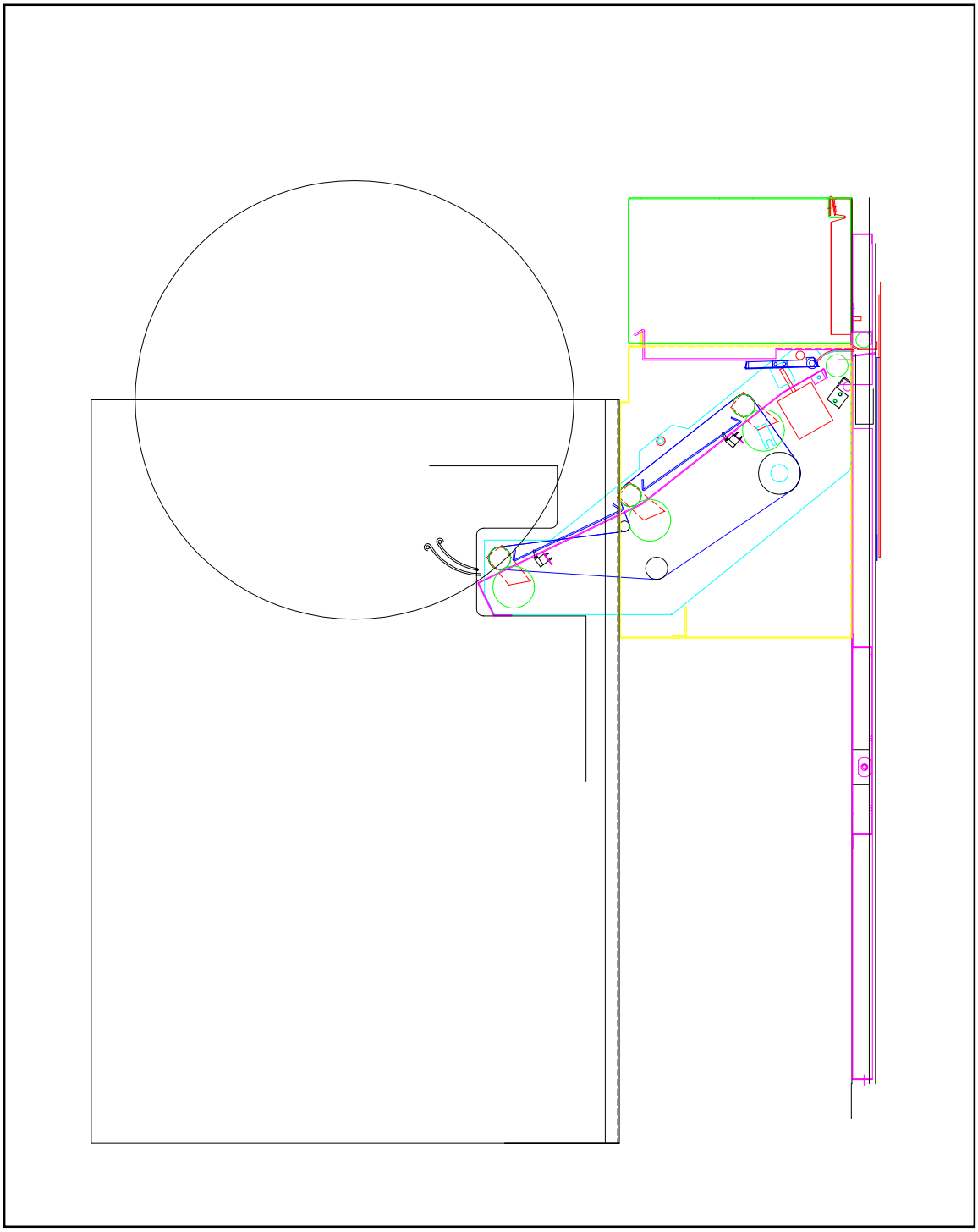
All partnumber are always printed on the gearwheel it self.

