OPERATING MANUAL

COMPACT CODER

Doc No.: 3M000210 Issue 1 - 13/12/95

This Operating Manual covers the models listed below:

Compact 205 40/25 HI

Compact 205 40/25 400 C, S, and HS

Compact 205 40/25 400 VT

Compact 205 40/25 1000 C, S, and HS

Compact 205 40/25 1000 VT

Compact 214 60/35 400 & VT

CE MARKING INFORMATION

CE Mark : CE

Series Type Designation : **Compact 205 40/25**

Compact 214 60/35

Serial Number :

Manufacturer : Graseby Allen Limited
6 Little Mundells
Welwyn Garden City
Hertfordshire AL7 1LD
England

Contents

SAFETY NOTICE

Graseby Allen machinery is designed and manufactured to comply with the Low Voltage Electrical Equipment (Safety) Regulations 1989, the testing requirements of the Electricity at work Regulations 1989 and the Health and Safety at Work Act 1974.

To the best of their Knowledge and belief Graseby Allen Limited have incorporated such safety devices as are required under the above regulations and all relevant EC regulations.

It is important that the coder is installed, maintained and used in accordance with the instructions provided within this manual.

Installation and maintenance technicians and operators of this equipment must be made aware of the contents of this manual.

INSTALLATION

Electrical and mechanical installation must only be undertaken by persons suitably experienced and qualified.

The coder,electronic module and power pack must be earthed.

Isolate the coder,electronic module & power pack before removing any covers.

OPERATION

The Hot-Foil coder is designed to provide a hot-foil printing facility only when securely installed to a packaging or labelling system.

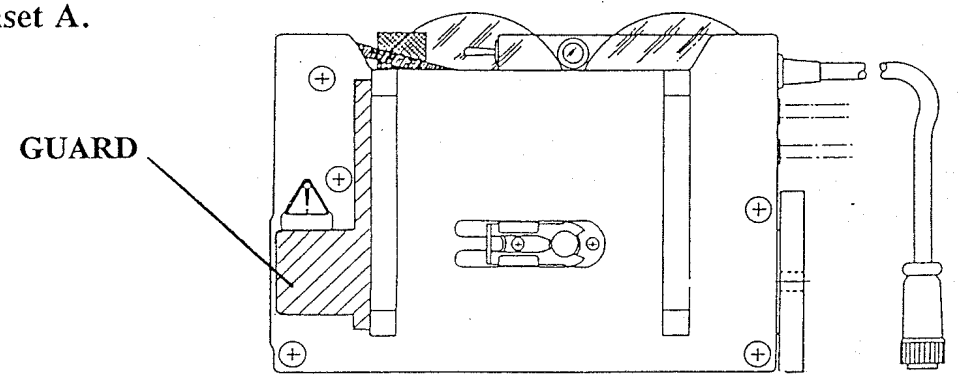
The control and safety systems provided are necessary for the safe operation of the equipment. Any device removed or adjusted to facilitate maintenance must be replaced and/or readjusted before the unit is entered into service.

WARNING : THE HEATER BLOCK AND TYPEHOLDER OPERATE AT A TEMPERATURE HIGH ENOUGH TO CAUSE SKIN BURNS IF TOUCHED. CARE MUST BE TAKEN TO AVOID ANY DIRECT CONTACT WHEN REMOVING OR INSERTING A TYPEHOLDER FROM THE HEATER BLOCK.

WARNING: A GUARD IS FIXED TO THE MAGAZINE PLATE (SEE INSET A) TO PREVENT INJURY BEING CAUSED DUE TO FINGERS BEING TRAPPED BETWEEN THE HEATER BLOCK AND THE MAGAZINE PLATE, AND TO PREVENT CRUSHING BETWEEN THE TYPEHOLDER AND THE MAGAZINE PATE.

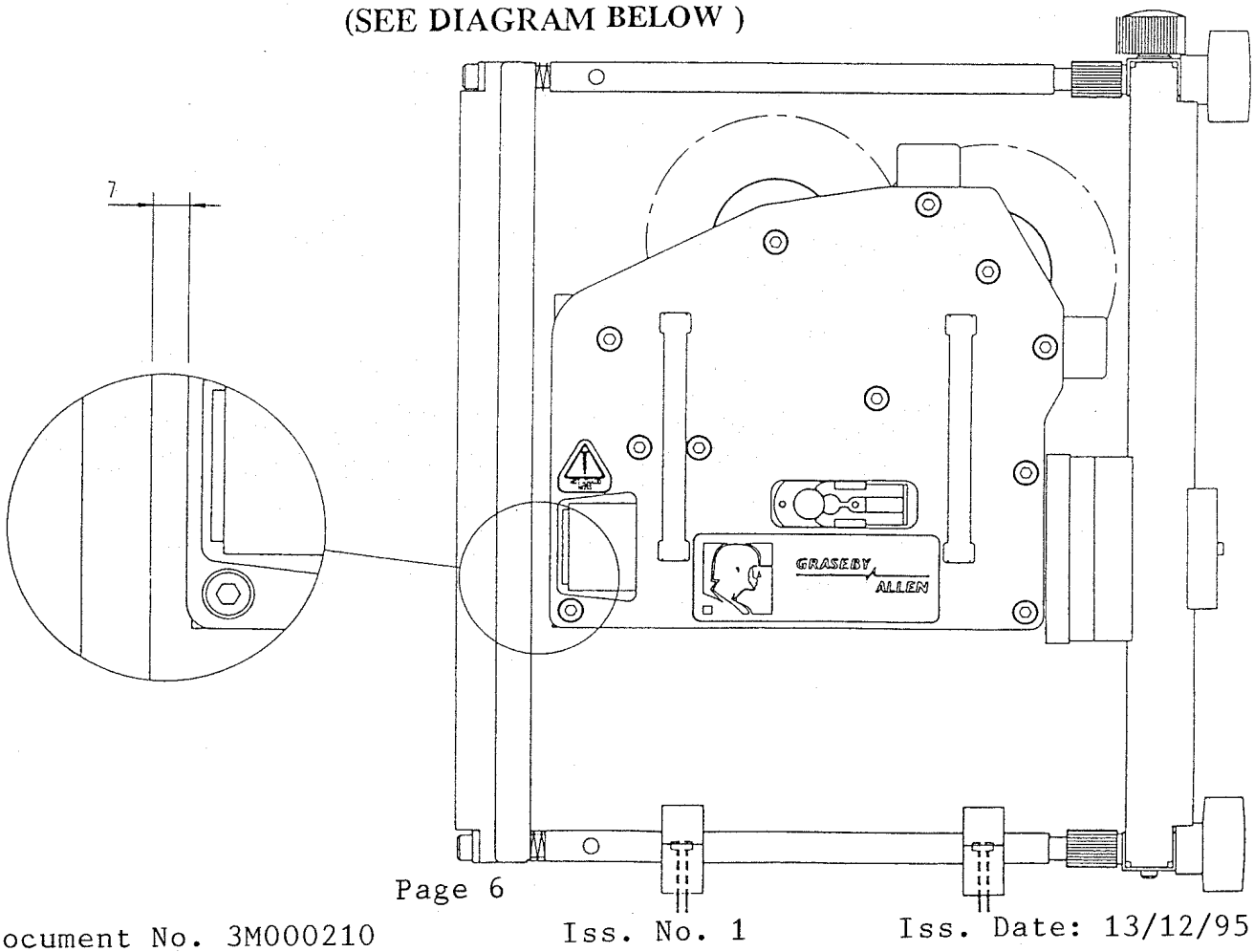
THE CODER SHOULD NOT BE OPERATED WITH THIS GUARD REMOVED. THE CODER SHOULD NOT BE OPERATED WITH THE MAGAZINE REMOVED.

Inset A.



WARNING: THE DISTANCE BETWEEN THE CODER AND THE BASE OF THE FRAME MOUNTING PLATE (WHEN ADJUSTED TO ITS MAXIMUM HEIGHT), COULD PRESENT A POSSIBLE FINGER TRAP HAZARD. CARE MUST BE TAKEN TO AVOID FINGERS BEING PLACED WITHIN THIS GAP.

(SEE DIAGRAM BELOW)



MAINTENANCE

Electrical and mechanical maintenance must only be undertaken by persons suitably experienced and qualified.

Ensure that electrical supplies are properly isolated before undertaking any maintenance procedure. The supply should be disconnected by operation of the main switch, removal of fuses or other acceptable method. A notice should be placed at the point of isolation showing:

DANGER - WORK IN PROGRESS

All machine covers must be securely fastened and all control, interlock and safety systems re-instated, before returning the unit to service.

NOISE LEVELS

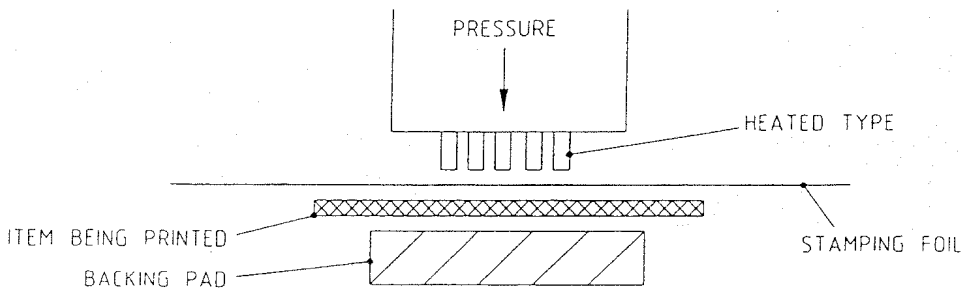
The airborne noise emission level for this machinery exceeds the nominal level of 70dB(A) if run in excess of 100 prints / min at 70 p.s.i. The Actual measurement being 74dB(A).

Description

General Description

The Hot Foil Printing Process

Hot Foil printing is a process in which heated type is pressed firmly against the item to be printed with stamping foil in between, for a set time. To produce a high quality, no-smudging, permanent print the three variable factors; pressure, temperature and time,must be accurately controlled.



About this Manual

This manual uses the following conventions:

NOTE Notes contain particularly important comments which are set off from the text.

CAUTION CAUTION MESSAGES APPEAR BEFORE PROCEDURES WHICH, IF NOT OBSERVED,COULD RESULT IN DAMAGE TO THE EQUIPMENT.

WARNING WARNING MESSAGES ALERT YOU TO A SPECIFIC PROCEDURE OR PRACTICE WHICH, IF NOT FOLLOWED CORRECTLY, COULD CAUSE SERIOUS PERSONAL INJURY.

Leading Particulars

Power Supplies

The unit requires a single phase supply which must be connected to the emergency stop circuit of the parent machine. The power supply unit, which should be isolated before making the change, incorporates a simple plug-in link to select for use with the mains of either:

* 220-240 Vac 50Hz or 110Vac 60Hz

Fuses

There are 4 replaceable fuses which are mounted on the printed circuit board in the power supply unit.

* FS1 250 mA
* FS2 1A
* FS3 1A
* FS4 1A (220-240V)
  1.5A (110V)

Air Supply

The unit requires a normal industry supply of clean dry air. The air supply requirement is:

* 4/8 Bar at up to 25.2 Litres / min (31.5cc/cycle,0.9cfm @ 800/min)

Operating Temperatures

The unit can be switched, before or during operation, between two temperature ranges to suit the application and current operating conditions. The temperature can be set between 130 and 160 Degrees C.

Range of Typeholders

To allow rapid changes of print,and to allow its use in the widest range of applications,the Compact coder has been designed to accept interchangeable typeholders. These can be supplied as a blank,for machining by the end user,or ready machined to suit the four main categories:

* Fixed Row and Universal (For use with cast type)

* T-Slot (For use with T-Slot type,engraved brass or steel)

* Zinco (For etched zinc plates 5mm thick)

* Rotary Flick wheel (wheels to allow easy changing of date,price or numbering.

The available stock range of standard typeholders are shown in the dimensioned illustrations given on page 38.

Cast Type-Stock Range

For use with the fixed row or universal typeholders Graseby Allen can supply a stock range of cast type. Part numbers of the standard range are listed on page 44a.

T-Slot Type-Stock Range

For use with suitably machined typeholders, Graseby Allen can supply a stock range of T-Slot type. Part numbers of the standard range are listed on page 44.

Foil -Stock Range

The Compact coder is designed to accept a reel of foil with various dimensions. These are listed on pages 44a and 45.

Physical Description

Coder

The coder unit comprises a heated block,mounted to the rod of a pneumatic cylinder which,in turn is supported by a machined frame. This contains the cylinder,the foil indexing mechanism and a printed circuit control and connection board.

Power and control signals are connected via a lead. Air to the solenoid valve and the exhaust from the cylinder,via the valve,are connected to push in fittings.

The operating mechanism is fully enclosed,with the exception of a rotating shaft which provides motive power to index the foil in the magazine.Foil index depends on the rotation of this shaft and an adjustment knob,to control the index,is provided on top of the coder.

Magazine

The foil magazine fits onto spigots provided on the coder body and is retained by a simple mechanical latch.

The magazine provides a take up roller,driven from a rubber covered drive roller by a endless belt.The drive roller contains a one-way clutch and is turned by the rotating shaft on the coder body.

Foil is pulled by the drive roller via guide pins,from a feed on spool,the rotation of which is controlled by a friction belt to stop overrun of the foil.

Sprung tension rollers are provided immediately after the feed on spool and between the drive roller and take up roller.

Electronic Module

The electronic module is provided with a mounting bracket which allows its fitting in a position convenient with the user. The unit provides control,indication and warning functions.

Air Control Unit

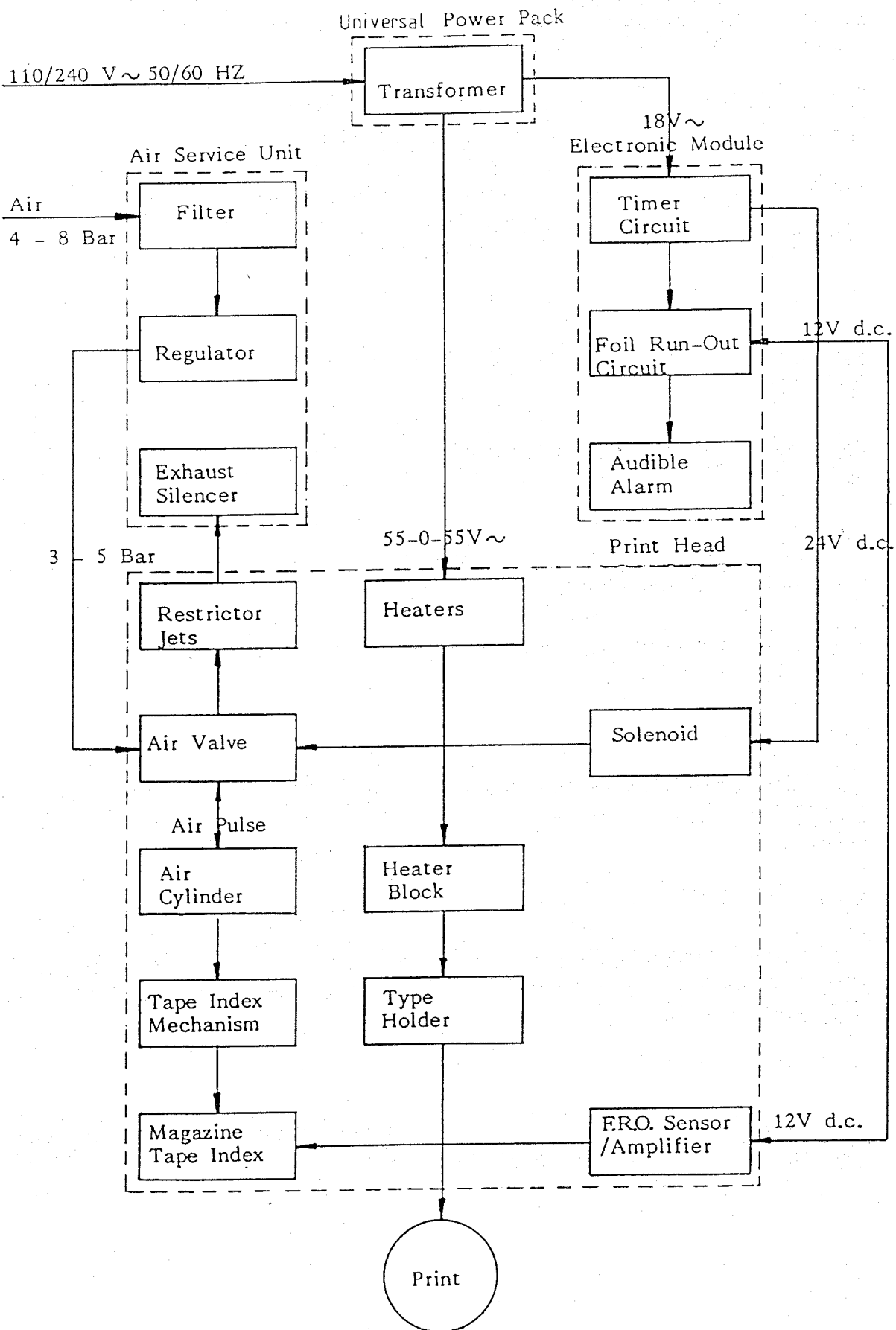
The air service unit incorporates a pressure regulator and water separation bowl, pressure gauge, air distribution manifold and air exhaust silencer. The water separation bowl is fitted with manual drain valve.

Power Pack

The power pack is a fully enclosed unit containing power transformer,fuses and connection blocks to distribute the power and control signals to and from the electronic module and parent machine.

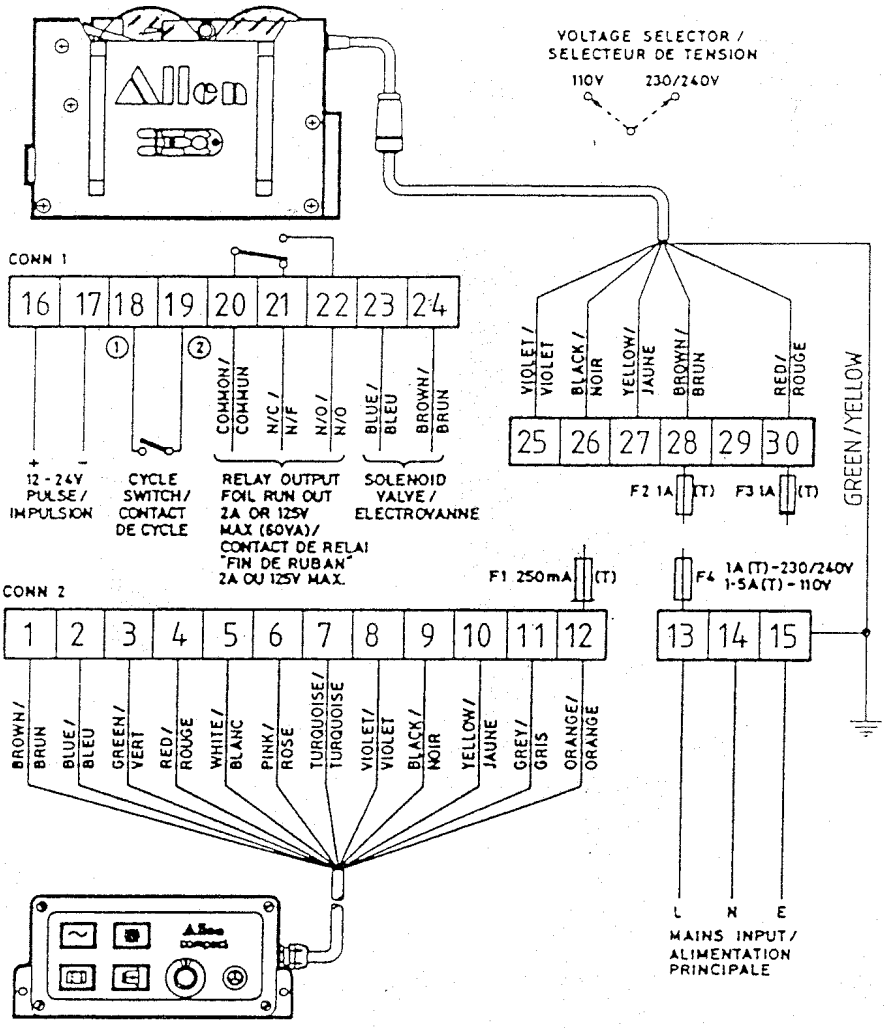
title OPERATIONAL BLOCK DIAGRAM

GRASEBY ALLEN



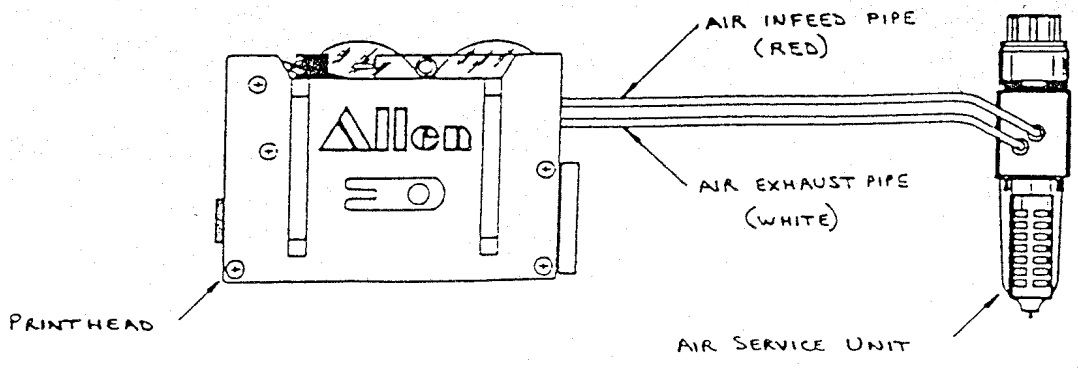
GRASEBY ALLEN

Power Supply Unit Connections



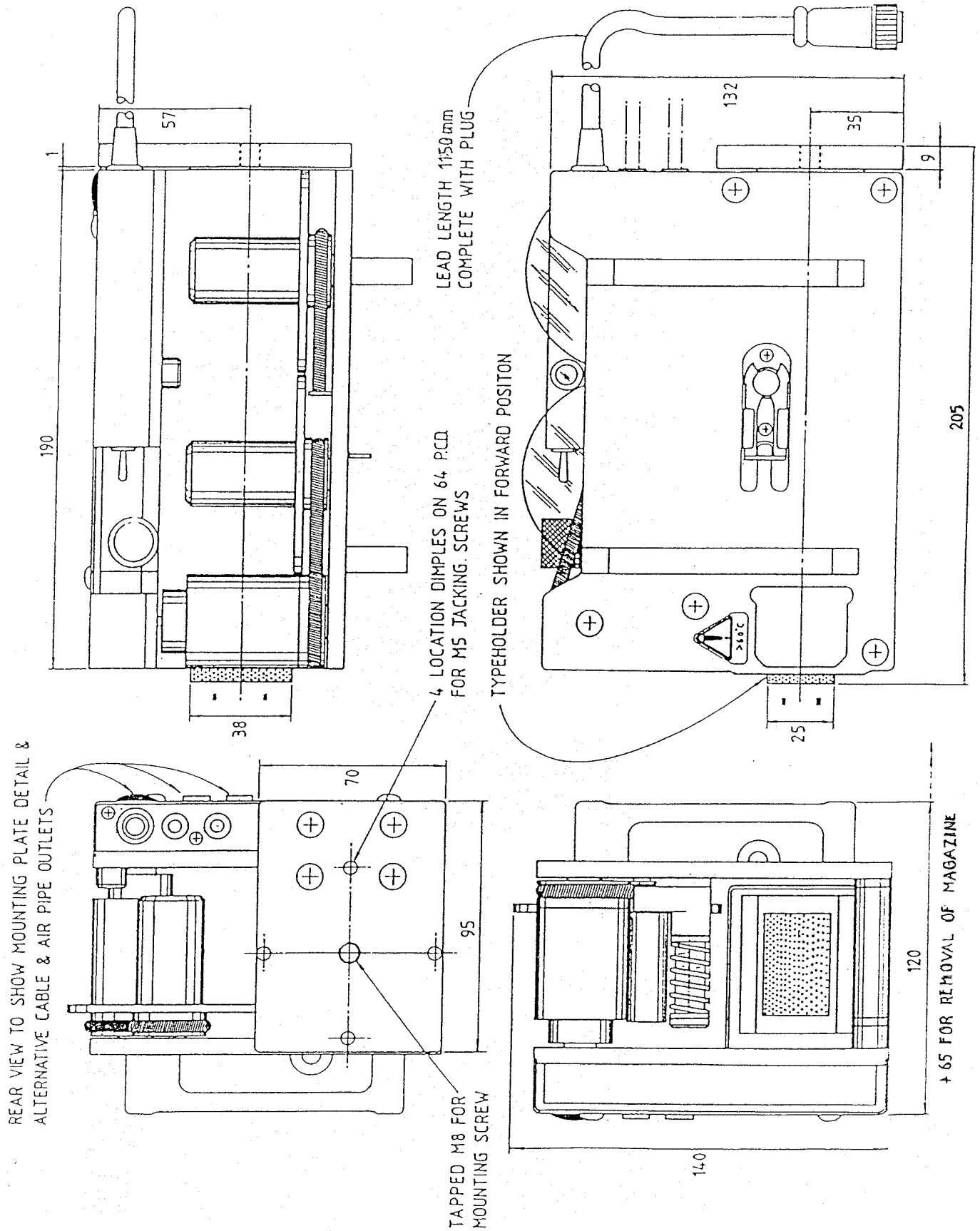
To START PRINT CYCLE CONNECT 12 – 24V PULSE SIGNAL TO 16 & 17 ON CONN 1 OR CONNECT CYCLE SWITCH TO 18 & 19 ON CONN 1 (N/O).