Important

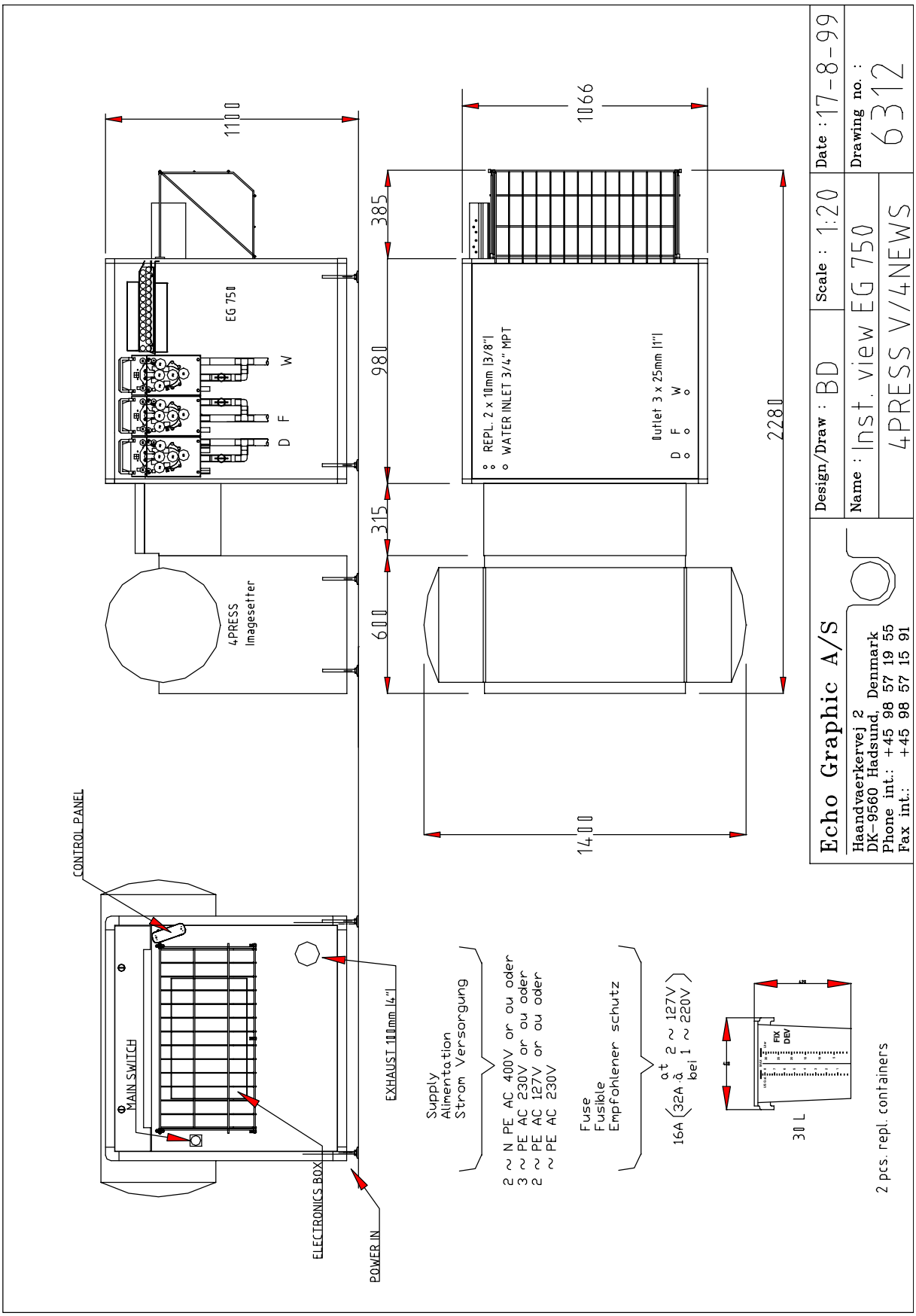
Your On-Line Processor has a built in exhaust blower. Even if the main switch is switched off, the blower will still be on. This is to prevent chemical fumes in the conveyor/imagesetter. If a timer is connected in series with the main power cable, the machine has to be modified, so that the exhaust blower is always running.