Pneumatic Connections



title DATA SHEET - LAYOUT PRINTHEAD 205 122m (400FT)

GRASEBY ALLEN



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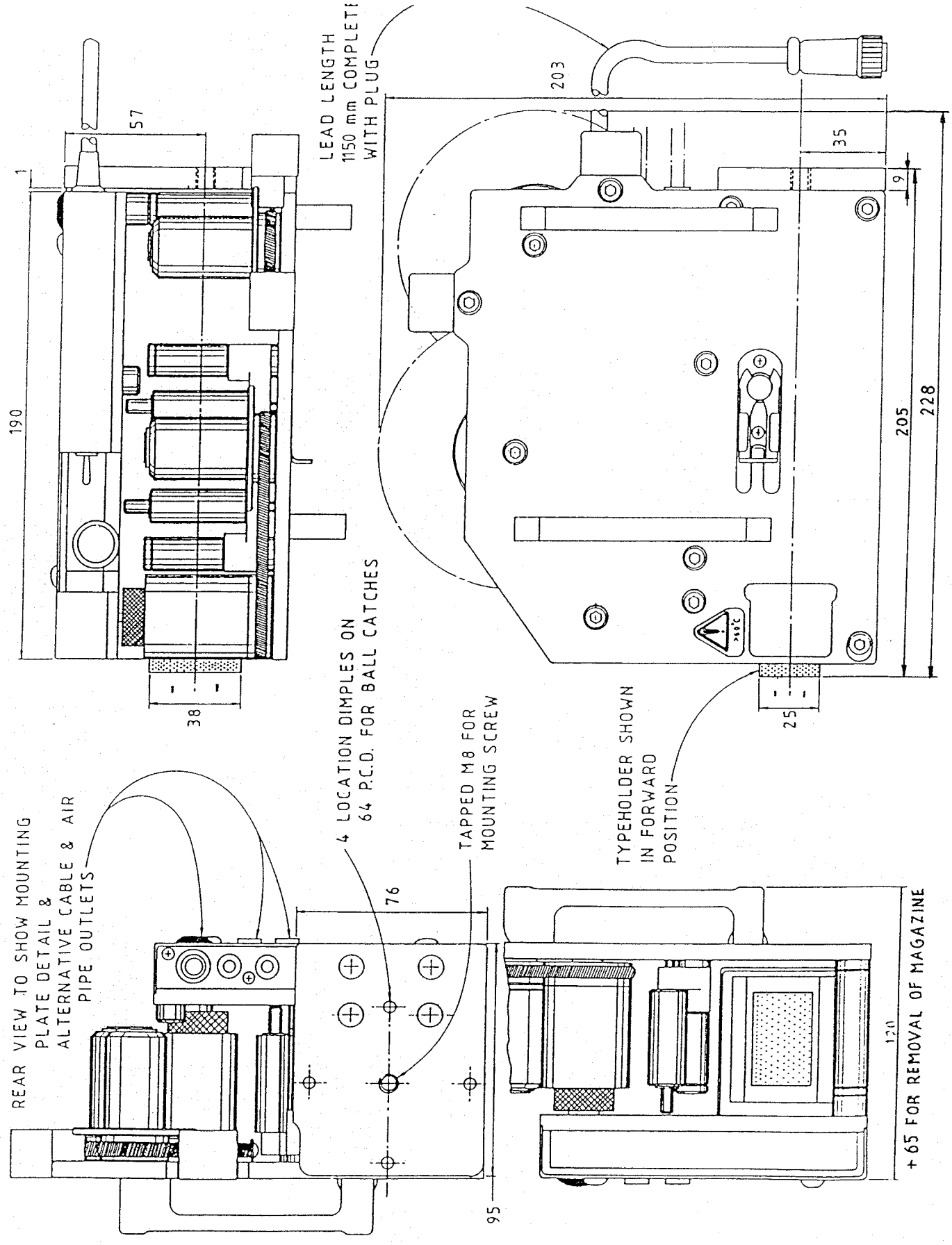

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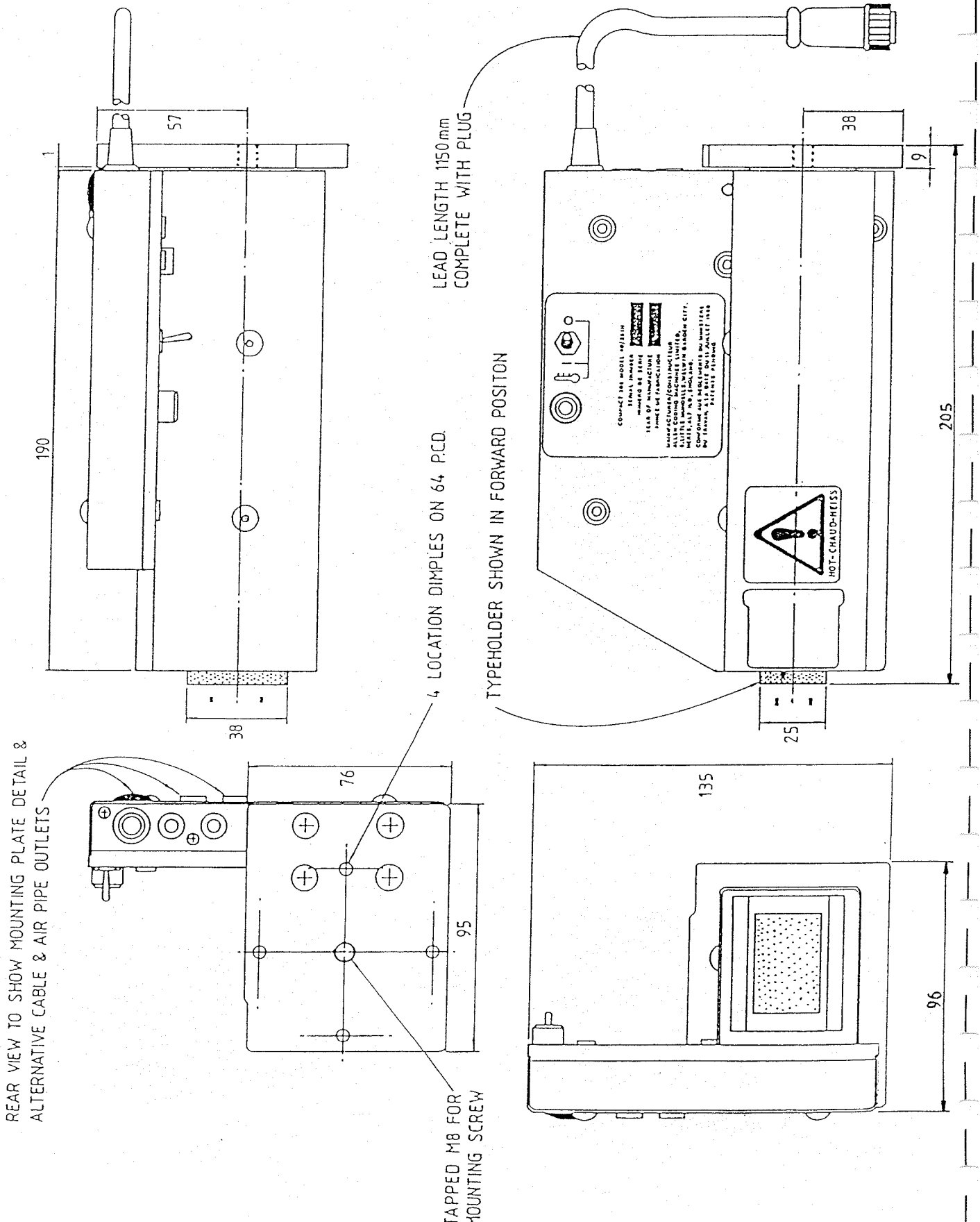

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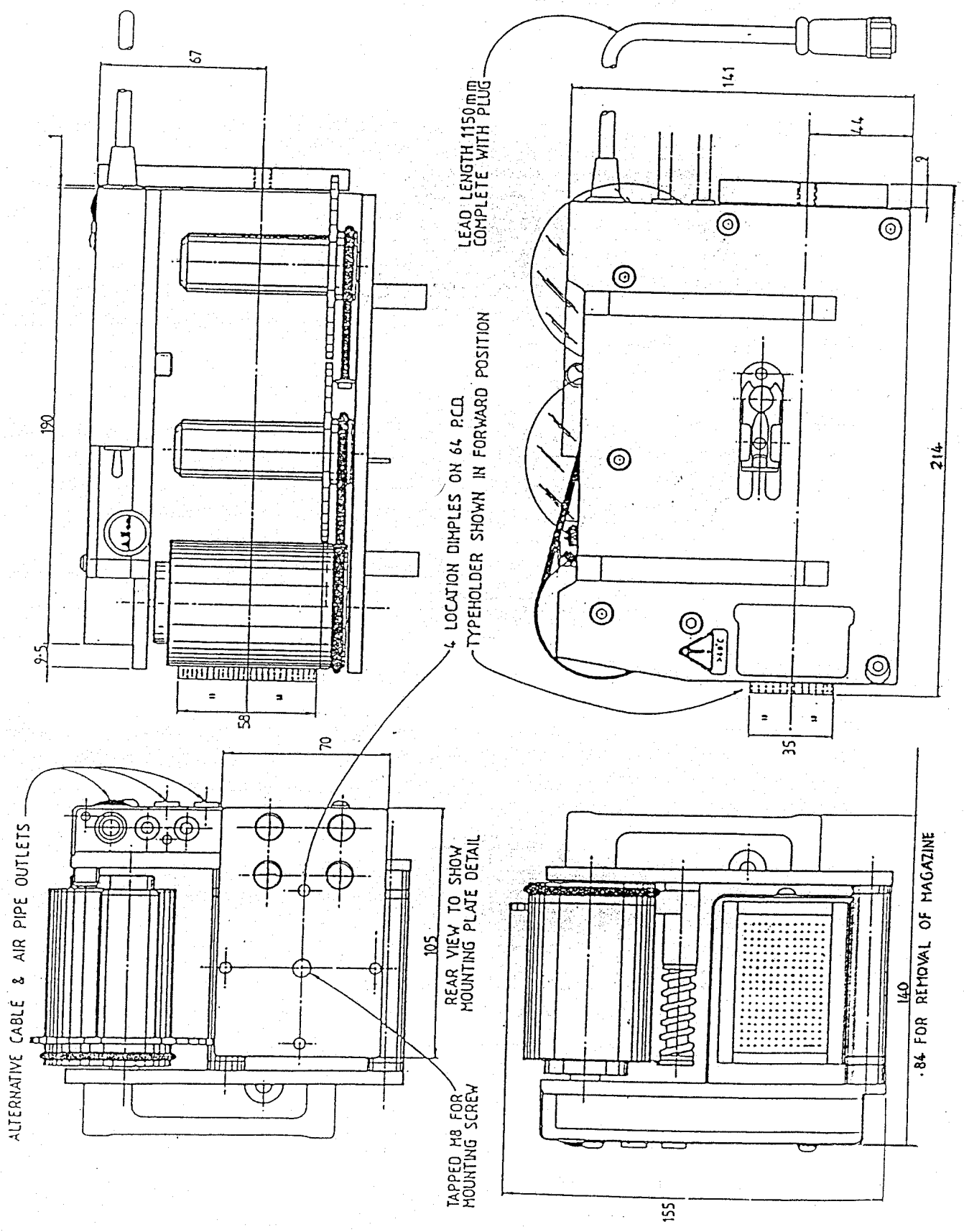


INSTALLATION

CAUTION: ONLY QUALIFIED AND EXPERIENCED PERSONNEL MUST BE USED TO INSTALL THIS EQUIPMENT.

Graseby Allen can provide mountings suitable to install the Compact coder onto a wide range of machines. In the following sections, the standard mounting frame is described. Contact Graseby Allen for assistance or, alternatively, use the dimensions given for the standard mounting frame as a guide.

NOTE A resilient backing pad should be used if printing onto a media which would otherwise have a rigid backing, for example, when printing to a label strip. This takes up any small inaccuracies in the type face, reduces the shock loading on the coder and gives greatly improved performance and longevity.

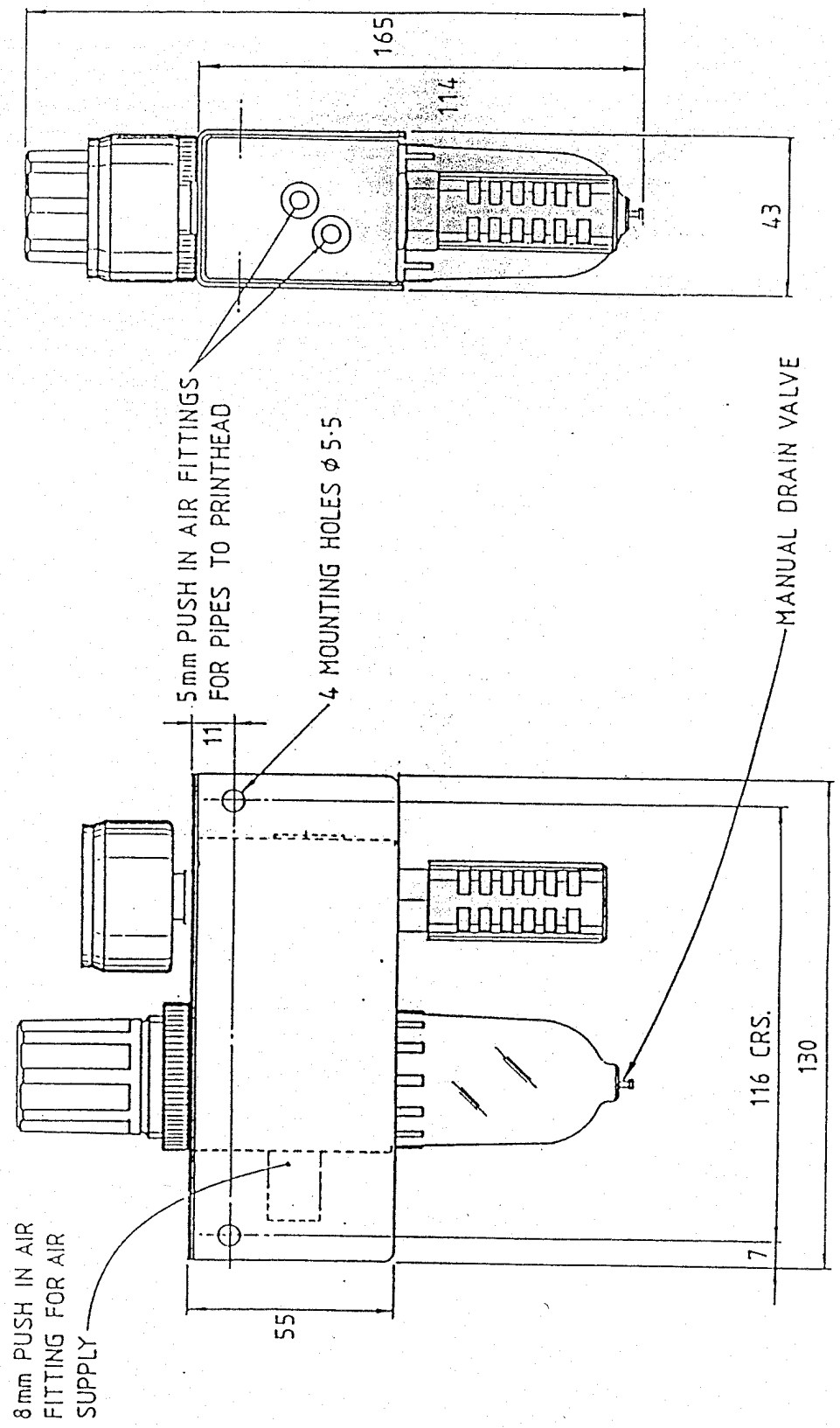
The use of a backing pad is not required when printing directly onto a more resilient media, for example, cardboard boxes.

Space Requirements

The illustrations of the various coder types shows the installation dimensions of the coder unit. Particular attention should be taken to ensure there is necessary space available to allow for the removal of the magazine, and the tapped location hole to allow orientation of the type head to the printing medium.

If not using a mounting frame supplied by Graseby Allen then it is suggested that a convenient storage location is provided for the typeholder extractor handle.The handle has an M5 thread.

GRASEBY ALLEN

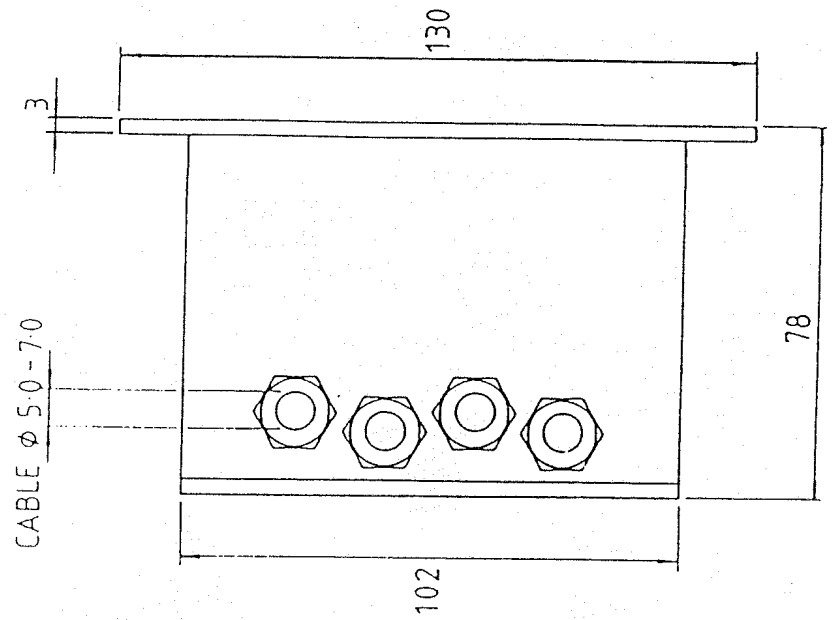


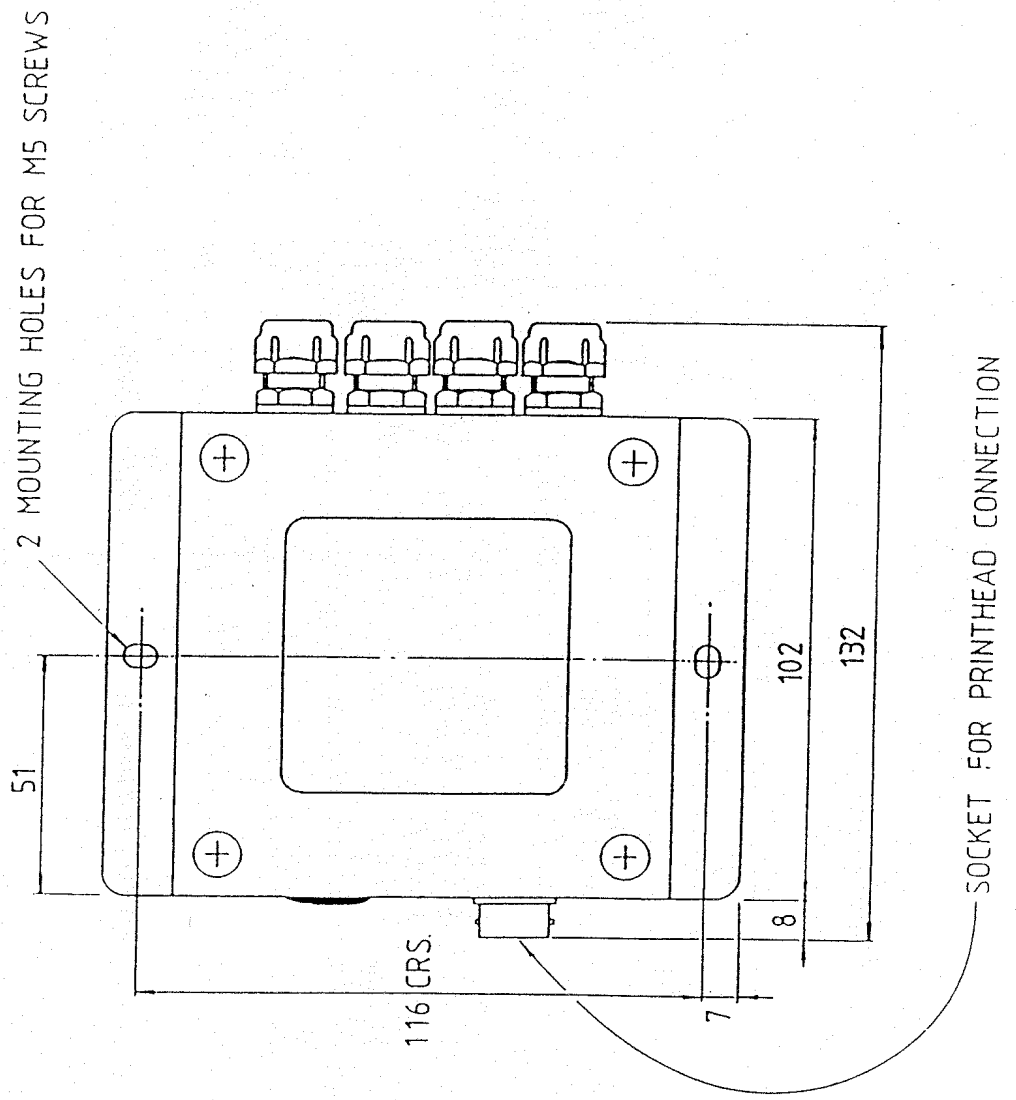
Air Control Unit Mounting and Adjustment

The illustration shows the installation dimensions for the standard air control unit, which should be mounted vertically. Access must be provided to allow maintenance personnel to adjust the operating pressure and view the pressure gauge. Access is also required to visually check the liquid level in the sight glass and to drain the bowl using the manual drain valve.