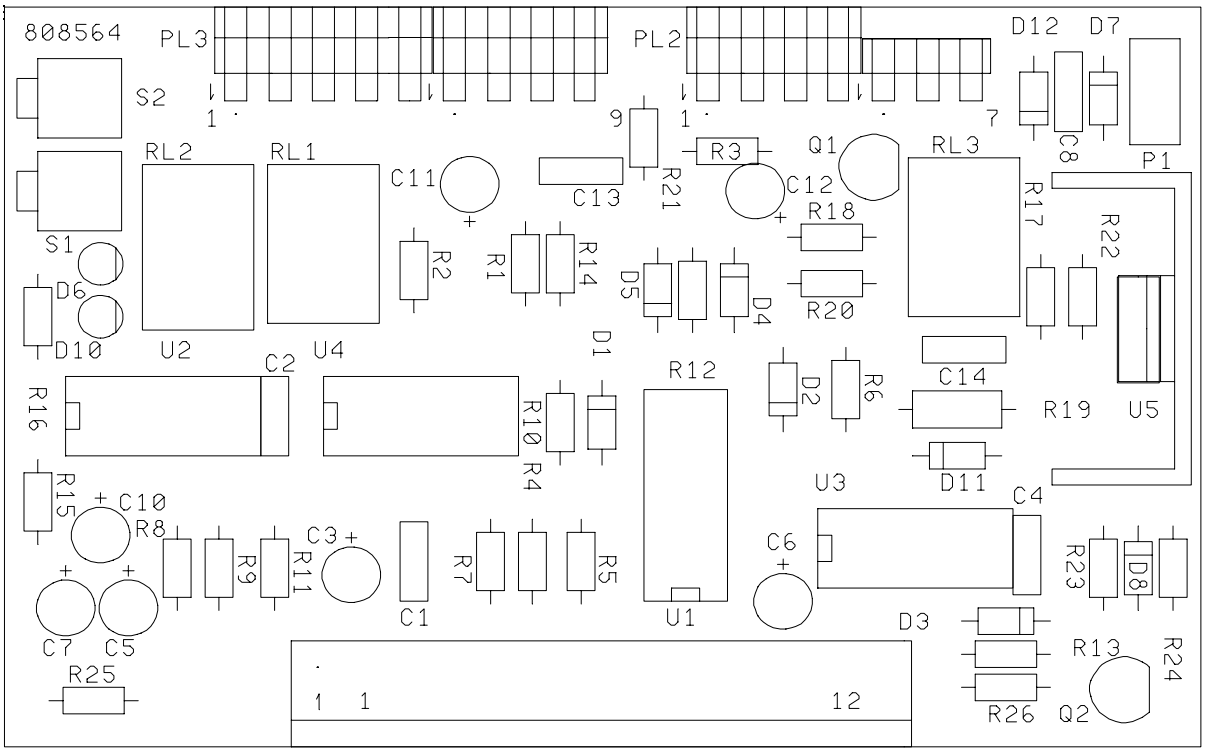
A	Temperature Adjustment Developer
B	Heat ON Indicating Developer
C	Temperature Adjustment Fixer
D	Heat ON Indicator Fixer
E	Temperature Readout DEV/FIX
F	Volume On Developer Replenishment (Max. programme approx. 40cc).
G	Developer replenish indication
H	Volume On Fixer Replenishment (Max. programme approx. 40cc).
I	Fixer replenish indication
J	Manual replenish switch
K	Display light ON/OFF
L	Switch for Stand-By/Operate Select. When Stand-By is selected, Error (L) lights continuously.
M	Developing Seconds Adjustment
N	NO FEED Signal (Indicates when inserted film is free of inlet) Only used in OFF-LINE position !
O	Display, shows development seconds and temperature
P	Error Signal Reset Switch, NOT USED
Q	Switch for Set Load Signal
R	Switch for Off-Line/On-Line
S	Error Signal (Lamp and intern Buzzer)
T	Load Signal
U	Cut Signal
V	Busy Signal
X	Ready Signal



Installation View



Installation Drawing, 6312

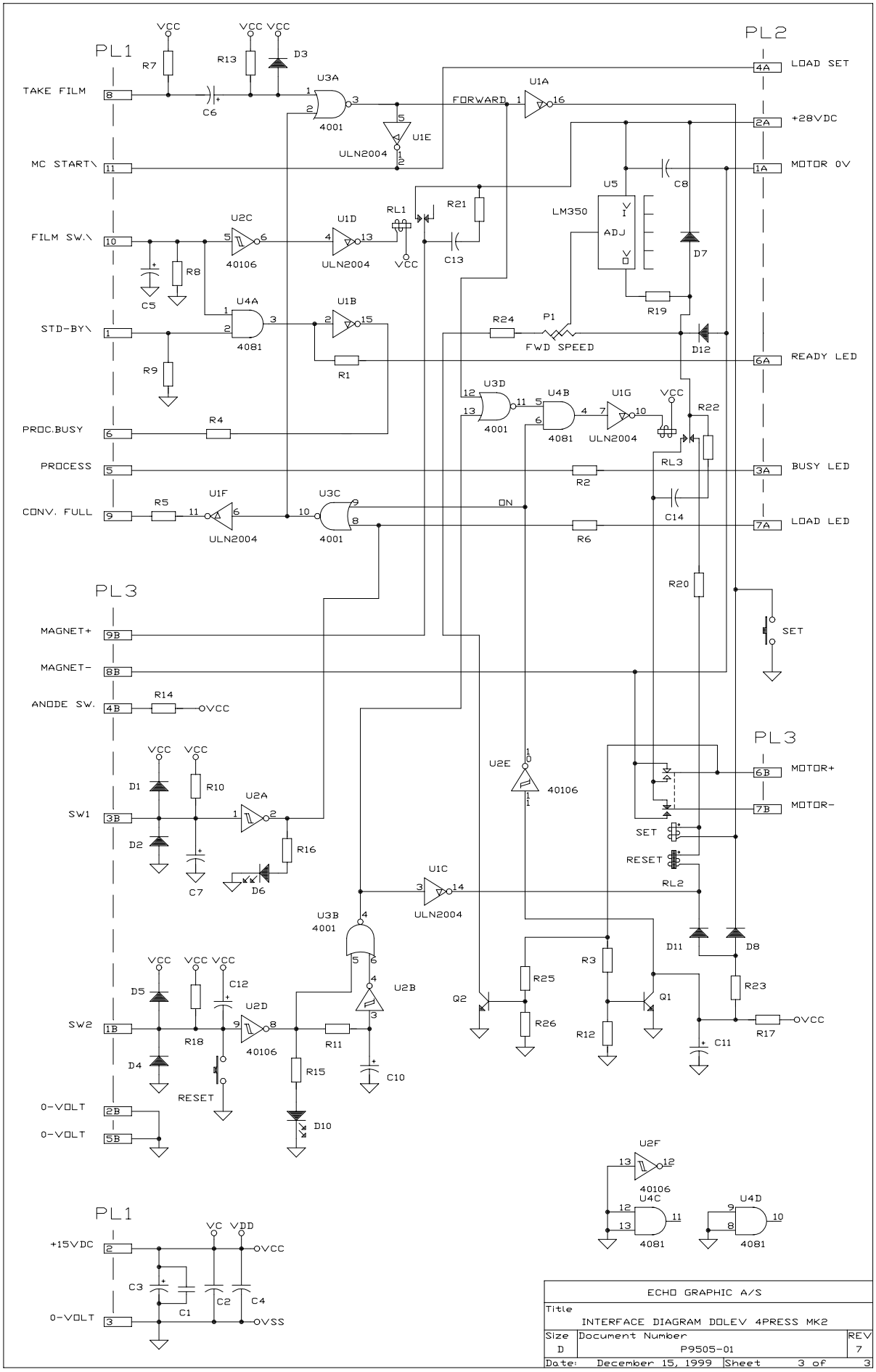


P9505