CAUTION: MOISTURE MUST BE DRAINED FROM THE BOWL AT REGULAR INTERVALS AND MAY BE PRESENT IN THE EXHAUST DISCHARGE FROM THE CYLINDER. THE AIR SERVICE UNIT MUST BE POSITIONED SO THAT THERE IS NO CHANCE OF THIS MOISTURE COMING INTO CONTACT WITH LIVE ELECTRICAL CIRCUITS.

GRASEBY ALLEN





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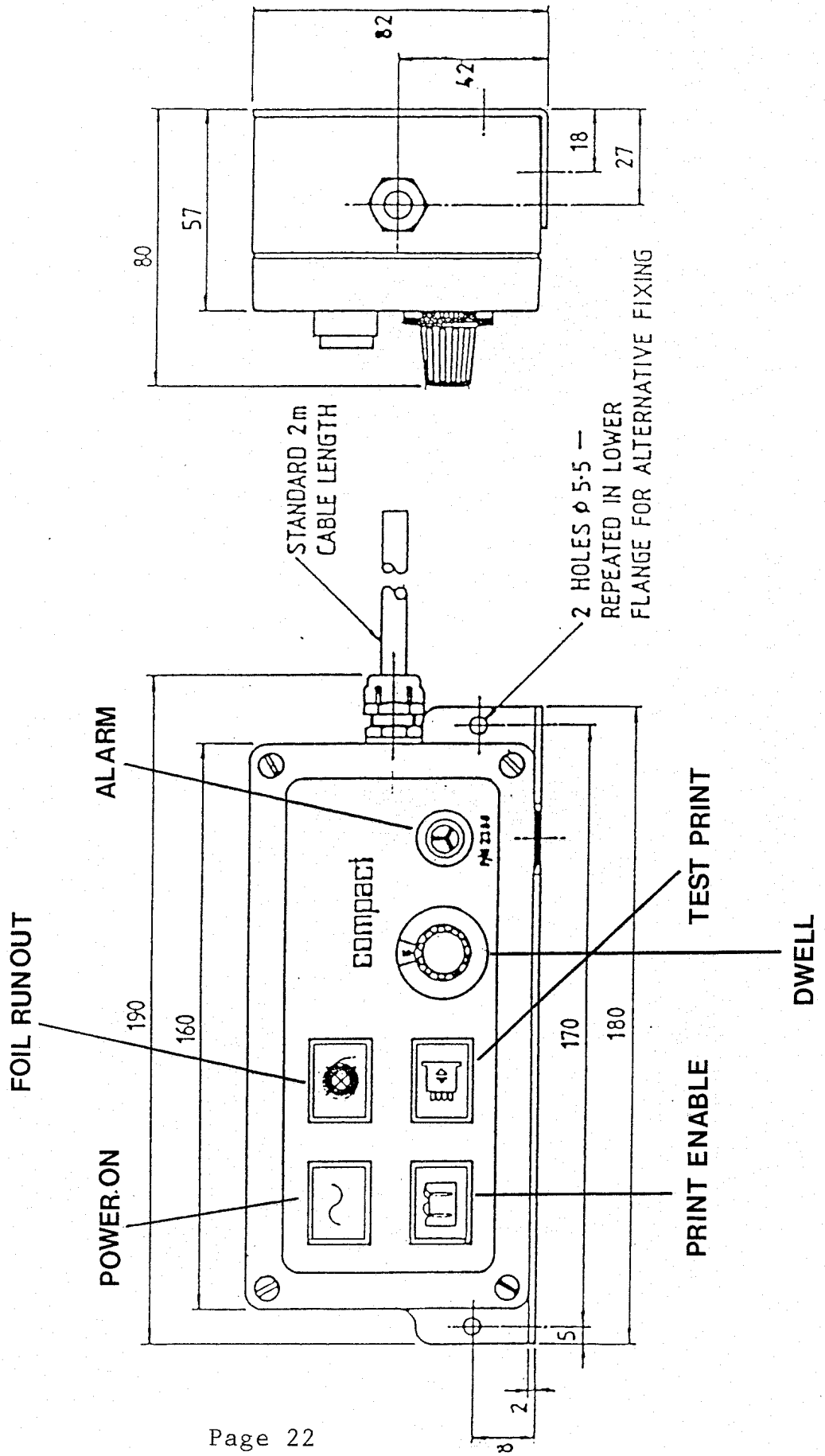
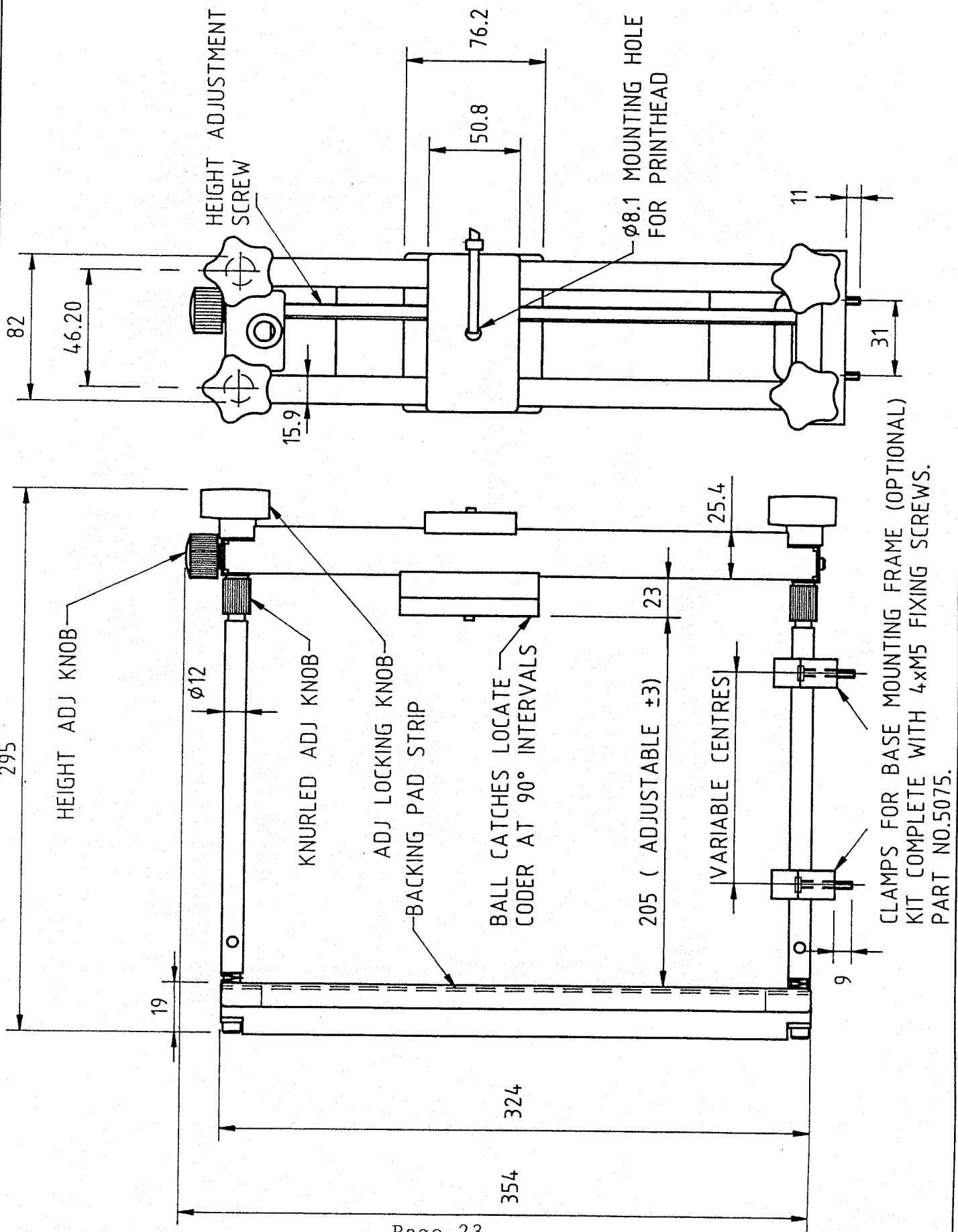


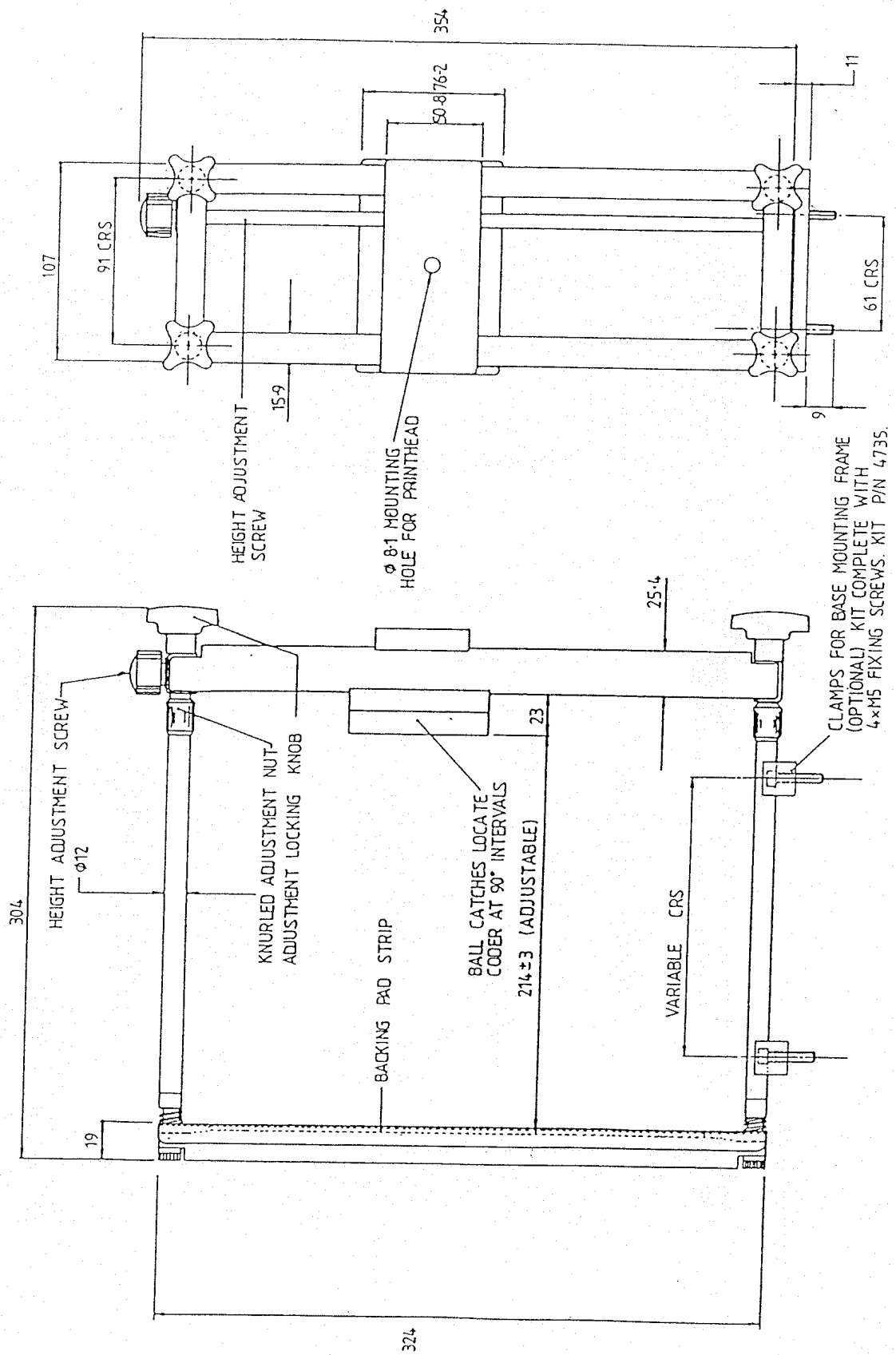
title DATA SHEET LAYOUT-FRAME STD 205

GRASEBY ALLEN



title DATA SHEET - LAYOUT FRAME STD 214x300

GRASEBY ALLEN



Coder Mounting and Adjustment Instructions

The following instructions are based on the use of a standard Graseby Allen mounting frame. Any custom built installation adapter should incorporate at least the alignment adjustments indicated.

* Arrange to install the mounting frame to provide the coder position to suit the application. For example, if printing directly onto cardboard boxes then it may be desired to allow the height of the printed code up the side of the box to be varied. Alternatively, if printing to label stock, the alignment of the printed text across the face of the label would be more important.

* Install the mounting frame securely.

* Mount the coder unit to the frame using an M8 screw. Ensure that the screw length does not allow it to protrude beyond the thickness of the coder mounting. align the coder head using the ball catches and indents provided on the mounting face.

* Adjust the coder position. Release the coder clamping handle by a quarter turn and move the coder position using the position adjustment knob. Re tighten the coder clamping handle.

* Ensure that the chosen method of mounting will allow the face of the printing block to be parallel with the face of the printing medium. If necessary, release two or more of the adjustment locking knobs and turn the knurled adjustment nuts to the correct alignment. Tighten the adjustment locking knobs.

NOTE: The adjustment locking knobs may be replaced using standard hexagon nuts to prevent unauthorised tampering.

* If necessary, insert the backing pad strip and ensure that it is aligned with the print head. Note that the backing pad strip is used to provide a resilient surface to take up small inaccuracies of the type face and will not be necessary if the printing medium is sufficiently resilient.

* Two types of backing pad are available for the Graseby Allen range of frames.

* The white coloured silicon rubber backing pad is for general purpose and will suit most applications where more than one line of type is being used.

* A composite backing pad should be used when printing a single line of text, for example when using a rotary typeholder, or when printing the maximum width.

* Advice on the selection of these pads is available from Graseby Allen limited.

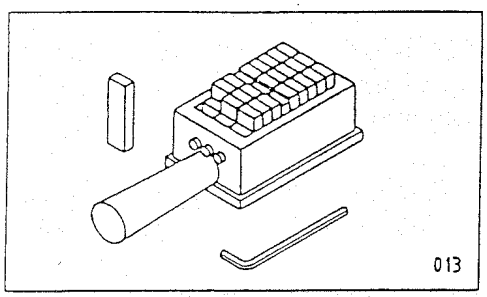
Typeholder- Setting up

WARNING: THE HEATER BLOCK AND TYPEHOLDER OPERATE AT A HIGH TEMPERATURE WITH THE DANGER OF INJURY IF THEY ARE TOUCHED.

TAKE CARE TO AVOID DIRECT CONTACT,ESPECIALLY WHEN REMOVING OR INSERTING A TYPEHOLDER.

The four main categories of typeholder are prepared in the following manner:

Fixed Row and Universal



These typeholders accept cast type 0.918" high or Pryor hardened steel type 5/8" or 3/4" high

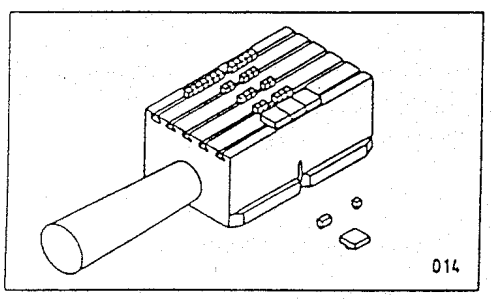
Clean the recess(es) to ensure that the type will be seated correctly.

Insert the type characters and spacers, to create gaps, one piece at a time.

Fit additional spacers as necessary to align the type and fill the recess(es).

Use the screws in the end of the typeholder to clamp the type tightly, an hexagonal wrench is provided.

T-Slot



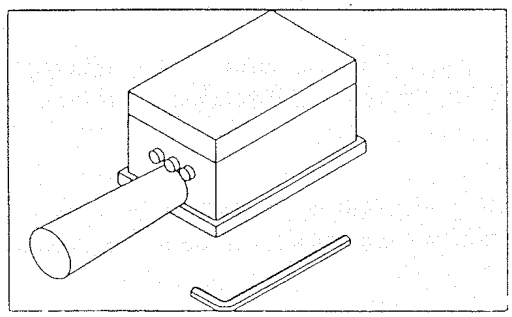
These typeholders accept T-Slot type which is normally engraved from brass.

Clean the recess(es) to ensure that the type will slide easily into the slots.

Insert the type characters and spacers, to create gaps, one piece at a time.

Insert the T-slot type retaining clips or blocks into each end of the slot(s).

Zinco

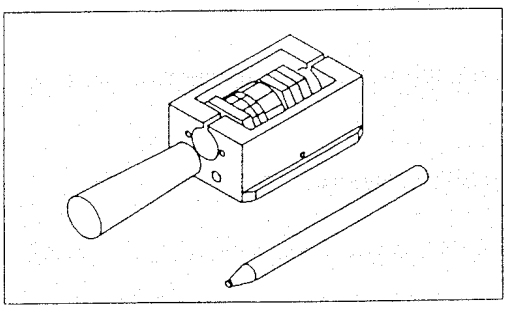


These typeholders accept 5mm thick etched zinc plate.

Clean the mating faces to ensure that the plate will be seated properly.

Use the countersunk screws to secure the plate a hexagonal wrench is provided.

Rotary Flick Wheel



These typeholders are supplied with rotary wheels carrying the type characters.

Rotate the wheels to obtain the desired print. An indexing pencil is provided to push each wheel round to the correct position.

Typeholder- Fitting & Removal

WARNING: THE HEATER BLOCK AND TYPEHOLDER OPERATE AT A HIGH TEMPERATURE WITH THE DANGER OF INJURY IF THEY ARE TOUCHED.

TAKE CARE TO AVOID DIRECT CONTACT,ESPECIALLY WHEN REMOVING OR INSERTING A TYPEHOLDER.

Preheating the typeholder off line will reduce down-time since it will not have to be heated when installed in the heater block. Graseby Allen can supply a unit for this.

Screw the extraction handle into the tapped hole provided in the type block and use this as a handle. Check that the type face is correctly orientated and slide the type block into the heater block.

Take care to avoid direct skin contact with the typeholder or heater block.

To withdraw the typeholder, screw the extractor handle into the typeholder tapped hole and use this as handle to slide the block out. With normal care it is possible to extract the block without needing to cool it down first.

Magazine Loading / Unloading Instructions

The coder is fitted with a foil fault sensor. An audible alarm will sound and the fault indicator will be illuminated when either the foil runs out at the end of a reel, if the foil breaks, or when a magazine loaded with foil is removed.

To cancel the audible alarm, press the alarm cancel button. The button will remain lit until a loaded magazine is replaced on the coder. The coder will not function until the foil is replaced.

NOTE: To reduce down-time, it is recommended that a second, spare, magazine is kept on standby. This can be pre-loaded with foil at a convenient time and rapidly exchanged for an empty magazine.

Release the magazine from the coder body by sliding the latch out of the engagement with the central pillar.

By pulling on the two handles, remove the magazine directly away from the coder body.

Fit an empty cardboard core onto the take up roller, this would normally be transferred from the now empty feed on spool.

Check the condition of the rubber foil drive roller, if necessary, clean off any dirt or dust.

Referring to the label on the magazine, push a new reel of foil onto the feed on spool and thread the foil, using the path indicated, to the take up roller.

Secure the free end of the foil to the cardboard core on the take up roller using adhesive tape.

Rotate the foil drive roller to ensure that the foil is securely attached at the take up roller and to apply the correct initial tension to the foil.

NOTE: The foil drive roller is fitted with a one-way clutch and can only rotate in one direction.

Replace the magazine, checking that the foil enters cleanly into the slot provided at the rear of the coder. Guide pins ensure that the magazine is correctly aligned.

Power On and Warm Up

Normal Operation

In normal opeartion the unit will be powered up at some time before the start of the working shift to allow the correct temperature to be reached before opeartion is due to start.

WARNING: THE HEATER BLOCK AND TYPEHOLDER OPERATE AT A HIGH TEMPERATURE WITH THE DANGER OF INJURY IF THEY ARE TOUCHED.

At the start of each shift, visually inspect the condition of the coder, coder mounting and wiring. If necessary, clean the unit and the surrounding area.

Rectify any apparaent signs of damage or wear.

Following any maitenance or problems with the unit it is recommended that the following initial set-up procdure is followed in sequence.

Air Supply

Check that an air supply is connected to te air service unit, and that the pressure gauge is indicating an outlet pressure of 4 bar (58 psi). If necessary, lift the adjusting knob on the regulator and adjust, by turning, until the correct pressure is indicated. Press down on the regulator adjustimg knob to lock the adjustment. Drain any moisture that may have accumulated in the bowl.

Power Supply

Enable the power supply to the power pack. The green LED's on the electronic module and the coder body will be illuminated to indicate that the 24Vdc power supply is enabled. In addition,any alarm LED's will be illuminated on the electronic module.

Controls

When the coder has been enabled the LEDs on the electronic module will be illuminated.

Before switching the coder on select the required temperature range as required. Normally,the low range would be used but, for high speed or where printing a large area of print,the high temperature range would be used.

If any alarm condition exists the relevant LED will be illuminated and fault indicator will flash.

Allow approximately 12 minutes for the coder to reach the required temperature. The dwell can be set using the potentionometer on the electronic module.

Coder Mounting and Adjustment

If the coder has been set up as described earlier under installation, or was last being used for the same printing task and has not been disturbed since, this procedure can be ignored.

If the coder mounting has been disturbed, or is being set-up for a new printing task then proceed as follows:

* Release the four adjustment locking knobs and turn the knurled adjustment nuts by equal amounts to move the coder safely away from the print position. By turning the adjustment nuts by equal amounts the alignment will be maintained. Tighten the adjustment locking knobs.

* Adjust the coder printing position. Release the coder clamping handle by a quarter of a turn and move the coder position by using the position adjustment knob to align the printhead with the required printing position. re-tighten the coder clamping handle.

Typeholder

WARNING: THE HEATER BLOCK AND TYPEHOLDER OPERATE AT A HIGH TEMPERATURE WITH THE DANGER OF INJURY IF THEY ARE TOUCHED.

WHEN HEATED TAKE CARE TO AVOID DIRECT CONTACT, ESPECIALLY WHEN REMOVING OR IF INSERTING A TYPEHOLDER.

Check and / or set-up the required typeholder.

NOTE: It is suggested that a spare typeholder is obtained. Type can be set using a cool typeholder and the unit pre-heated off-line for the quickest change of type. Graseby Allen can supply a unit for this.

Using the extractor handle, load the typeholder to the heater block.

Magazine

If necessary, load foil onto the magazine.

Locate the magazine onto the coder and secure in place by using the latch.

Foil index

If the coder foil index has previously been set up or was last being used for the required printing task and has not been disturbed since, this procedure can be ignored.