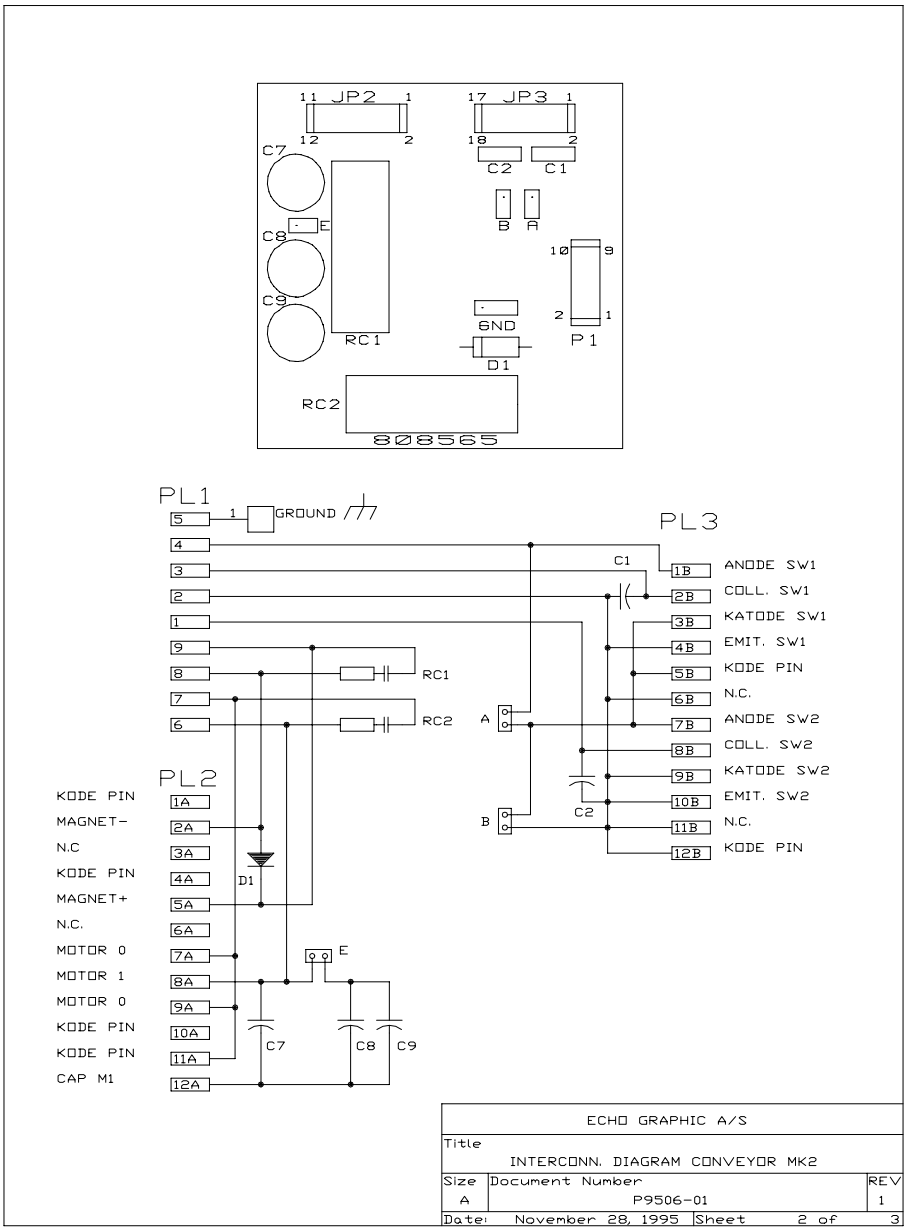
LED D6 and D10 indicates when the sensors in the conveyor is activated.

D6 Switch 1 first sensor
D10 Switch 2 last sensor
S2 starts the conveyor
S1 stops the conveyor, same as activating the reset switch on the conveyor
P1 Adjust of forward speed. (Factory settings)

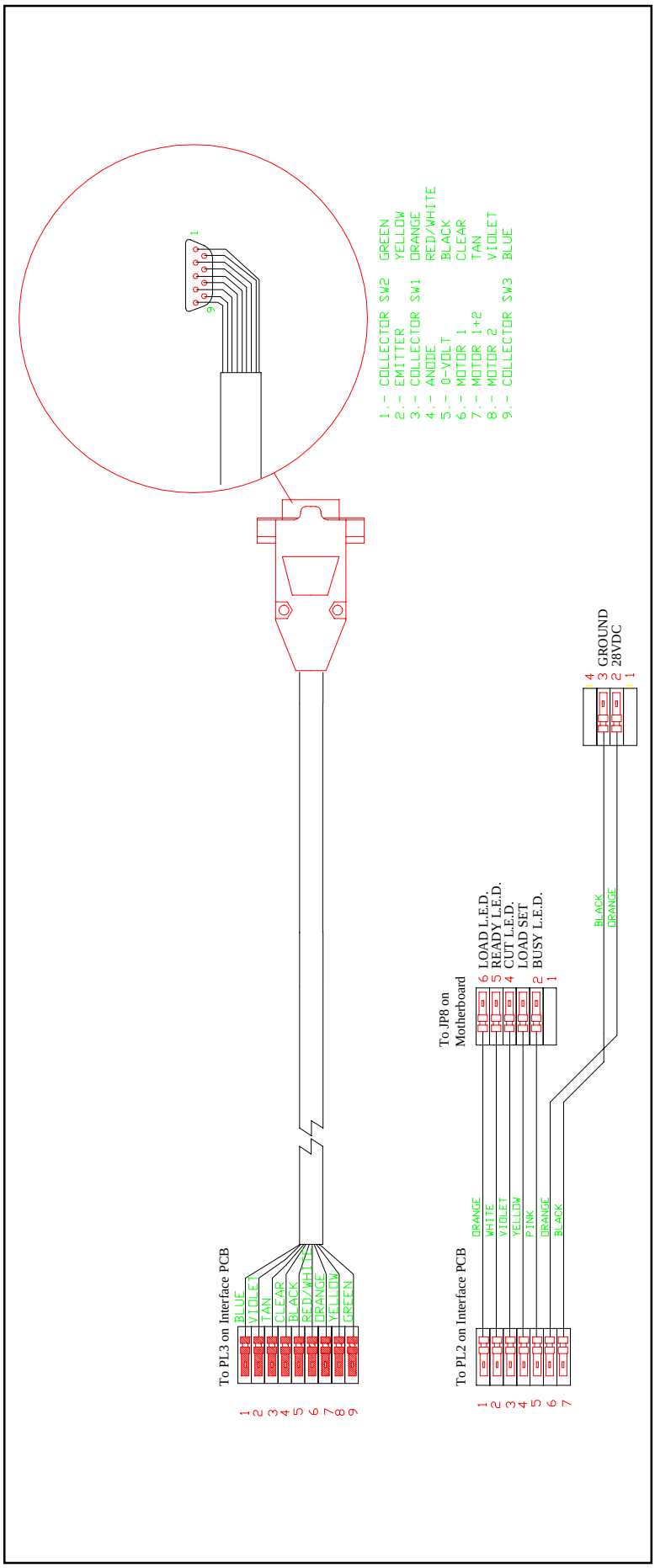
Interface PCB Location



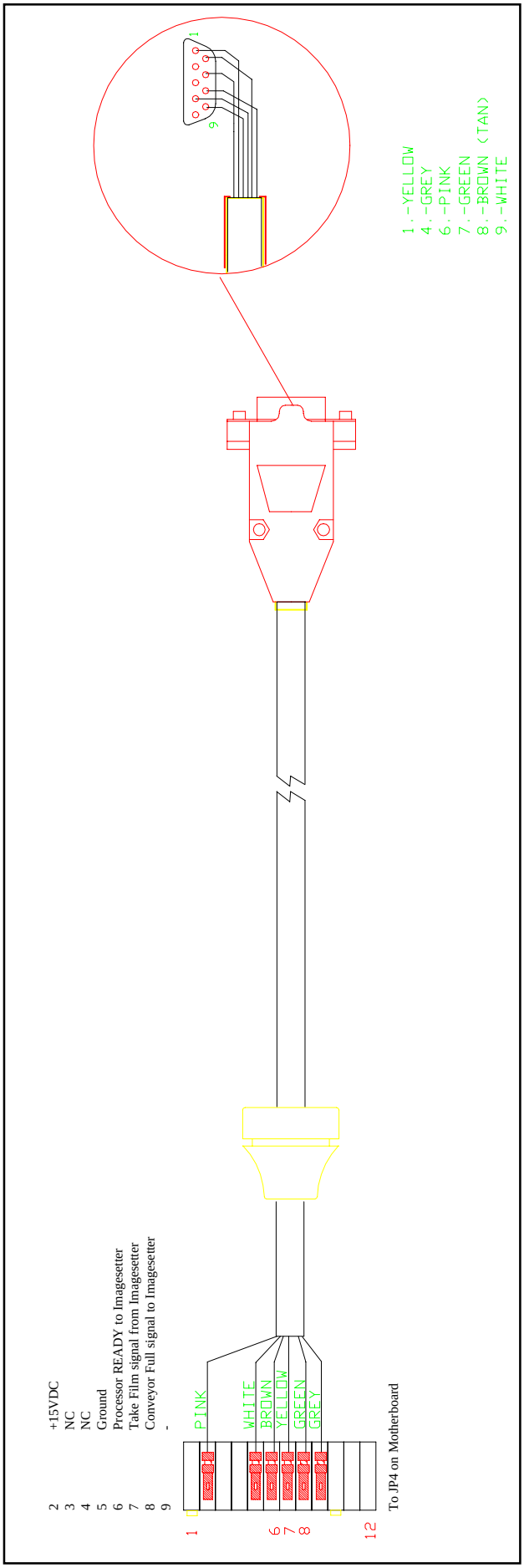
Interface PCB Diagram



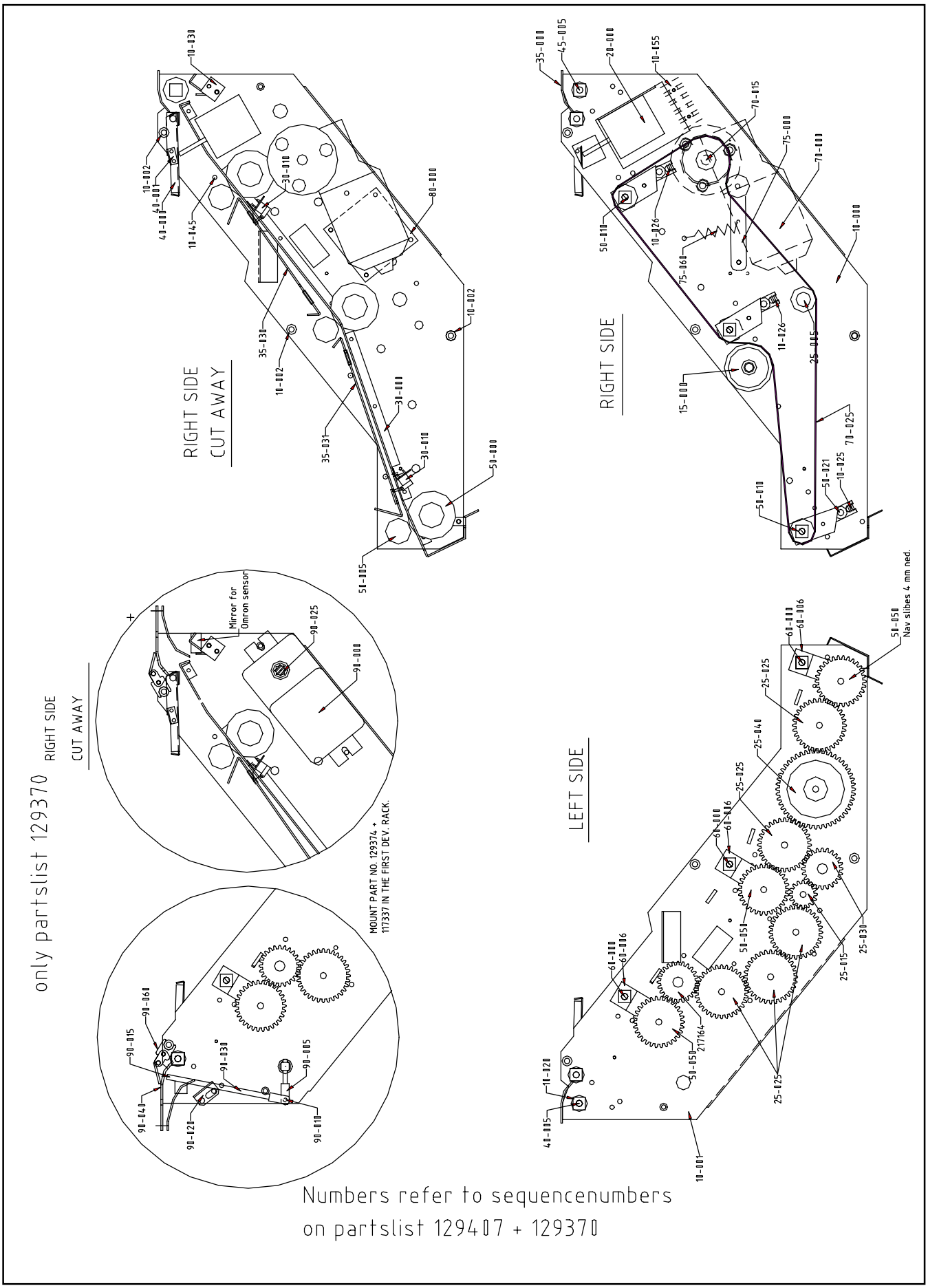
Interconnection Diagram Conveyor



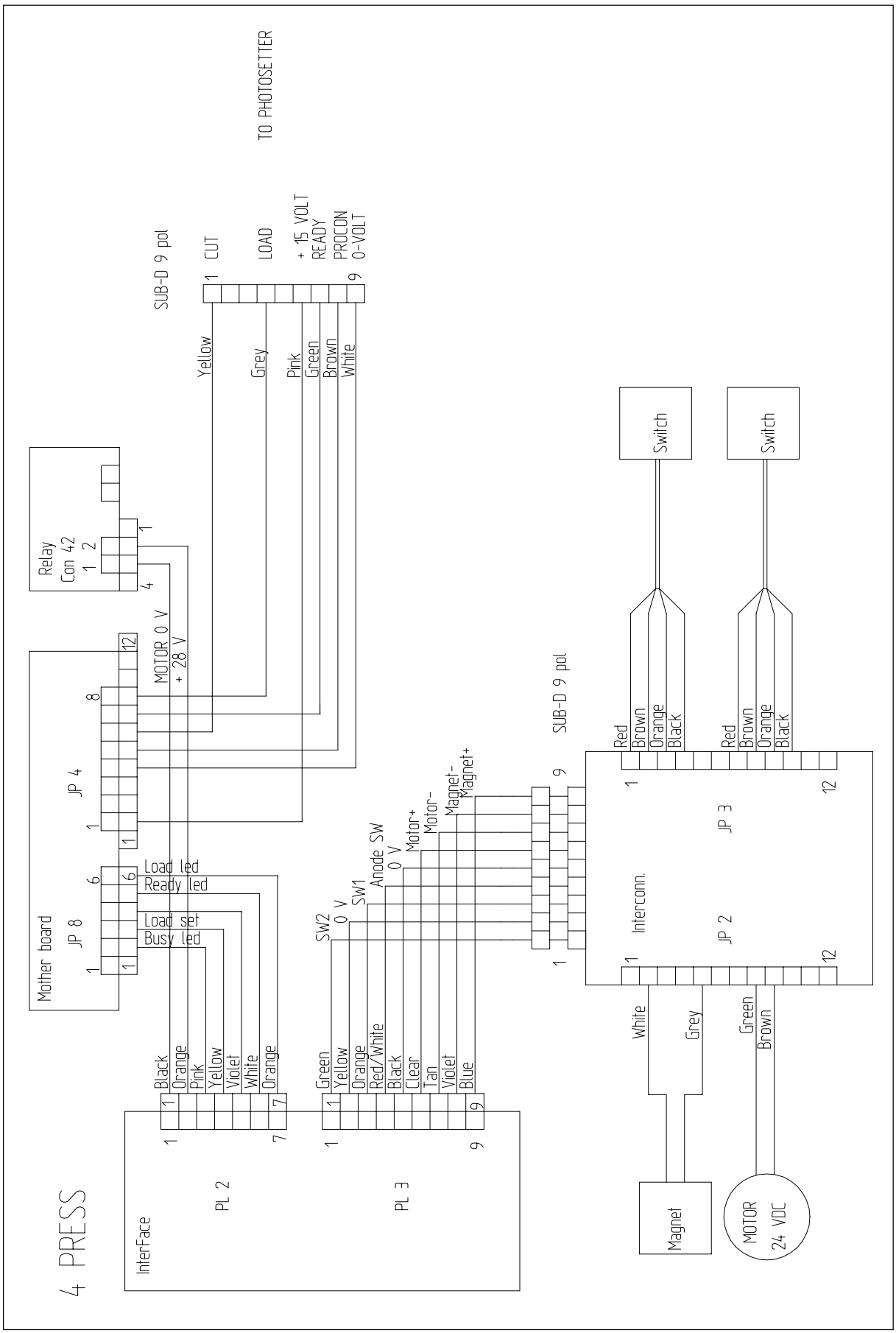
Cable Processor - Conveyor



Cable Processor - Plotter



Conveyor Drawing 129407



Connections between processor - conveyor - imagesetter

4press conveyor.
Led´s on the control panel of the processor.
The Ready signal will be ON if the conveyor is empty and the processor is ready.
The Busy signal will be ON if a film is beeing develloped.
The Load signal will be ON if there is a Film in the conveyor.
The No/feed signal ▽ will be ON if there is a film under the inletsensor of the processor.