Adjust the foil index knob fully anti-clockwise to give the maximum foil index for each printing cycle.

Backing Pad

Check that the correct backing pad is in place for the required task. Two types of backing pad are available.

* The white coloured silicon rubber backing pad is for general use and will suit most applications where more than one line of type is being printed.

* A composite backing pad should be used when printing a single line of text, for example, when using a rotary typeholder, or when printing the maximum width.

* Advice on the selection of these pads is available from Graseby Allen Limited.

Check that the backing pad is in good condition and is aligned with the print area.

NOTE: A backing pad is not normally required when carton printing.

Printing Pressure

Allow at least 5 minutes for the printhead and heater block to stabilise at the set temperature.

Position the material to be printed over the backing pad, press the test print button and examine the results.

CAUTION: DAMAGE WILL OCCUR IF THE CODER IS SET TOO CLOSE TO THE MATERIAL SURFACE.

If the resulting print is too light then release the 4 adjustment locking knobs and turn the knurled adjustment nuts by small equal amounts to move the coder closer to the material being printed on. By turning the adjustments nust by equal amounts the alignment will be maintained. Thighten the adjustment locking knobs.

NOTE MOVING THE CODER TOO FAR FORWARD WILL EFFECT THE INDEX. AN UNEVEN PRINT MIGHT BE CORRECTED BY MOVING THE CODER BACK ON THE SIDE WITH THE DARKER PRINT.

Repeat this test print sequence, if necessary adjusting the nuts by different amounts, until an even print with a light impression is obtained. tTighten the locking knobs after each adjustement.

Switching between the temperature ranges is achieved by moving the toggle switch on the coder body between the marked high and low temperature positions.

The effect of the set temperature is variable and will depend on other factors such as print area, printing speed, dwell time and the foil grade. The transfer of pigment from the foil to the substrate depends on the temperature to which it is heated. For a given print head temperature, the rate of the transfer of heat to the pigment is reduced by a larger area of print, higher printing speed and shorter dwell time. The effect being aimed at is for the pigment to adhere completely and permanently to the surface being printed.

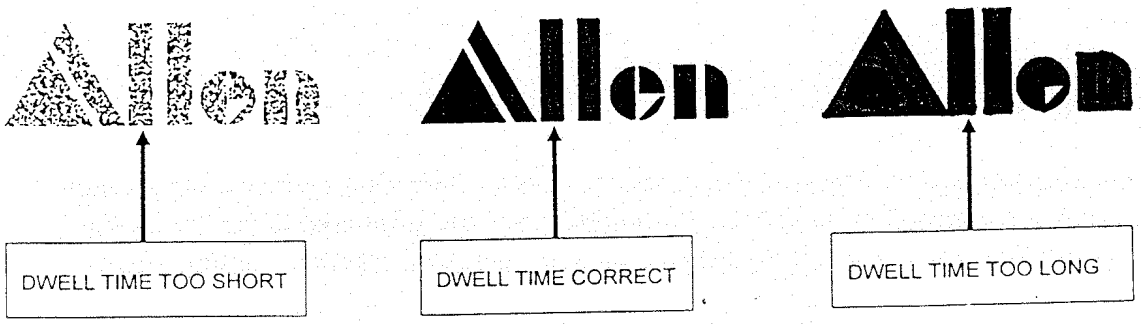
The following gives a guide to the temperature ranges to use, these apply when printing to paper, card or plastic film.Metallic foils will require a higher operating temperature:

Print	Speed	Heat Range
1 to 3 lines of up to 10 pt type, or an equivalent area.	Up to 150 prints / min	Low
4 lines or more of 10 pt type,or	Over 150 prints / min	High

Dwell Adjustment

The dwell time is the short period of time for which the item being printed is stopped while the printing is carried out. Dwell time is set using the potentiometer located on the electronic module.

Dwell time must be adjusted to give a good print. The following reproduction gives an indication of the effects of which may be found.

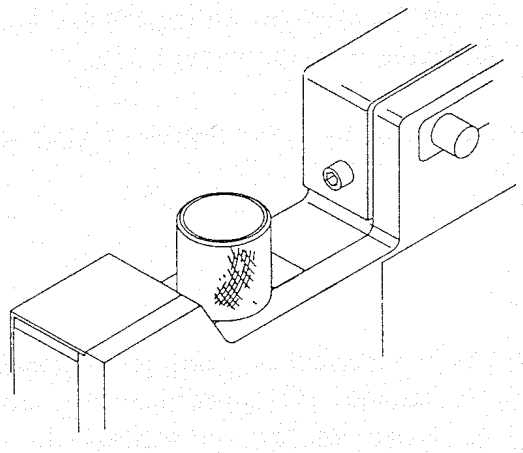


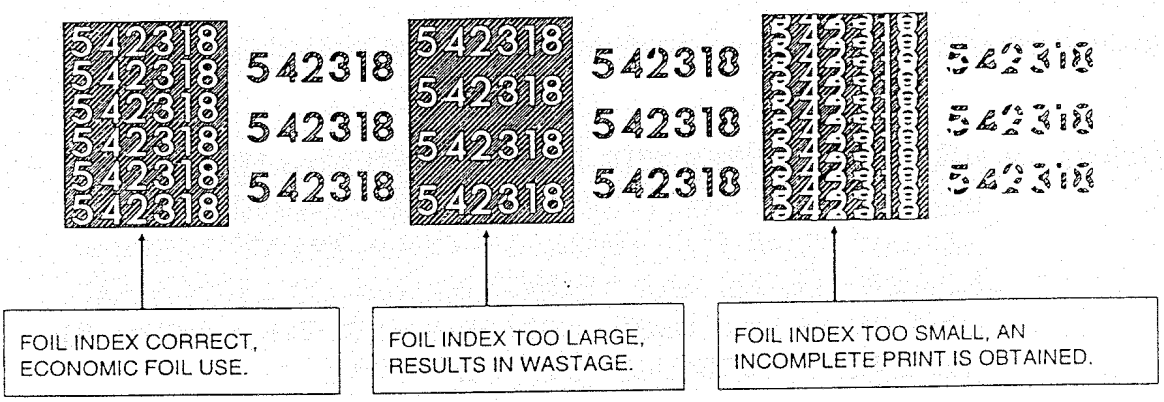
The setting to aim for is the minimum dwell time which produces a good print. A long dwell time will reduce the number of prints per minute which can be achieved. If the print does not adhere completely and permanently to the surface being printed, that is it can be rubbed off, try varying the heat and/or dwell settings. If a satisfactory print quality cannot be obtained it may be necessary to use a different grade of foil. Refer to Section 5.10 for recommendations.

Foil Economy

Foil is indexed through the coder as the print head returns after each print. The length of the foil indexed being adjusted using the foil index knob; the knob being turned clockwise to reduce the amount of foil movement.

Efficient use of the foil is indicated by the illustration below.





The foil index knob can be adjusted whilst the coder is printing and the amount of foil index can be seen as the foil moves round the rubber drive roller.

Enable Printing

Once the coder unit set-up procedure is complete normal operation becomes very simple. Once the unit has warmed up (approx 12 minutes),press the print enable button on the electronics module,this will become illuminated and operation continues automatically.

The operator should however check the print quality during production, if necessary increasing or decreasing the dwell time to correct for any variations in quality. the operator is also required to respond to any audible alarms issued by the electronic module.

Alarms

Foil Run-out / Fault:

A switch in the foil feed slot at the rear of the coder is actuated by the foil passing through the slot. When the end of the reel is reached,or the foil breaks, the switch is activated and a indicator lamp is illuminated on the electronics module. The alarm can be cancelled by reloading the magazine with foil and replacing it on the coder body.

The foil run-out /fault alarm can also be caused by removing the magazine from the coder and therefore inhibiting printing.

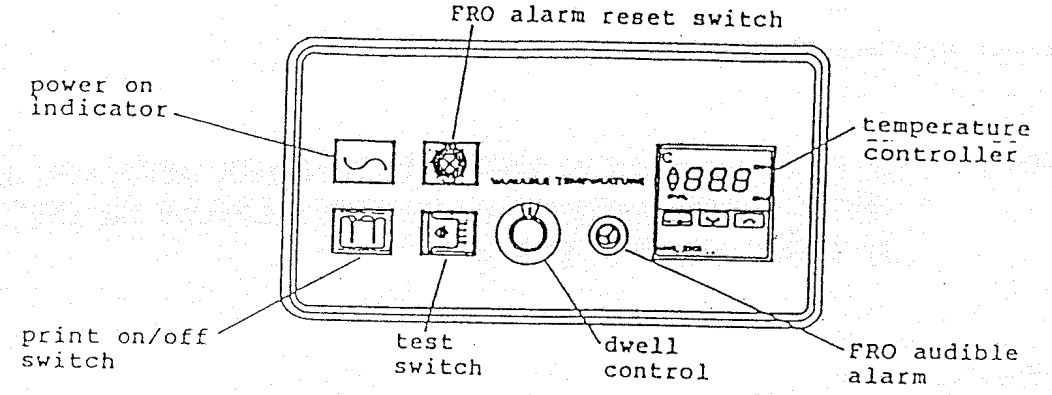
Power Off

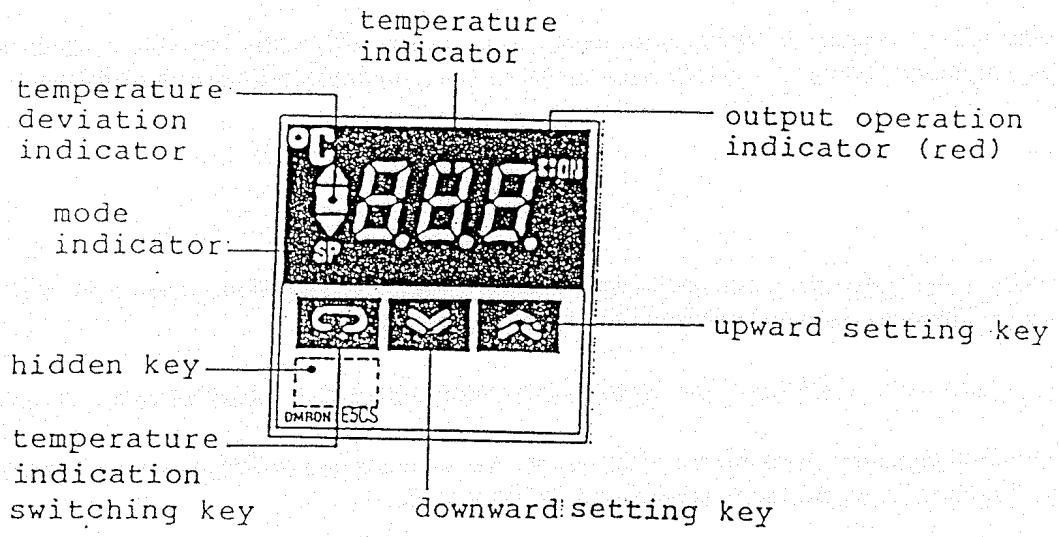
The coder unit will normally be wired to be inhibited stopping the machine on which it is attached. When product flow through the machine is stopped the coder will also stop,although it will still be powered up and the temperature maintained. The coder must therefore be switched off at shutdown, or the completion of the shift.

To shut down the coder unit, switch off the power supply at the external isolator switch.

WARNING WHEN SHUT DOWN THE PRINT HEAD AND HEATER BLOCK WILL STILL BE AT A HIGH TEMPERATURE. ALLOW TIME FOR THESE TO COOL DOWN BEFORE UNDERTAKING ANY MAINTENANCE OR CLEANING ON THE CODER UNIT. AIR PRESSURE WILL STILL BE APPLIED TO THE AIR SERVICE UNIT.

VARIBLE TEMPERATURE MODULE SETTING





Setting the temperature

As shown diagramatically above, pressing the [↻] key causes the display of the present temperature (of the heater block) to change to the set point temperature (the mode indicator shows SP).

Holding the hidden key depressed and pressing the upward or downward setting keys allows the set temperature to be changed. Pressing the [↻] key 3 times displays the present temperature again. (If using mazak type do not set the temperature above 200°C and do not exceed 250°C in any case as the thermocouple wire and heater block insulation will be damaged. On later models a maximuum of 200°C has been set).

Control indications

When the control module is first switched on the temperature controller displays the present temperature, the red output operation indicator will light and the red 'below temperature' deviation indicator ▽ will be lit (showing the present temperature is below the set point temperature). When the temperature of the heater block is within 3°C of the SP temperature the green 'at set temperature' indicator will light. If the temperature overshoots or the SP temperature is lowered the red 'above temperature' deviation indicator △ will light up.

If the thermocouple fails (in the heater block) or the coder is disconnected from the control module whilst switched on the temperature controller will display FFF or --- (flashing).

Temperature Alarm

To set this function the [↻] key should be pressed until AL mode is indicated at the bottom of the display. A figure will be displayed which is the tolerance, allowed on the set temperature, within which the coder will operate. This figure can be changed by pressing the 'hidden key' and either the [≫] or [≪] key, e.g. with SP set to 150 and AL set to 10 the coder will operate between 140°C and 160°C. Pressing the [↻] key twice displays the present temperature again.

If the temperature of the coder goes below, or above, the allowed tolerance, the audible alarm will sound and the coder will stop working. The red FRO alarm reset switch will also be lit and the 'AL' alarm indicator will show on the display. To stop the audible alarm press the FRO reset switch. The coder will not operate again until the temperature returns to within the tolerance.

WARNING THE HEATER BLOCK AND TYPEHOLDER OPERATE AT HIGH TEMPERATURE WITH THE DANGER OF INJURY IF THEY ARE TOUCHED.

Maintenance Frequencies

The Graseby Allen Compact coder has been designed to operate efficiently with the minimum of maintenance attention, however the following schedule is recommended to ensure maximum reliability.

Daily

Visually inspect the coder and associated components for security, vibration, wear or damage. Report any problems to the person responsible for maintenance.

Check the position and condition of the backing pad,if used,moving or replacing as necessary.

During operation,regulary check on the print quality and efficient use of foil,making adjustments as necessary. Respond to audible and visual alarms as they occur.

When loading foil,wipe the magazine clean of any dust or debris,paying particular attention to the rubber drive roller.

Weekly

An experienced maintenance technician should visually check the coder,control unit,power supply,air service unit,external wiring,and all mountings. Check for security,vibration,wear and damage,rectifying any problems found.

The air service unit should be drained by pressing the manual drain valve in the bottom of the bowl.(The frequency of draining the air service unit will depend on the quality of the air supply).

Monthly

A full maintenance inspection should be carried out by a suitably qualified and experienced maintenance technician.

Check the internal connections and fasteners,particualrly within the coder. Correct any faults found.

Check the operation of the relays and alarm sensors, making adjustments as necessary.

Lubrication

No specific lubrication is required.

Testing

Following maintenance, or if any problems are experienced during operation, the function of the coder unit can be checked using the test button on the electronic module. The test button, when pressed,operates the coder for one single print.

* If necessary,press the print enable button on the electronic module,the indicator light will be extinguished when the coder is off line.

* Check that the backing pad,if fitted ,and the print media is in position. Operating the coder without a resilient backing pad or print media will impose excessive loads on the coder unit and will increase wear.

* Press and release the test button. The coder will perform a single print cycle.

* Repeat the single print cycle,checking and making adjustments as necessary.

Foil Run-out / Fault

The foil run-out sensor alarm is operated when the end of the foil is reached,the foil breaks or the magazine is removed.

Solenoid

Operation of the air solenoid can be checked at any time using the test button as described above. Note that the speed of operation of the cylinder is determined by the air flow restrictors drilled into the manifolds and is not variable.

Electrical Fault Finding

Electrical & mechanical fault finding must only be undertaken by persons suitably experienced and qualified.

Ensure that electrical supplies are properly isolated before undertaking any maintenance procedure. The supply should be disconnected by operation of the main switch,removal of the fuses or other acceptable method. A notice should be placed at the point of isolation showing:

DANGER- WORK IN PROGRESS

All machine covers must be securely fastened and all control,interlock and safety systems re-instated,before returning the unit to service.

Foil Run-out not working:

To check the electronic module out first remove rear cover on the coder. Isolate the coder from the power pack by removing the 6 way connector. The FRO is situated behind the coder mounting plate and is connected to the printhead circuit PCB by 3 leads; Green,violet and black into a 3 way terminal block.

Green lead is ground
Violet lead is 12v supply
Black lead is signal path

* Disconnect the black lead from the 3 way terminal block,reconnect the coder to the power pack. Using a piece of link wire or pointed pliers,short circuit connections marked Gn and Bk on 3 way terminal block. Remove short circuit. Now short circuit connections marked V and Bk on 3 way terminal block, this will set the alarm off.

* If the alarm goes off,the electronic module is working properly and the FRO component is faulty.

* If the alarm fails to go off, then repeat the exercise as described above and if the alarm still fails to go off,there is a fault with the electronic module.Replace the PCB within the electronic module.

Now we have established the electronic module is working,reconnect the black lead into the 3 way terminal block.Using a length of printing foil,slide the foil into the coder slot at the rear of the coder,behind the coder mounting plate with the reflective side of the foil facing the FRO unit. If the alarm fails to go off on removal of the foil, then reverse foil so that the matt finish of the foil is facing the FRO unit,then remove and if the alarm goes off, this means the FRO unit is getting a signal from the coder mounting plate.Possible causes:

* Neoprene pad missing-Replace

* Dust gathered on neoprene pad causing reflections-clean and replace.

If the alarm still fails to go off,the replace the FRO unit (P/N 3170). If this unit is replaced,it should be fitted with a neoprene pad mounted on the underside of the PCB to ensure that the FRO unit fits firmly in the coder and is not left loose.

Solenoid Valve not working (Alarm o.k)

Check that the test button on the electronic module is working,if o.k then possible cause:

* Signal missing from the conveyor to electronic module

* If signal from conveyor is o.k,then the OPTO ISOLATOR IC5 is probably faulty.

Replace PCB in electronic module.

Control unit Lamps and Neon Indicator on Coder Fail to light.

Possible cause:

F4 fuse 1 amp anti-surge open circuit.
This can be located inside the power pack unit.

Control unit found to be working but Heater not working on Coder,Neon not illuminated.

Possible cause:

F2 or F3 fuse 1 amp anti-surge open circuit.
This can be located in power pack unit.

Control Unit working and Neon illuminated but Heater not working.

Possible cause:

Heaters are open circuit.
One of the supply leads to heater block open circuit.

Control unit Lamps nor working but Neon Indicator on coder body illuminated.

Possible cause:

F1 fuse 250 MA anti-surge open circuit.
This fuse is located on the power pack unit.

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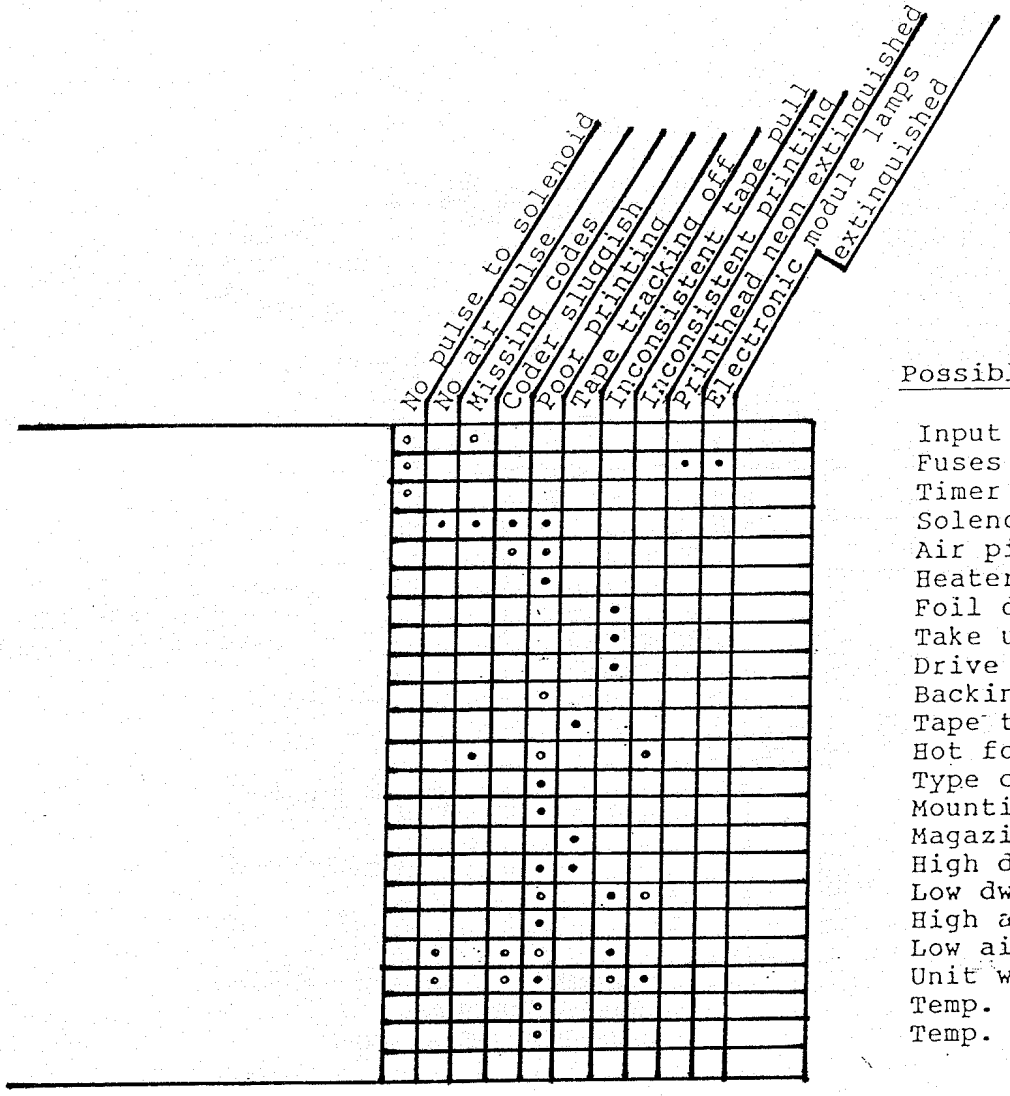
FAULT FINDING CHART



Possible Cause	
Input signal	
Fuses (note 1)	*
Timer P.C.B. (Note 1)	
Solenoid valve	
Air pipes	
Heaters	*
Foil drive roller	*
Take up roller	*
Drive spring	*
Backing pad	*
Tape threading	
Hot foil tape	*
Type characters	*
Mounting adjustment	
Magazine damage	
High dwell time	
Low dwell time	
High air pressure	
Low air pressure	
Unit worn out	
Temp. too high	
Temp. too low	

WEAR AND TEAR

Condition	Likely Area Affected	Remedy
Damage from misuse	Heater block	Clean up with file or replace
	Typeholder	
	Magazine	Adjust posts and check tracking
	Foil drive roller	Replace
	Heater block stubs	
Incorrect lubricant or none	Cylinder	Replace seals and lubricant
Unit worn out	Printhead	Return to Allen for re-work, use loan coder to service customer

Note 1 - Refer to electrical fault finding section.