Indications in " Detector status" on the controlpanel of the 4press.

Online processor connected	YES/NO
Conv full	YES/NO
Online processor Ready	YES/NO

Woorkflow.
The conveyor must be open. If not press the "Reset switch" located next to the connector.

The 4press plots the first job, when finished , film is feed out of the 4press and into the conveyor.
When the film activates the 1.conv switch.
The Load signal will go ON.
The Ready signal will go OFF.
The first job is not cut.

The 4press plots the second job, when finished the film is feed a little, so the seperation between the 2 jobs fits with the cutter.
The 4press will cut the first job, and send a "Take film signal" to the processor.
The conveyor will close and start transporting.
The first job will be transported trough the conveyor and into the processor.
When the Inlet sensors are activated.
The No/Feed signal ▽ will go ON, and the processor starts up.

Approx. 1 sec after the film has reached the inlet sensor, the bufferguide will be raised by the solenoid, to allow the film to buffer up. The bufferguide will stay raised until the film has passed the inletsensor, and entered the processor completly.

The conveyor will keep transporting until the film has passed the 2.conv.switch. and approx 3 sec later the conv will stop transporting and open again by reversing the drive motor.

The 4press will feed the second job into the conveyor, and start plotting the third job.
The second job is not cut.
When the first job has passed the inletsensors.
The Ready signal will go ON.
The 4press is not allowed to cut the second job until the Ready signal is ON indicating that the processor is ready for the next job.

When the 4press is finish plotting the third job the cycle will repeat it self until there is no more jobs to plot.
When there has been nothing to plot for 30 sec. the 4preee will advance the film forward and cut the last job.