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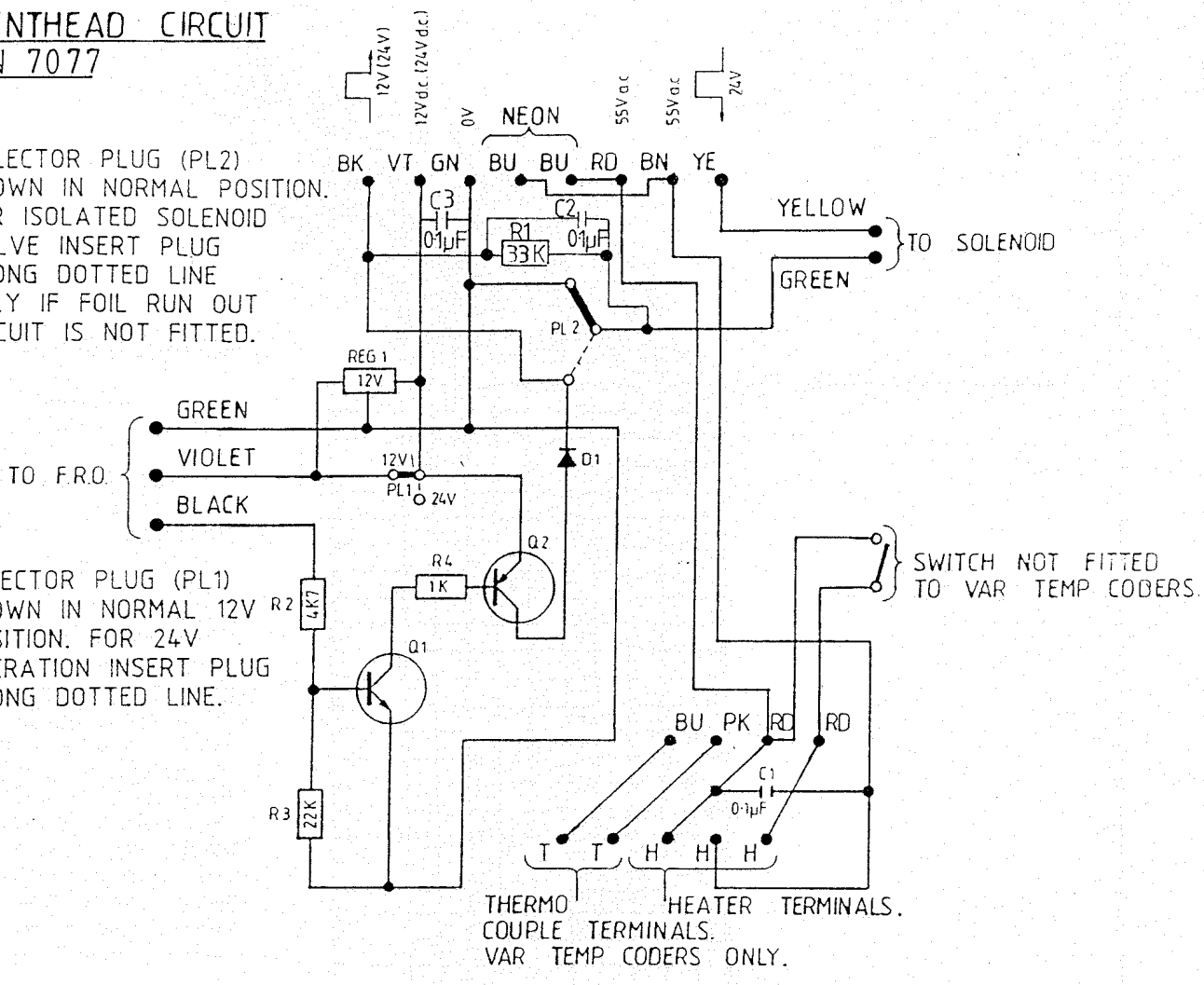
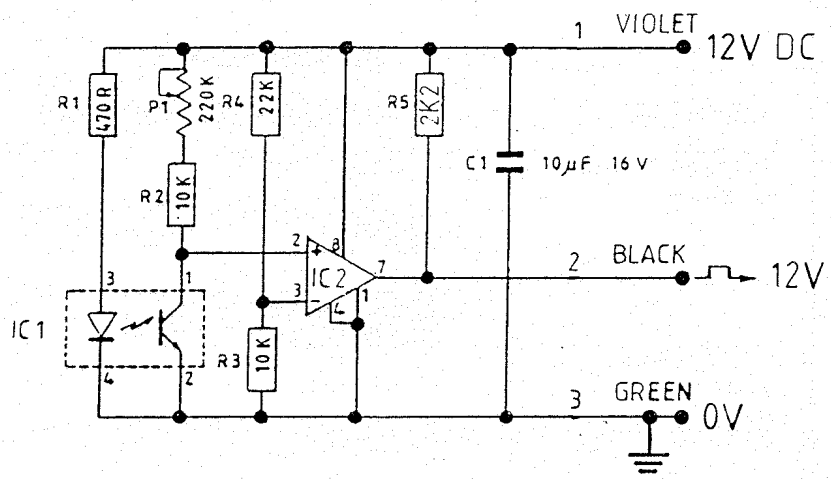
PRINTHEAD CIRCUIT P/N 7077

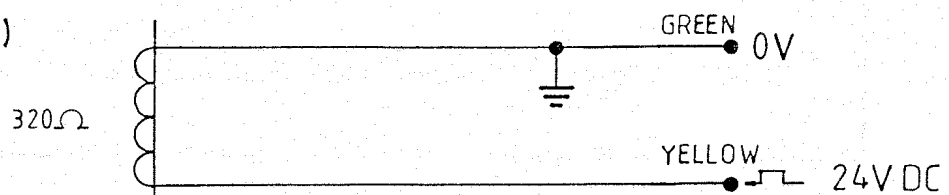
NOTE:
1. SELECTOR PLUG (PL2) SHOWN IN NORMAL POSITION. FOR ISOLATED SOLENOID VALVE INSERT PLUG ALONG DOTTED LINE ONLY IF FOIL RUN OUT CIRCUIT IS NOT FITTED.
2. SELECTOR PLUG (PL1) SHOWN IN NORMAL 12V POSITION. FOR 24V OPERATION INSERT PLUG ALONG DOTTED LINE.



FOIL RUN OUT SENSOR CIRCUIT P/N 3170



SOLENOID (AIR VALVE) CIRCUIT



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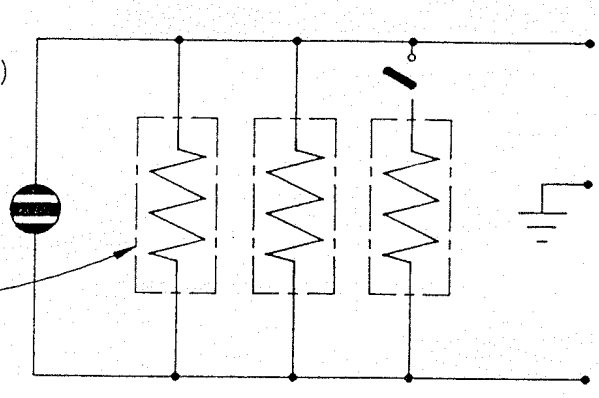
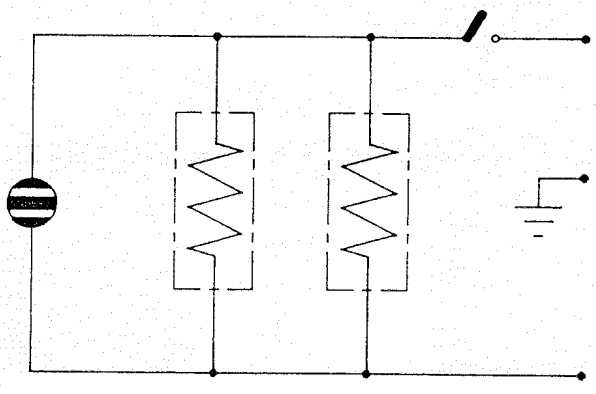
40/25, C, S, HS (60/35)
(PTC HEATERS)

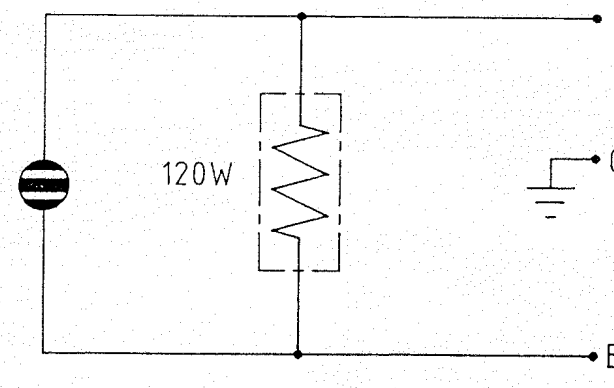
NOTE:
THIS HEATER IS NOT FITTED TO 40/25 SERIES.



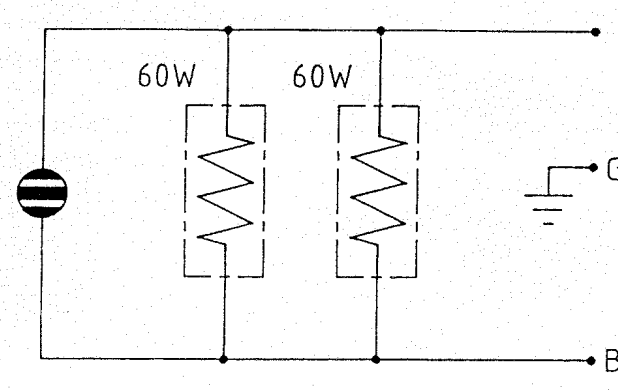
40/25 HI
(PTC HEATERS)



40/25 VT
(CARTRIDGE HEATER)

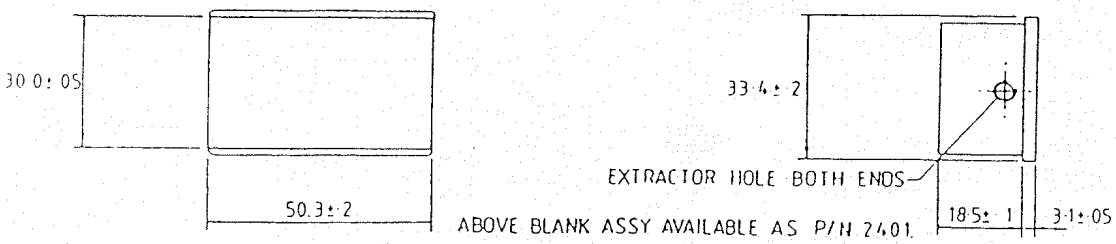


60/35 VT
(CARTRIDGE HEATER)



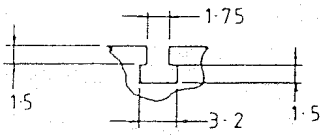
GRASEBY ALLEN

TYPEHOLDERS 30 STANDARD DIMENSIONS



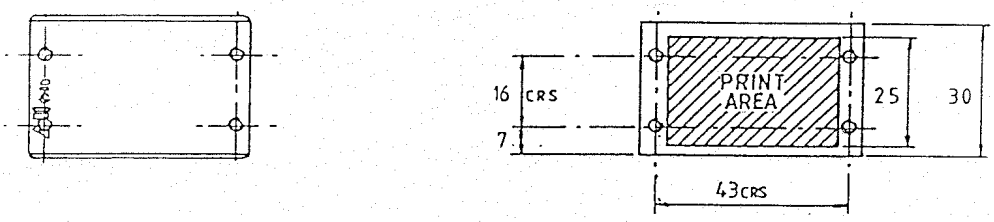
ABOVE BLANK ASSY AVAILABLE AS P/N 2401.

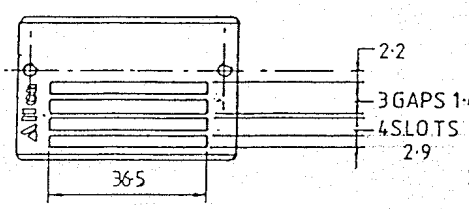
T-SLOT DIMENSIONS



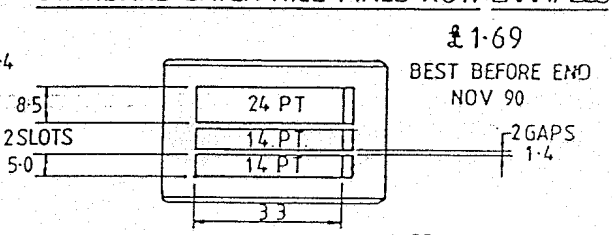
ALL ±·02

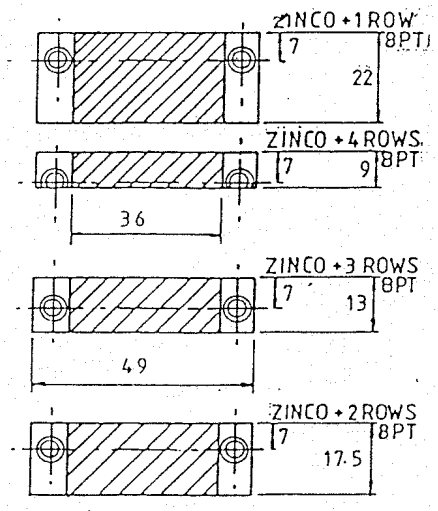
ZINCO TYPEHOLDER -FOR 5 SWG (5·4 mm) ZINCOS. ZINCO DETAILS

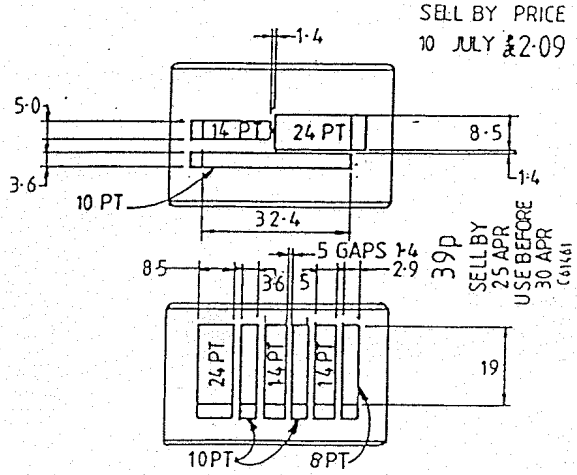




STANDARD DATE/PRICE FIXED ROW EXAMPLES







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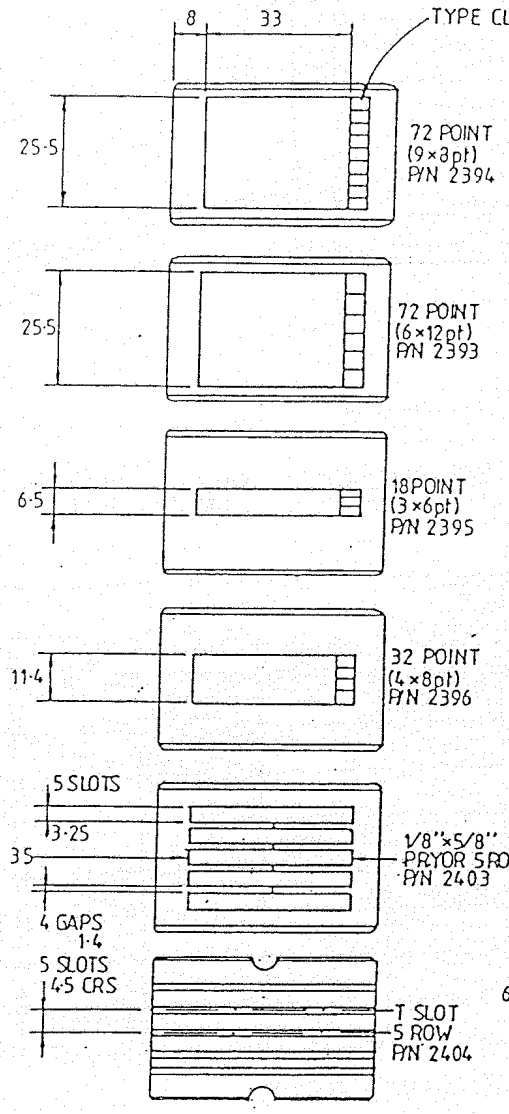
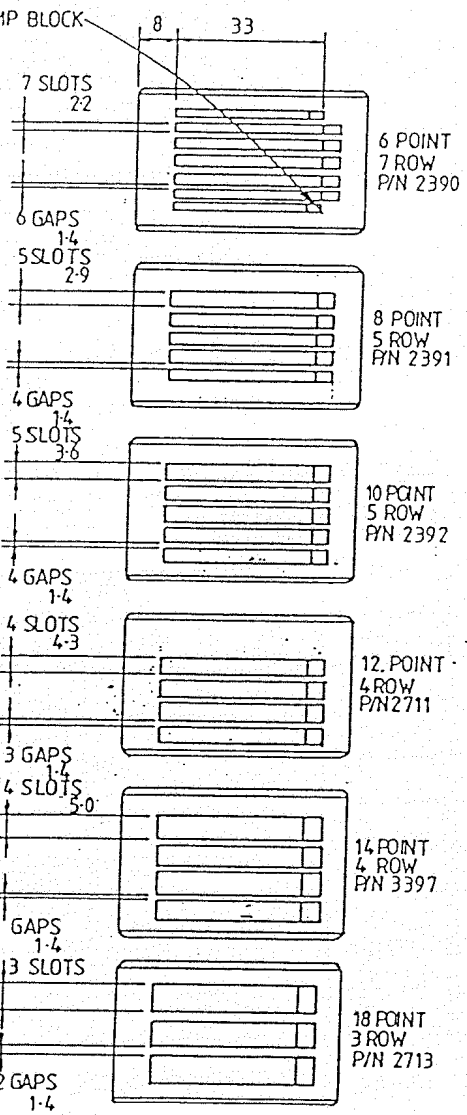
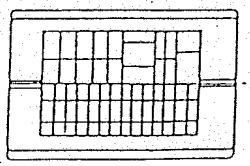
STANDARD CLOSE ROW TYPE – HOLDER FOR ALLEN CAST TYPE & FIXED ROW PRYOR/T SLOT.



STANDARD FIXED ROW TYPE – HOLDER FOR ALLEN CAST TYPE.



TYPEHOLDER 30



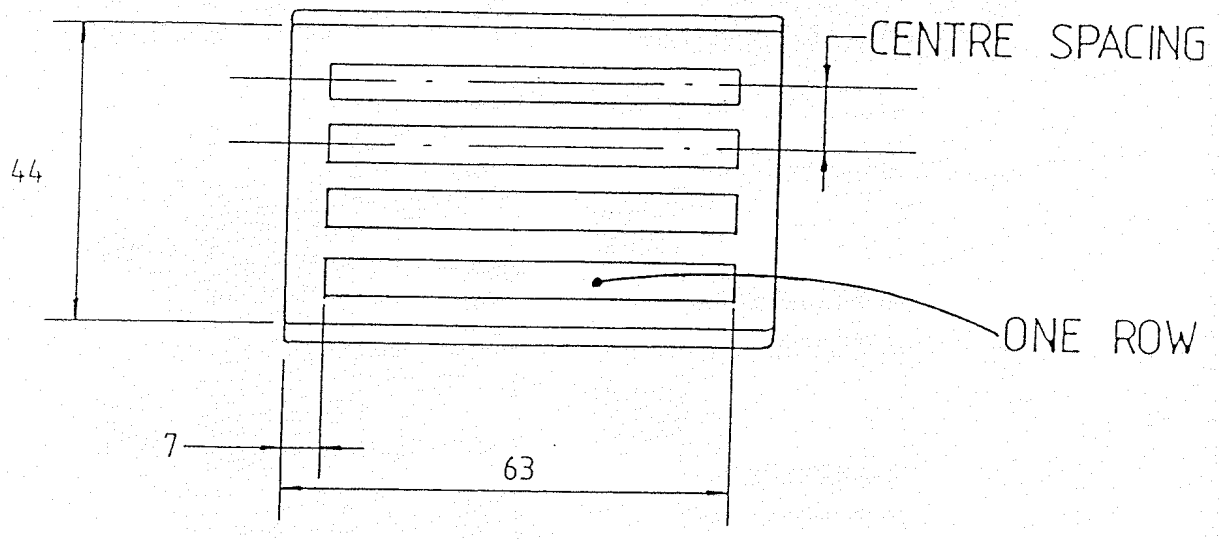
TYPEHOLDER 30 ROTARY
DATA PRICE
(FOR COMPACT 205 PRINT HEAD)

BEST BEFORE 20 FEB ×42 £1.79p

TYPEHOLDER 30 ROTARY
NUMBERING
(FOR COMPACT 205 PRINT HEAD)

GRASEBY ALLEN

FOR USE WITH 50/45 & 60/35 CODERS ONLY.



USE THE FOLLOWING TABLE TO SELECT YOUR TYPE HOLDER PART NUMBER.

No. OF ROWS	POINT SIZE								
	6pt	8pt	10pt	12pt	14pt	18pt	24pt	96pt	5/8"
1					1735*		1735*		
2				1796*			1796*		
3							2121		
4						5156			
5				5040	1641				
6		5030	1642						1867
8	4172								
UNI								5195	

*NOTE THESE ARE COMBINATIONS OF TWO POINT SIZES.

TO DETERMINE THE CENTRE SPACING OF EACH SLOT USE THE FOLLOWING TABLE.

POINTSIZE	6pt	8pt	10pt	12pt	14pt	18pt	24pt	96pt	5/8"
CENTE SPACING	4·3	5	5·7	6·4	7·1	8·85	10·6	16·95	5·35

NOTE P/N 1735 & 1796 ARE NOT INCLUDED IN THE ABOVE TABLE.

IF YOU WISH TO MACHINE YOUR OWN BLOCKS A BLANK IS AVAILABLE, PART NUMBER 2786.

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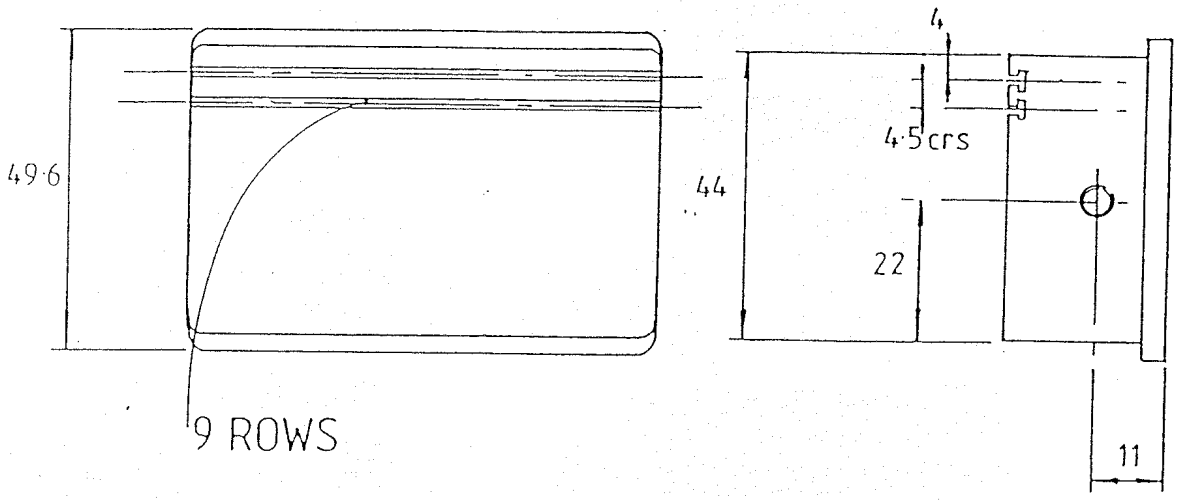
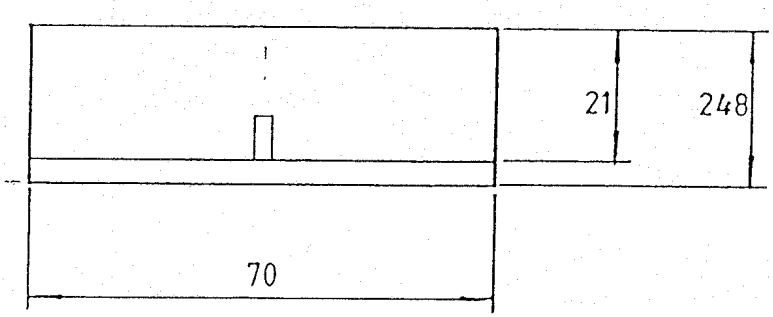
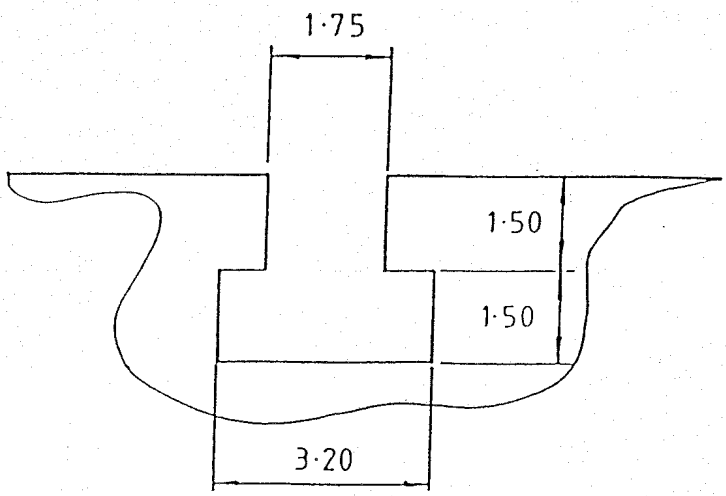




SLOT DETAILS
ALL ±0·02.



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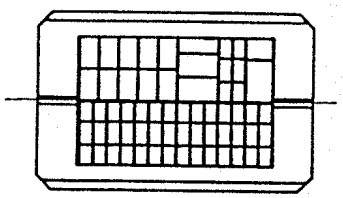
TYPEHOLDER 30

(For Compact 205 Printheads)



Typeholder 30 Rotary Date Price

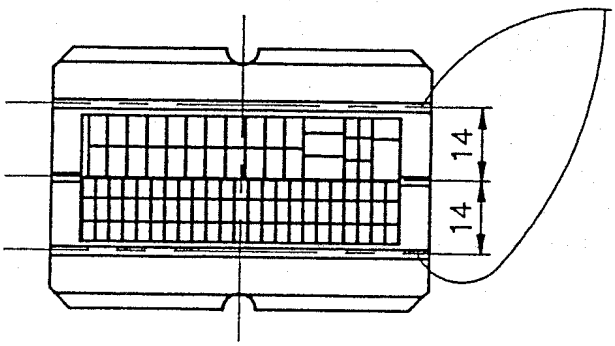
Best Before 20 FEB X42 179p

Typeholder 30 Rotary Numbering

240986/1234567

TYPEHOLDER 44

(For HFC 50/45 & 60/35 Printheads)



T Slots

Typeholder 44 Rotary Date Price

Best Before 20 JUN 87 X42 £1-98p

Typeholder 44 Rotary Numbering

240986137/123456789

WHEELS

No. of Sides	Width	Part No.	Max Character Height	Max Line Length of Legend	Used for
6	5.05	2718	1.5mmV	9.5mm	Best Before(1), Best Before(2), Best Before(3)
6	5.05	2718	2.0mmV	9.5mm	Use by, Best Before, Display Until, p (for Price), X42 (Code), Use Before
6	5.05	2718	5.0mmH	———	£
10	3.56	2513	5.0mmH	———	0 – 9, . , p (for Price), £, 1 – 9
12	3.56	4252	3.0mmH	———	0 – 9 (7)
12	3.56	4252	4.7mmH	———	£, 0 – 9 + blanks, 0 – 9 p, 1 – 9, 0 – 9 .
12	10.78	5436	4.0mmH	———	0 – 9, Months
14	2.50	7242	2.0mmH	———	0 – 9 (7)
14	2.50	7242	2.2mmH	———	0 – 9 (7)
14	2.50	7242	3.0mmH	———	0 – 3, 0 – 9
14	7.60	7096	3.0mmH	7.2mm	Months

WHEEL COMBINATION DETAILS

V = Vertical Legend H = Horizontal Legend

Printhead	Type Holder Part No.	Combination No. x Width
Compact 205	2406	7x2.5 + 5x3.56
Compact 205	3122	14x2.5
HFC 60/35	3133	13x2.5 + 7x3.56
HFC 60/35	3138	23x2.5
HFC 50/45	3133	9x2.5 + 7x3.56
HFC 50/45	3138	19x2.5

Note – There is a 0.05mm (0.002") shoulder on each wheel. The alignment of characters on the assembled typeholder is within ±0.1mm.

SPACERS

2.5 Wide – Part No. 2514
3.56 Wide – Part No. 2516

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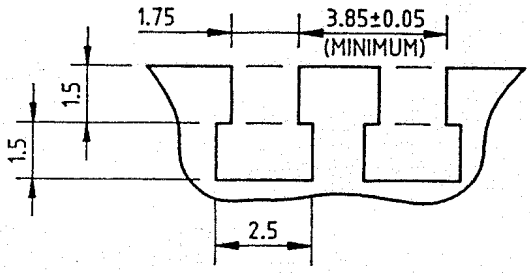
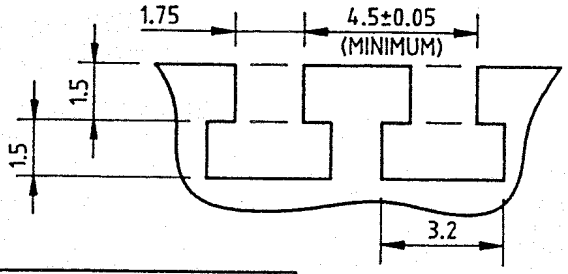
T-SLOT DETAIL

FOR 1.5/2mm 'TYPE' ONLY

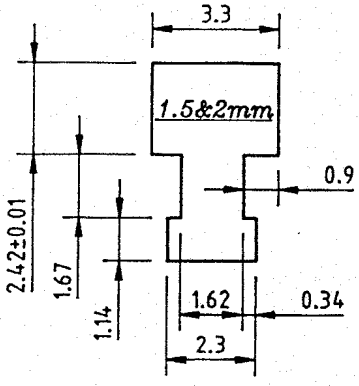


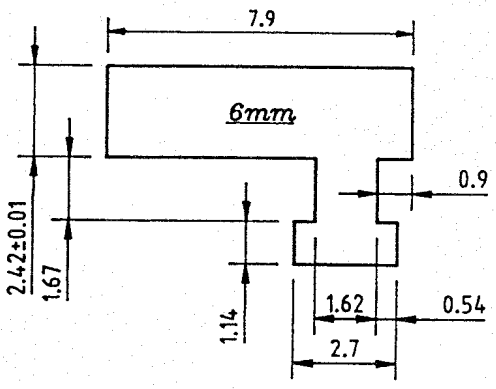
FOR ALL T-SLOT 'TYPE'

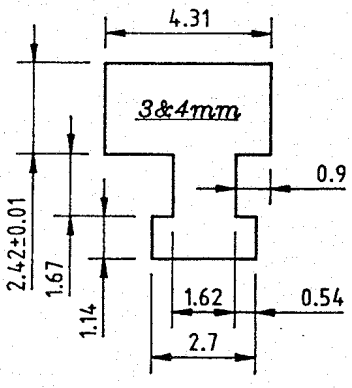


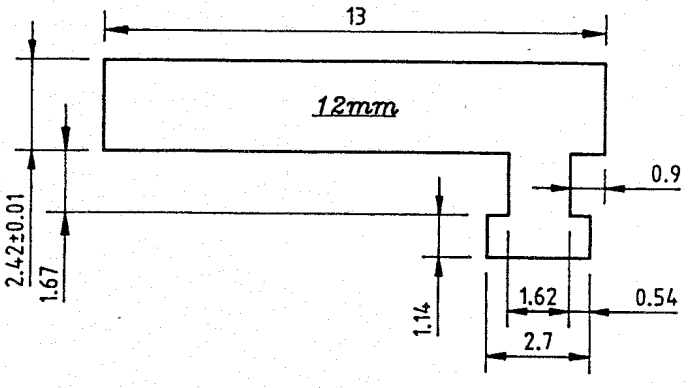
TOLERANCES EXCEPT WHERE STATED: ± 0.02

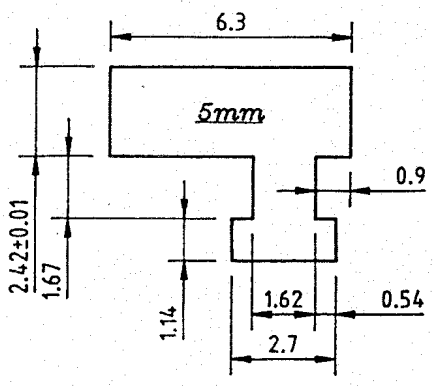
T-SLOT 'TYPE' DETAIL

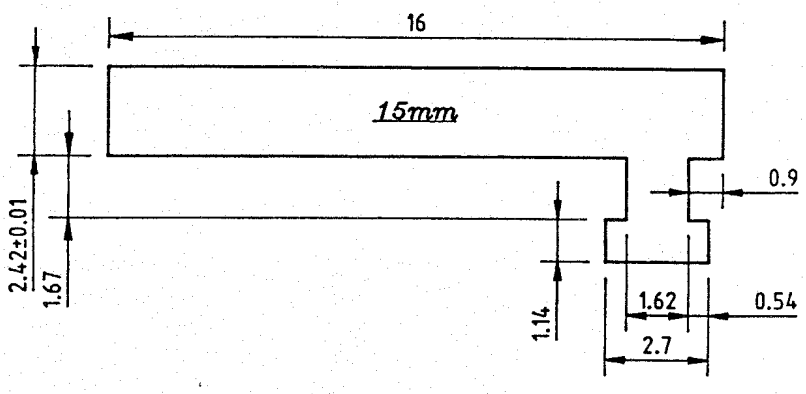






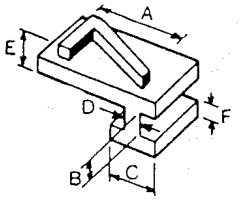




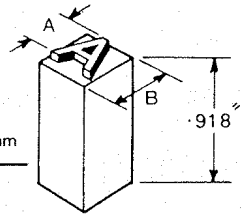


TOLERANCES EXCEPT WHERE STATED: ± 0.05

ALLEN 'T' SLOT TYPE - STOCK RANGE

	HARDENED STEEL		BRASS				
	CHARACTER SIZE - 'A' AND TYPESTYLE						
	1.5mm GRANBY	2mm GRANBY LIGHT CONDENSED	3mm GILL MEDIUM	3mm GILL MEDIUM ENGRAVED AT 90° TO CHANNEL	4mm GILL BOLD CONDENSED	5mm GILL BOLD CONDENSED	6mm GILL BOLD CONDENSED	8mm GILL BOLD CONDENSED
A = Character Size D = 1.62mm B = 1.67mm E = 2.42mm C = 2.3mm (Steel) F = 1.14mm C = 2.69mm (Brass)	USES 1 CHANNEL			1 CHANNEL PER CHARACTER	1 CHANNEL	USES 2 CHANNELS		
STANDARD TYPEHOLDER CHANNELS SPACED AT 3.5 OR 4.5mm	**PRINT EXAMPLES**							
	BN 7493E MAN 06 04 89 EXP 31 12 91	BN C5479 MAN 20 11 89 EXP 20 12 90	SELL BY 30 SEP PRICE	2 3	£1.23p	£1.23p	£1.23p	£1.23p
SLUGS & INDIVIDUAL CHARACTERS	**TO ORDER STATE PART NO. AND QUANTITY REQUIRED**							
SET FIGURES 0-9	4605	5174	3406	3798	3416	3420	3424	5281
SET MONTHS JAN-DEC	4606	4999	3407	—	—	—	—	—
LOWER CASE P	—	—	3408	—	3417	3421	3425	5282
£ SIGN	—	—	3409	—	3418	3422	3426	5283
FULL STOP	4607	5175	3410	—	3419	3423	3427	5284
OBLIQUE	4608	5173	4614	—	4616	4617	4618	—
SELL BY	4609	5176	3411	—	—	—	—	—
BEST BEFORE	4610	5177	3412	—	—	—	—	—
BEST BEFORE END	5451	5454	5457	—	—	—	—	—
BEST BEFORE (2)	5452	5455	5458	—	—	—	—	—
USE BY	5453	5456	5459	—	—	—	—	—
DISPLAY UNTIL	4611	5178	3413	—	—	—	—	—
PRICE	4612	5180	3414	—	—	—	—	—
BN MAN EXP LOT	4613	5179	4615	—	—	—	—	—
	TYPE RETAINING BLOCKS PACK 10 PN 5000 SPACERS PACK 50 PN 3415							
A	4619	4645	4776	—	4828	4854	4929	—
B	4620	4646	4777	—	4829	4855	4930	—
C	4621	4647	4778	—	4830	4905	4931	—
D	4622	4648	4779	—	4831	4906	4932	—
E	4623	4649	4780	—	4832	4907	4933	—
F	4624	4650	4781	—	4833	4908	4934	—
G	4625	4756	4782	—	4834	4909	4935	—
H	4626	4757	4783	—	4835	4910	4936	—
I	4627	4758	4784	—	4836	4911	4937	—
J	4628	4759	4785	—	4837	4912	4938	—
K	4629	4760	4786	—	4838	4913	4939	—
L	4630	4761	4787	—	4839	4914	4940	—
M	4631	4762	4788	—	4840	4915	4941	—
N	4632	4763	4789	—	4841	4916	4942	—
O	4633	4764	4790	—	4842	4917	4943	—
P	4634	4765	4791	—	4843	4918	4944	—
Q	4635	4766	4792	—	4844	4919	4945	—
R	4636	4767	4793	—	4845	4920	4946	—
S	4637	4768	4794	—	4846	4921	4947	—
T	4638	4769	4795	—	4847	4922	4948	—
U	4639	4770	4796	—	4848	4923	4949	—
V	4640	4771	4797	—	4849	4924	4950	—
W	4641	4772	4798	—	4850	4925	4951	—
X	4642	4773	4799	—	4851	4926	4952	—
Y	4643	4774	4800	—	4852	4927	4953	—
Z	4644	4775	4801	—	4853	4928	4954	—
	TYPE TWEEZERS PN 2279 TYPE CLIPS PACK 100 PN 2455 TYPE TRAY PN 1332							
1	4955	4965	4975	4985	4995	4808	4818	5285
2	4956	4966	4976	4986	4996	4809	4819	5286
3	4957	4967	4977	4987	4997	4810	4820	5287
4	4958	4968	4978	4988	4998	4811	4821	5288
5	4959	4969	4979	4989	4802	4812	4822	5289
6	4960	4970	4980	4990	4803	4813	4823	5290
7	4961	4971	4981	4991	4804	4814	4824	5291
8	4962	4972	4982	4992	4805	4815	4825	5292
9	4963	4973	4983	4993	4806	4816	4826	5293
0	4964	4974	4984	4994	4807	4817	4827	5294

ALLEN CAST TYPE - STOCK RANGE



A = CH. Size
B = Pt. Size
1 Pt. = 1/72" / .35mm

	CAPITALS A — Z	FIGURES 0 — 9	BRASS SPACERS	BN MAN EXP	OBLIQUE	£ SIGN	LOWER CASE p	FULL STOP
				1 each	10 Off			
	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.
Granby light condensed								
2mm Type on 8pt Body ABCDEFGHIJKLMNOPQRSTUVWXYZ& 1234567890£$	1285	1286	4004	3831	3834	—	—	—
2.5mm Type on 10pt Body ABCDEFGHIJKLMNOPQRSTUVWXYZ& 123456£$	1287	1288	4005	—	3835	—	—	—
Granby condensed								
2mm Type on 8pt Body ABCDEFGHIJKLMNOPQRSTUVWXYZ& 234567890£$	1251	1252	4004	—	3834	—	—	—
2.8mm Type on 12pt Body ABCDEFGHIJKLMNOPQRST 1234567890	1255	1256	4006	—	3836	—	—	—
3mm Type on 14pt Body ABCDEFGHIJKLM 1234567890 £$.	1257	1258	4007	—	3837	—	1180	—
4mm Type on 18pt Body ABCDEFG 4567890 £$. p	1259	1260	4008	—	—	—	1181	—
5mm Type on 24pt Body ABCDEFG 2345678 p	1261	1262	4009	—	—	—	1182	2162
6mm Type on 24pt Body ABCD 4567 £$. p	1263	1264	4009	—	—	1902	1182	2162
Granby								
1.5mm Type on 6pt Body ABCDEFGHIJKLMNOPQRSTUVWXYZ& 1234567890£$	1269	1270	4003	3832	3838	—	—	—
2mm Type on 8pt Body ABCDEFGHIJKLMNOPQRS 1234567890£$	1271	1272	4004	3833	3834	—	—	—
2.5mm Type on 10pt Body ABCDEFGHIJKLMN 1234567890£$	1274	1273	4005	—	3835	—	—	—
2.8mm Type on 12pt Body ABCDEFGHIJKL 1234567890£$	1275	1276	4006	—	3836	—	—	—
3mm Type on 14pt Body ABCDEFGHI 1234567890£$	1277	1278	4007	—	3837	—	—	—

CAPITALS ARE SUPPLIED WITH VARIED SELECTION OF FULL POINTS, OBLIQUES, HYPHENS ETC. FIGS. ARE SUPPLIED WITH £/S SIGNS

ALLEN UNIVERSAL FOIL (BLACK) - STOCK RANGE

FOIL WIDTH mm	FOIL LENGTH m	NUMBER OF REELS IN BOX	PART NO.
25	153	36	3363
25	305	18	5157
38	153	24	3364
38	305	12	4423
50	153	18	3365
50	305	9	5415
60	153	15	4424
60	305	7	4425
80	153	11	5301

6 Little Mundells, Welwyn Garden City, Herts. AL7 1LD, England.
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Document No. 3M000210 Iss. No. 1 Iss. Date: 13/12/95

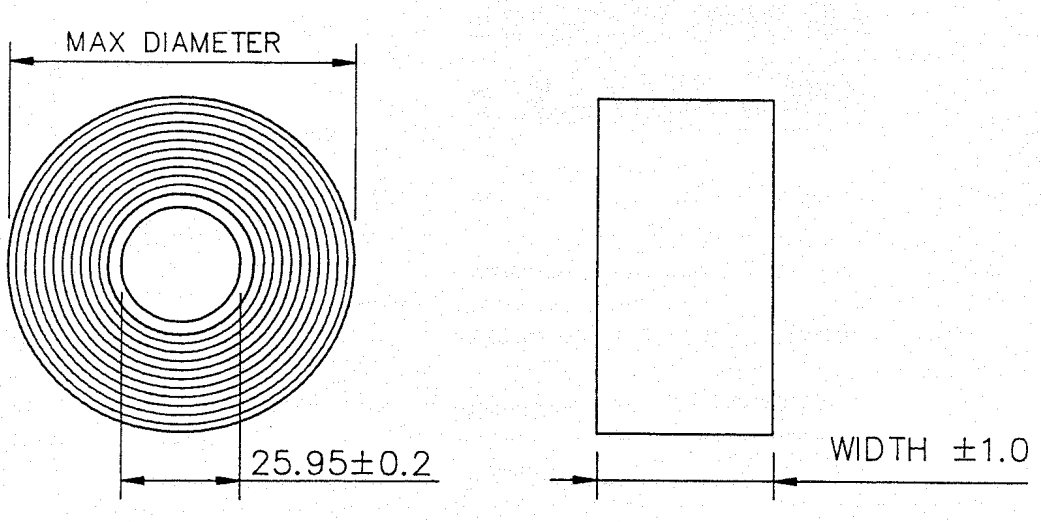
GRASEBY ALLEN

The Allen description for reels of foil is as shown in the following example:

5301 FOIL 80mmx153m UNI BLACKx11

PART NUMBER	WIDTH	NOMINAL LENGTH	GRADE	COLOUR	BOX QUANTITY

Foil dimensions for different coder models and magazines:			
Coder model	Nominal magazine capacity in metres (feet)	Max. diameter of reel in mm.	Nominal max. width of foil in mm.
40/15 and 40/25	122 (400)	75	38
	305 (1000)	110	38
60/35	122 (400)	75	60
50/45	122 (400)	85	50
80/45	122 (400)	85	80



In many case the nominal magazine capacity shown in the above table can be exceeded as long as the maximum reel diameter is not. For this reason certain 153m (500ft) reels can be used on '122m' magazines. The foils supplied by Allen have their nominal length quoted in metres.

Manufacturers recommended grades for printing on different materials:			
Material	Manufacturer		
	Peerless	Whiley	Eurofoil
Cellulose/Cellophane	HSG	PPE-UA	UFG
S/A Labels (plain paper)	HSG	PPE-UA	UFG
S/A Labels (coated)	HSG	PPE-UA	UFG
Laminates	HSG	PPE-UA	UFG
Metallised Film	HSG	PPE-UA	UFG
Nylon	HSG	PPE-UA	UFG
Plain Paper Parchment	HSG	PPE-UA	UFG
Polyester	HSG	PPE-UA	UFG
Polypropylene	HSG	PPE-UA	UFG
Polythene	M12	PPE-A	UFS

Spare Parts

Common Spares

Description	Part No.
Backing Pad 56x150 Silicone	4341
Backing Pad 81x150 Silicone	4523
Magnetic Backing Pad 50x50	2453
Magnetic Backing Pad 50x150	2469
Backing Pad Com / Aluminum 56x150	6739
Backing Pad Com / Alumimum 81x150	6740
Spring Drive Belt	2271
Tension Spring	2268
Heater set	2480
Rubber Roller Tape Drive 205	2265
Heater Block Detent set	2657
Gasket & Seal Set	2788
Fuse Set Power Pack 2310	2519
Fuse Set Power Pack 6850	7014
Switch Bulb 28v	2478

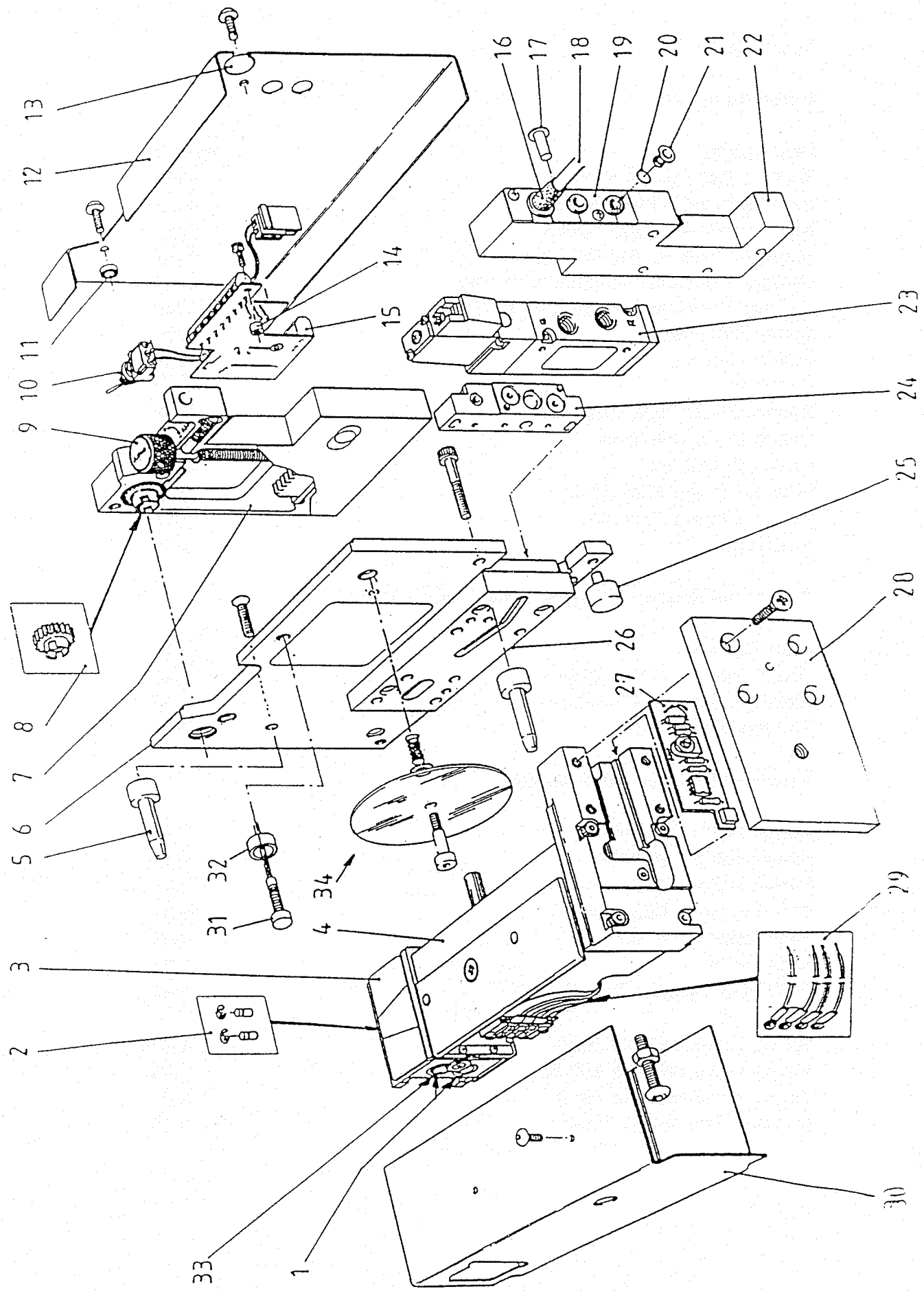
Additional Spares- Variable Temperature Model

Lead Fab'n VT	6825
Heater Fab'n 205 VT (120w)	7581
Heater Fab'n 214 VT (60w)	7579
Thermocouple Fab'n	6752

Additional Spares- IP65 Model

Heater Fab'n 205 IP65	7252
Heater Fab'n 214 IP65	7253
Switch Rubber Boot	7601
Strip Extended Neoprene	7602
Tape Index Knob Seal	7603
Lead Fab'n	7604
FRO PCB Cylinder End Plate 205	7605
" " " " " 214	7606
Spring Drive Belt 205 400ft	7607
Spring Drive Belt 205 1000ft	7608
Spring Drive Belt 214 400ft	7609
Dancing Arm Spring 1000ft	7610

CODER BODY 205 DIAGRAM



CODER BODY 205 LIST

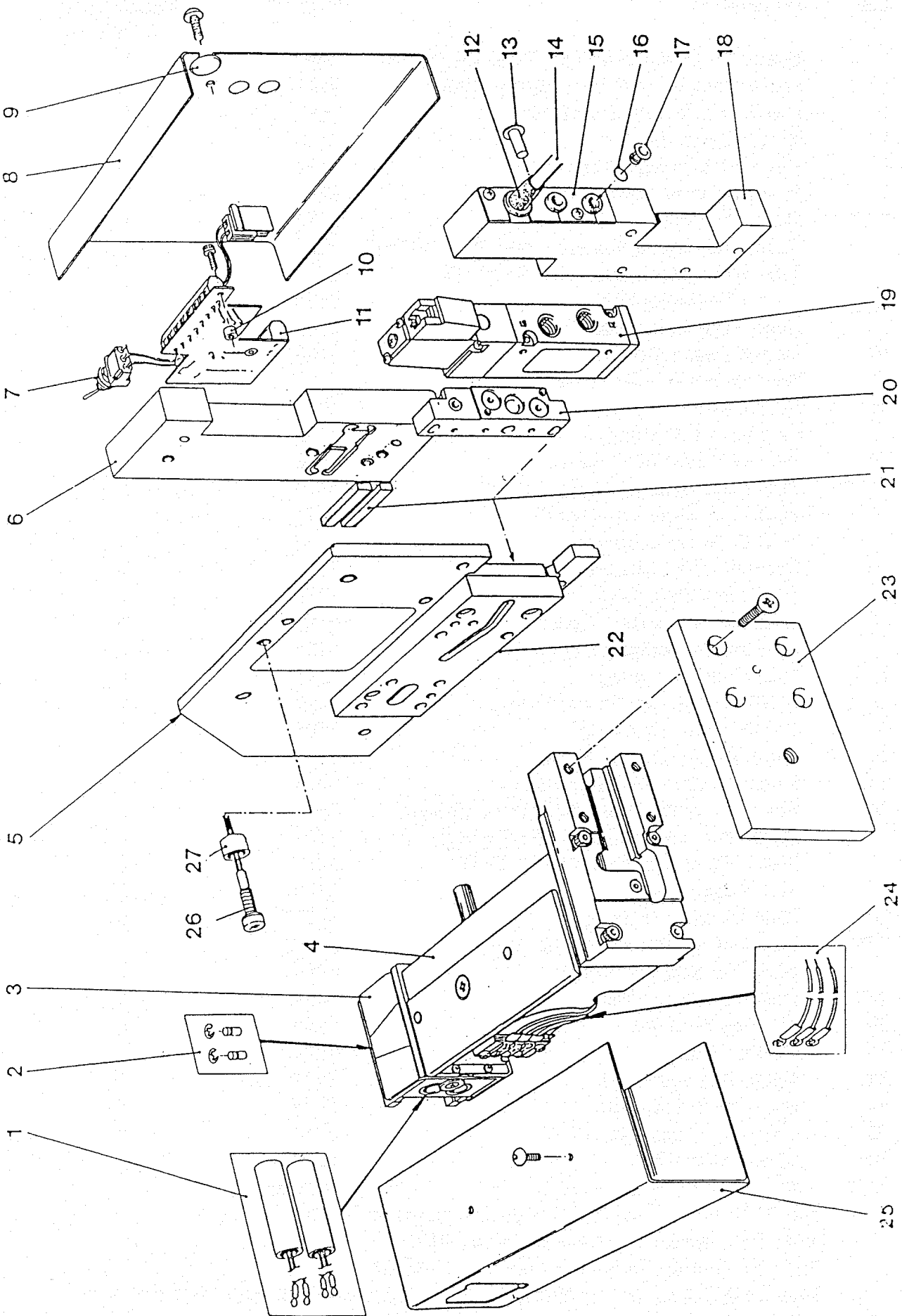
Item	Description	Part No.	Quantity per Coder
1	Heater set Compact 205 C, SS & HS Heater	2480	1
	Fab'n Compact 205 VT (120W) (Pair)	7581	1
2	Heater Block Detent Set (Pair)	2657	1
3	Heater Block Assy	2830	1
4	Cylinder & Heater Block Assy	3492	1
5	Stub Magazine Location	2248	2
6	Main Plate Fab'n	2832	1
7	Tape Index Mech.Sub.Assy 40/25S & 40/25C	2837	1
	Tape Index Mech.Sub.Assy 40/15 HS	3507	1
8	Gear Tape Drive Fab'n	2835	1
9	Knob Tape Index Adj.	2191	1
10	Switch Heater Control	7168**	1
11	Washer Rear Cover Spacer	2213	1
12	Back Cover	2212	1
13	Grommet 3/8" Blind	2493	1
14	Washer Coder PCB Spacer	2308	2
15***	PCB Print Head Compact S & HS	2370	1
	PCB Print Head Compact C	4071	1
	PCB Print Head Compact	7077	1
16	Grommet 3/8" Sleeved	2216	1
17	Air Fitting Plug 5mm	2250	1
18	Lead Fab'n Compact Coder	6989*	1
	Lead Fab'n Compact Coder VT	6825	1
19	Strip Cable Retaining	2215	1
20	O'Ring 5mm Push in Air Fitting	1652	4
21	Collett 5mm Air Fitting	3506	4
22	Block Rear Manifold Fab'n	2836	1
23	Solenoid Valve Compact S&HS	2208	1
24	Block Valve Manifold 40/25S/VT (Silver)	2210	1
	Block Valve Manifold 40/15HS (Gold)	2791	1
	Block Valve Manifold 40/25C (Red)	4067	1
25	Stub Spacer Pad	2249	2
26	Plate Cylinder Packing	32217	1
27**	PCB F.R.O. Sensor (On Centre)	3170	1
	PCB Foil Run Out Sensor	2298	1
28	Coder Mounting Plate	3495	1
29	Flexible Wire Set	3496	1
30	Heater Guard	2244	1
31	Neon Indicator Coder	1335	1
32	Bezel Neon Indicator	2247	1
33	Thermo Couple Fab'n VT	6752	1
34	Spring Disc Kit	6827	1

* 3505 before serial no. 916835 ** if fitted

*** Use 2370 for compact S & HS prior to serial no. 917681.
4071 for compact C prior to serial no. 917681.
7077 for compact series from serial no. 917682
Prior to this serial no. 917682 only VT coders were fitted with 7077 P.C.B.'s.

Note: All items sold singly except where shown otherwise.

CODER BODY 205 HI DIAGRAM

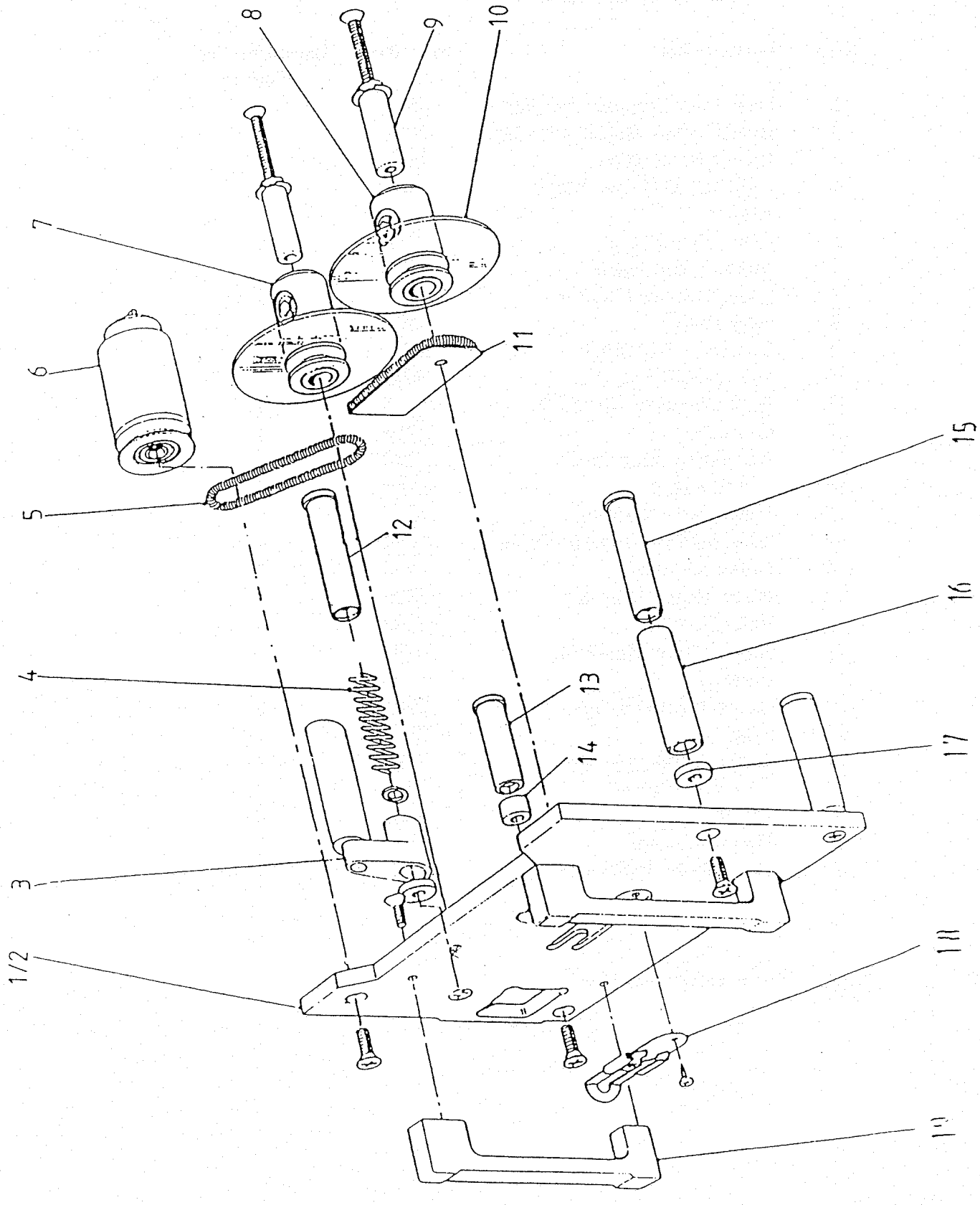


Coder Body 205 Hi List

Item	Description	Part No.	Quantity Per Coder
1	Heater set Compact 205 Pair	2480	1
2	Heater Block Detent Set Pair	2657	1
3	Heater Block Assy	2830	1
4	Cylinder & Heater Block Assy	3492	1
5	Main Plate Fab'n	4276	1
6	Block Piston Guide	3679	1
7	Switch Heater Control	2203	1
8	Back Cover	3681	1
9	Grommet 3/8" Blind	2493	1
10	Sleeve PCB Spacer	2308	1
11	PCB Printhead 40/25 Hi	4071	1
12	Grommet	2216	1
13	Air Fitting Plug 5mm	2250	2
14	Lead Fab'n	6989*	1
15	Strip Cable retaining	2215	1
16	'O'Ring 5mm Push in fitting	1652	2
17	Collet air fitting	3506	2
18	Block Rear Manifold	2836	1
19	Solenoid Valve	2208	1
20	Block Valve Manifold (Green)	2791	1
21	Guide Bearing Strips	2201	2
22	Plate	2217	1
23	Coder Mounting Plate	3495	1
24	Flexible Wire set	3496	1
25	Guard	3682	1
26	Neon Indicator	1335	1
27	Bezel Neon Indicator	2247	1

* 3505 Before serial No.916835

MAGAZINE 122m (400FT) DIAGRAM

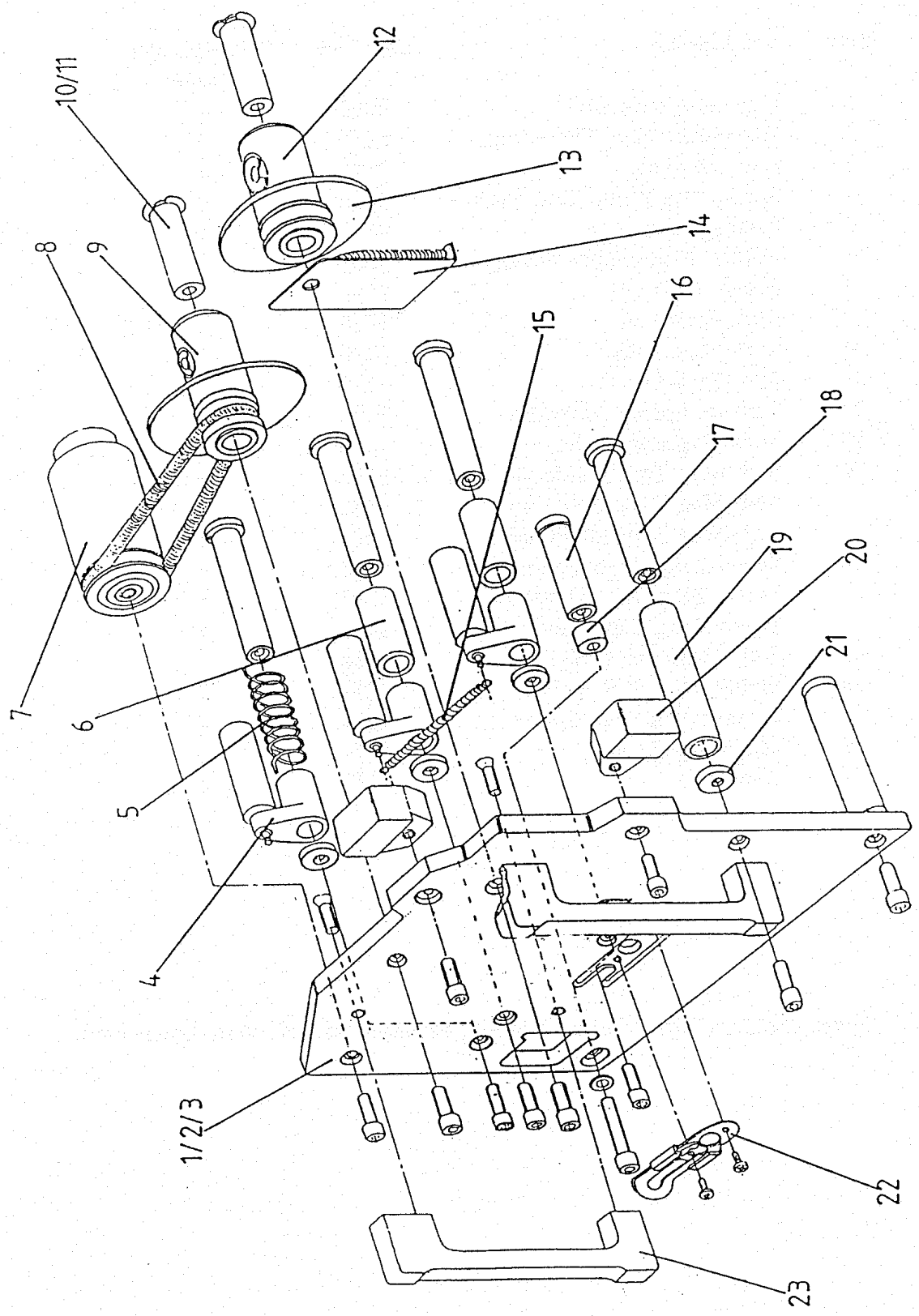


Magazine 122m (400ft) List

Item	Description	Part No.	Quantity Per Coder
1	Plate Magazine 205	2252	1
2	Nameplate Tape Threading	2254	1
3	Arm assembly	3818	1
4	Spring Nip Roller Compress	3816	1
5	Spring Drive Band	2271	1
6	Rubber Roller Tape Drive 40	2264	1
7	Roller Take Up	2269	1
8	Roller Feed on	2265	1
9	Stub Tape Roller	2270	2
10	Disc Tape Drive	2272	2
11	Tension Spring Assembly	2268	1
12	Stub Magazine Roller	2256	1
13*	Stub Mag Tape Guide 38	3472	1
	Stub Mag Tape Guide 25	3586	1
	Stub Mag Tape Guide 20	3625	1
14	Sleeve Mag Tape Guide 38	3473	1
	Sleeve Mag Tape Guide 25	3587	1
	Sleeve Mag Tape Guide 20	3626	1
15	Stub Magazine Roller	5388	2
16	Sleeve Mag Stub Roller	2257	2
17	Washer Mag Stub Spacer	2255	3
18	Magazine Latch	0374	1
19	Handle	2253	1

* These items need to be selected to suit the nominal tape width being used.

MAGAZINE 305m (1000FT) DIAGRAM



Magazine 305m (1000ft) List

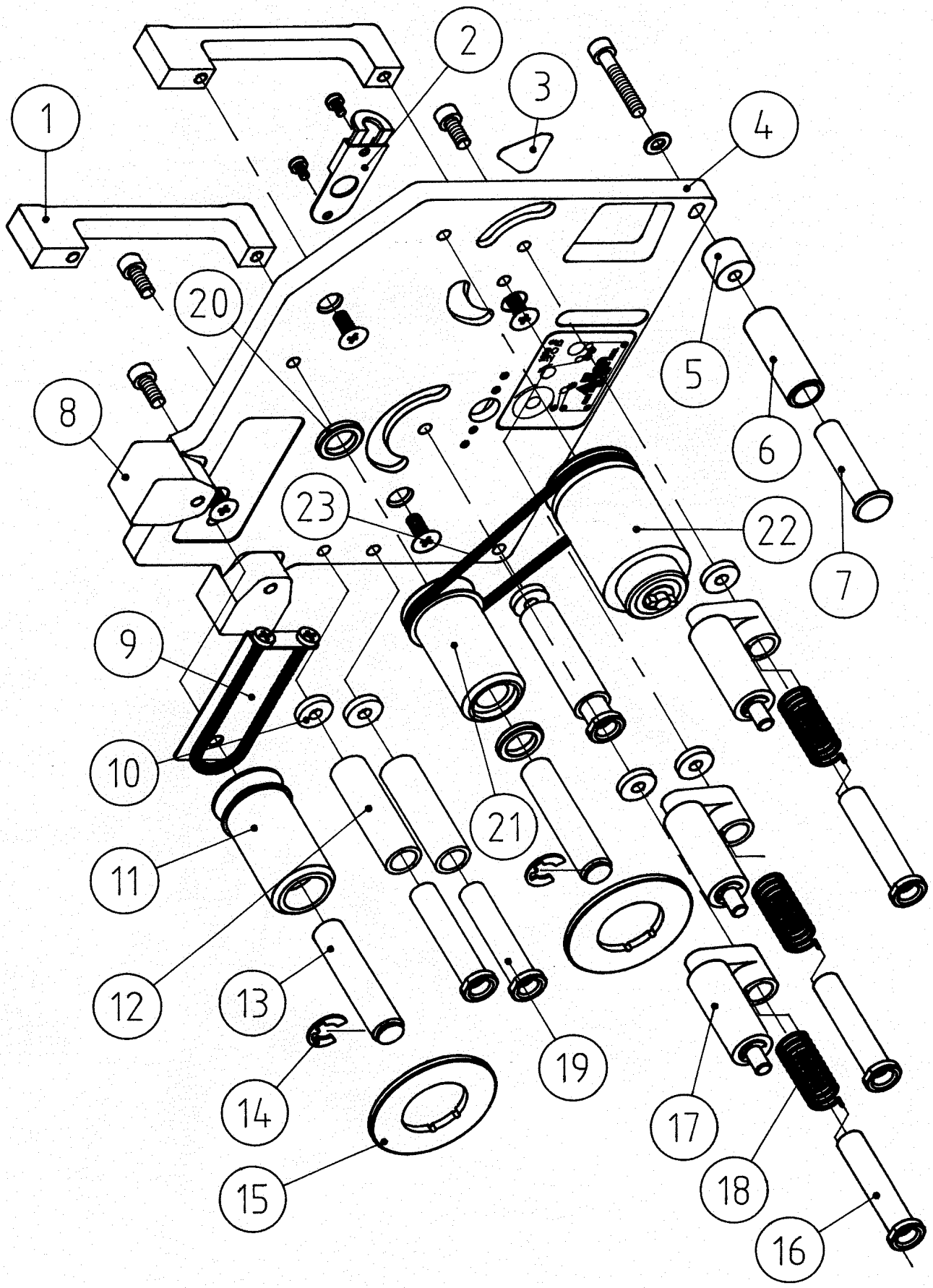
Item	Description	Part No.	Quantity Per Coder
1	Plate Magazine 1000ft	5276	1
2	Nameplate Tape Threading	5275	1
3	Label Warning "Hot"	4098	1
4	Arm Assembly	5270	3
5	Spring	3816	1
6	Sleeve	5268	2
7	Roller Assembly	2264	1
8	Belt Take up Drive	4336	1
9	Roller Fab'n	4339	1
10	Stub	4241	2
11	Clip	2261	2
12	Roller Fab'n	5274	1
13	Disc	4158	2
14	Spring Assembly	2268	1
15	Spring	5272	1
16*	Stub Mag Tape Guide 38	3472	1
	Stub Mag Tape Guide 25	3586	1
17	Stub	2256	5
18*	Sleeve Mag Tape Guide 38	3473	1
	Sleeve Mag Tape Guide 25	3587	1
19	Roller	2257	2
20	Block	4261	2
21	Washer	2255	5
22	Magazine Latch	0374	1
23	Handle	2253	2

* These items need to be selected to suit the nominal tape width being used.

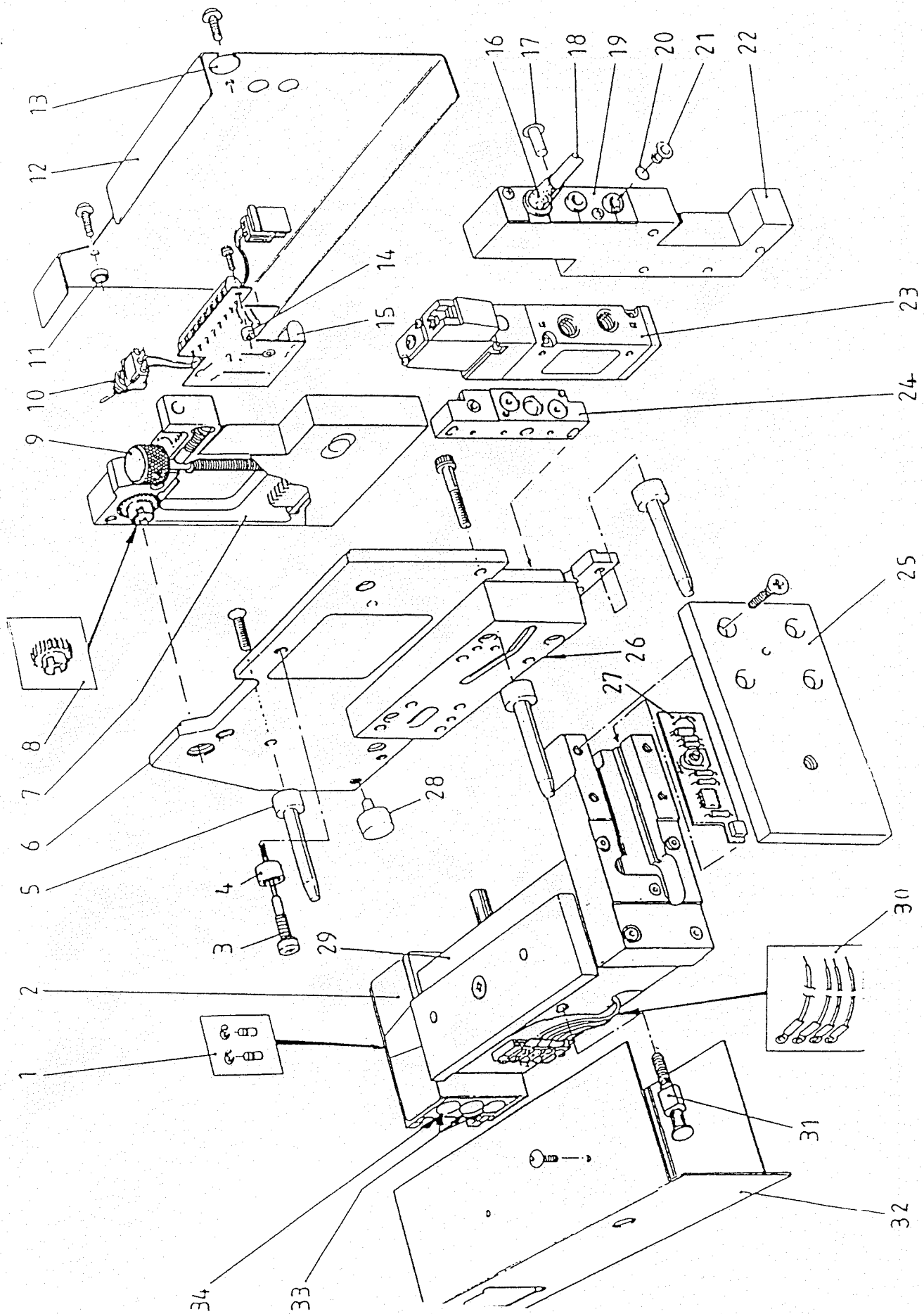
MAGAZINE 305M (1000FT) (GREEN DRIVE BELT)

Item	Description	Part No.	Quantity per Coder
1	Handle (104 x 10 x 23) Early Model	2253	2
	Handle (98 x 12 x 28) Later Model	8697	2
2	Latch	0374	1
3	Label Caution Hot	4098	1
4	Main Plate	8149	1
5	Sleeve Magazine Tape Guide	3473	1
6	Roller Magazine Stub	8153	1
7	Stub Magazine Tape Guide	8152	1
8	Block Foil Support	4261	2
9	Spring Assy	2268	1
10	Washer	2255	6
11	Roller Tape Feed On	5274	1
12	Sleeve	2257	3
13	Stub	4241	2
14	E-Clip	2261	2
15	Disc	4158	2
16	Stub Nip Roller	2256	3
17	Roller (Only)	7987	3
	Roller and Arm Fabrication	8170	3
18	Spring	3816	3
19	Stub Foil Guide	5388	3
20	Washer (Comes with Item 21)	8154	2
21	Take Up Roller	7967	1
22	Drive Roller	7990	1
23	Drive Belt (Green)	7966	1

MAGAZINE 305m (1000ft) (GREEN DRIVE BELT)



CODER BODY 214 DIAGRAM



Coder Body 214 List

Item	Description	Part No.	Quantity Per Coder
1	Heater Block Detent set (Pair)	2657	1
2	Heater Block Assy	4461	1
3	Neon Indicator Coder	1335	1
4	Bezel Neon Indicator	2247	1
5	Stub Magazine Location	3214	3
6	Main Plate Fab'n	4463	1
7	Tape Index Mech Sub assy 60/35	4464	1
8	Gear Tape Drive Fab'n	2835	1
9	Knob Tape Index Adj	2191	1
10	Switch Heater Control	7168**	1
11	Washer Rear Cover Spacer	2213	2
12	Back Cover	2212	1
13	Grommet 3/8" Blind	2493	1
14	Washer Coder PCB Spacer	2308	2
15***	PCB Printhead Compact	2370	1
	PCB Printhead Compact	7077	1
	PCB Printhead Compact	4371	1
16	Grommet 3/8" Sleeved	2216	1
17	Air Fitting Plug 5mm	2250	2
18	Lead Fab'n Compact Coder	6989*	1
	Lead Fab'n Compact Coder VT	6825	1
19	Strip Cable Retaining	2215	1
20	'O'Ring 5mm Push in air fitting	1652	4
21	Collet 5mm air fitting	3506	4
22	Block Rear Manifold	2836	1
23	Solenoid Valve	2208	1
24	Block Valve Manifold (60/35)Red	4067	1
25	Coder Mounting Plate	4726	1
26	Plate Cylinder Packing	3204	1
27	PCB FRo Sensor	3170	1
28	Stub Spacer Pad	3215	1
29	Cylinder & Heater Block assy	4462	1
30	Flexible Wire set	4672	1
31	Stub Magazine Latch	4185	1
32	Heater Guard	3212	1
33	Heater Set Compact 214 3 Heater	4160	1
	Heater Fab'n Compact 60/35 VT	7579	2
34	Thermo couple Fab'n VT	6752	1
35	Sprung Disc Kit	6827	1

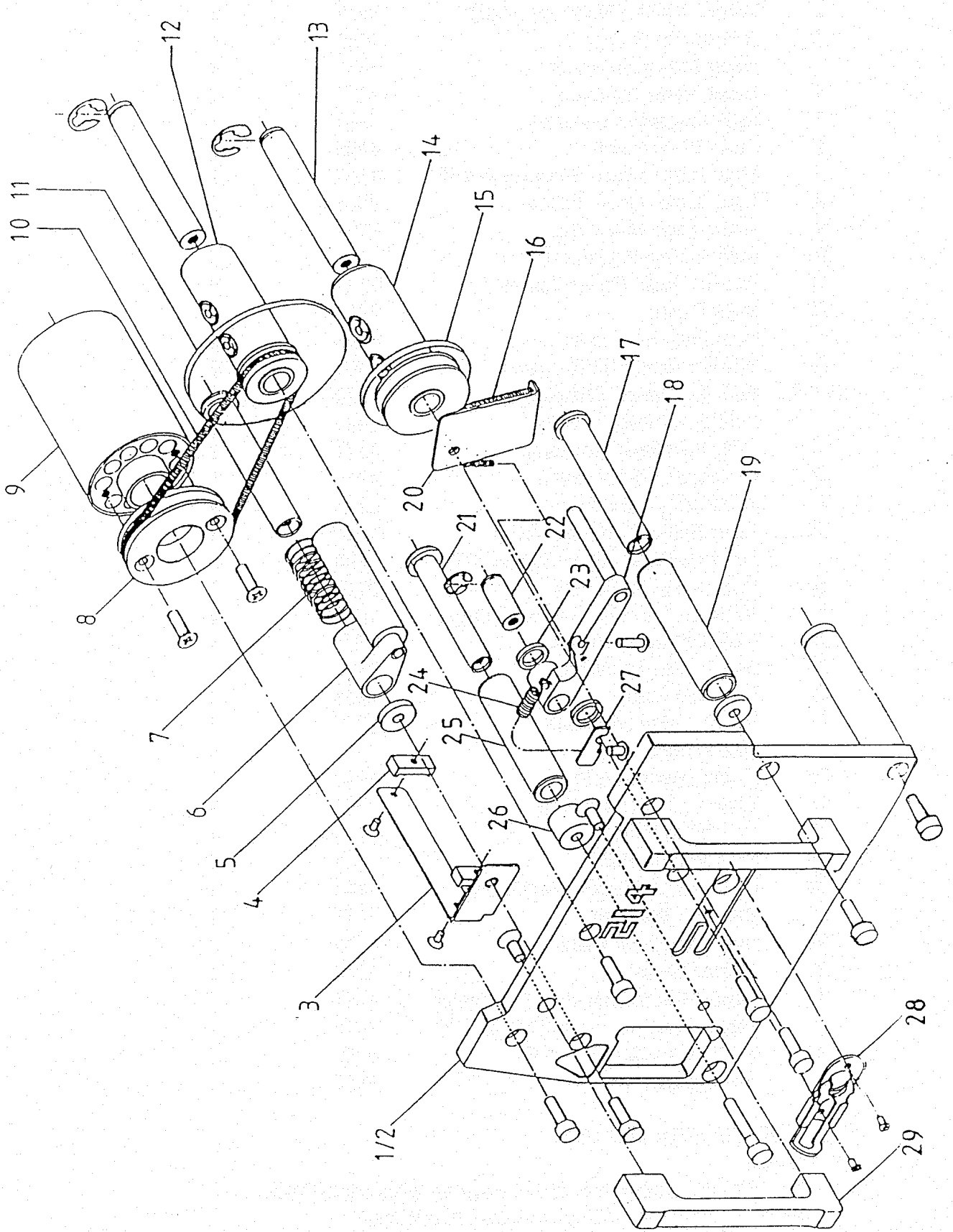
* 3505 Before serial no.916835

** If fitted

*** Use 2370 for Compact S & HS prior to serial No.917681
4071 for Compact C prior to serial No.917681
7077 for Compact series from serial No.917682
Prior to this serial No.917682 only VT coders were fitted with 7077 PCB's.

Note: All items sold seperately unless shown otherwise

MAGAZINE 214 DIAGRAM



Magazine 214 List

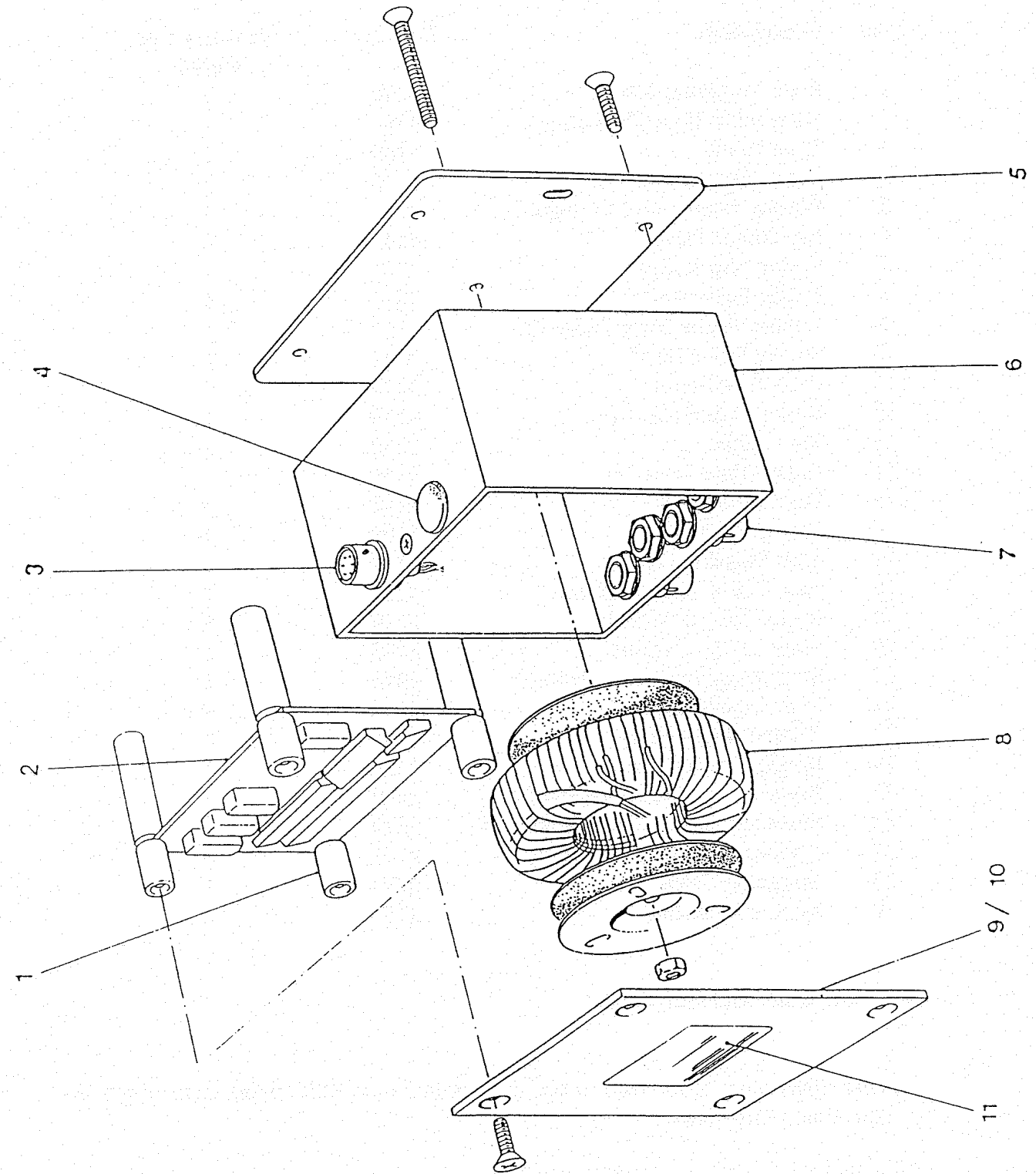
Item	Description	Part No	Quantity Per Coder
1	Plate Magazine 214	3216	1
2	Nameplate Tape Threading	4202	1
3	Tape Guide	5169	1
4	Block Tape Guide	5170	2
5	Washer Magazine Stub Spacer	3213	3
6	Nip Roller Fab'n	4447	1
7	Spring Nip Roller	4206	1
8	Pulley Drive Roller	3221	1
9	Rubber Roller Tape Drive 60	4157	1
10	Spring Drive Band	7481	1
11	Disc Tape Spool	2272	1
12	Roller Tape Take Up	4159	1
13	Stub Spool	3230	2
14	Roller Tape Feed On	4156	1
15	Disc Tape Spool	4158	1
16	Spring Tension	5188	1
17	Stub Magazine Roller	3218	3
18	Arm Fab'n Tape Follower	4337	1
19	Roller Magazine Stub	3219	2
20	Plate Tension Spring	4195	1
21	Stub Magazine Guide Roller *	3226	1
22	Stub Tape Tension Arm	4198	1
23	Washer Small Fibre	1858	2
24	Spring Tension Arm	5152	1
25	Roller Magazine Guide (60mm)*	3229	1
26	Sleeve Magazine Guide (60mm)*	3217	1
27	L'Piece Arm Tension Spring	5145	1
28	Magazine Latch	0374	1
29	Handle Magazine	2253	2

Note: All items sold individually.

* These items must be selected to suit the nominal tape width being used. Refer to conversion kits below.

Conversion Kit (2") P/N 4740
" " (1 1/2") P/N 4507
" " (1 1/4") P/N 5625

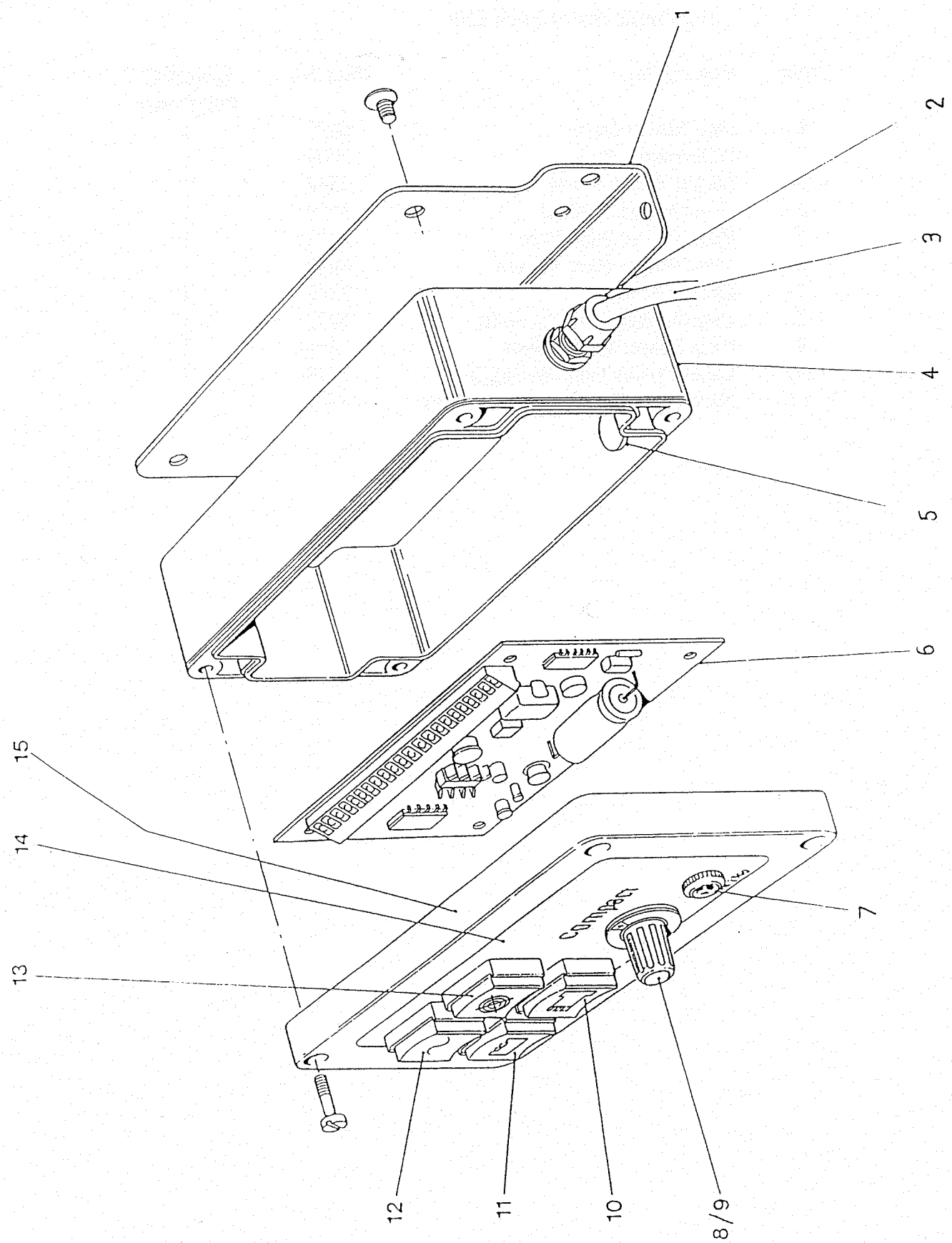
UNIVERSAL POWER PACK DIAGRAM



Universal Power Pack List

Item	Description	Part.No	Quantity Per Coder
1	Stub Power Pack	6899	1
2	PCB Power Pack	2309	1
3	Socket Fab'n 6 way	3542	1
4	Grommet 1/2" Blind	2509	1
5	Plate Power Pack Base	2311	1
6	Tube Power Pack Square	6898	1
7	Cable Gland	2349	1
8	Transformer 55-0-55, 0-20	6907	1
9	Plate Power Pack Cover	2314	1
10	Label Power Pack Wiring Inst	2318	1
11	Nameplate Compact Power Pack	6901	1

ELECTRONIC MODULE DIAGRAM



Electronic Module Parts

Item	Description	Part.No	Quantity Per Coder
1	L-Piece Module Mtg	2303	1
2	Cable Gland	2349	1
3	Cable Electronic Module 2M	2707	1
4	Box Electronic Module Base	4474	1
5	Grommet 1/2" Blind	2509	1
6	PCB Timer / Foil Run Out	0870*	1
	PCB Timer Only	8700	1
7	Audible Alarm	2479	1
8	Potentiometer 2300 Module	5927*	1
	Potentiometer 3200 Module	1712	1
9	Knob Kit	3732	1
10	Switch Test	3730	1
11	Switch Print on/off	3729	1
12	Indicator Power Supply	3728	1
13	Switch Foil Run Out re-set	3731	1
14	Nameplate 2300 Module	2532*	1
	Nameplate 3200 Module	3268	1
15	Box Electronic Module Lid	2302	1
	Switch Bulb (28v)	2478	1

* For Electronic Module 2300 only use:

0870 instead of 8700 and
5927 instead of 1712 and
2532 instead of 3268