

# **SIBERT INSTRUMENTS**

## **COMBINED OPTICAL MATRIX PUNCH TYPE COMP 150**

### **SERVICE AND COMMISSIONING MANUAL**



**SIBERT INSTRUMENTS  
CENTRE HOUSE  
THE PINES  
BROAD STREET  
GUILDFORD  
SURREY  
GU3 3BH  
ENGLAND**

**TEL: +44 (0) 1483 301622  
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**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

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**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

(i)

**SECTION 1  
IMPORTANT NOTICES**

**Please do not switch on this equipment unless the operating manual has been fully read and understood. If there is any difficulty in understanding, or a translation is required, please contact the address below:**

**Ne mettez pas cet équipement sous tension avant d'avoir entièrement lu et compris le manuel d'utilisation. Si vous rencontrez des difficultés de compréhension ou avez besoin d'une traduction, contactez l'adresse suivante:**

**Bitte schalten Sie die Geräte nicht ein, bevor Sie das Bedienungshandbuch vollständig gelesen und verstanden haben. Wenn dabei Verständnisschwierigkeiten auftreten oder Sie eine Übersetzung benötigen sollten, wenden Sie sich bitte an die nachfolgende Adresse:**

**Non accendere questa apparecchiatura senza prima avere attentamente letto e compreso il Manuale delle istruzioni. In caso di difficoltà di comprensione, o se si richiede una traduzione, si prega di contattare il seguente indirizzo.**

**Deze apparatuur pas inschakelen als u de handleiding helemaal hebt gelezen en begrepen. Mocht er iets zijn dat u niet begrijpt, of mocht u een vertaling nodig hebben, neem dan contact op met het onderstaande adres:**

**No encienda este equipo antes de haber leído y comprendido el Manual de Funcionamiento correspondiente. Si tuviera alguna dificultad en comprenderlo o necesita una traducción, sírvase contactar con la dirección siguiente:**

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**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

1.1

**SECTION 1  
IMPORTANT NOTICES**

**ONLY AUTHORISED PERSONNEL  
TO CARRY OUT MAINTENANCE  
OR ADJUSTMENTS TO THIS  
MACHINE**

**\* ONLY THOSE ITEMS THAT CAN BE  
ADJUSTED OR MAINTAINED BY NON  
SIBERT PERSONNEL ARE TO BE  
ACCESSED OR ADJUSTED \***

SECTION 1  
IMPORTANT NOTICES

## SPARE PARTS

**PLEASE USE RECOMMENDED  
SPARE PARTS ONLY. FOR A LIST OF  
AUTHORISED SPARE PARTS PLEASE  
CONTACT MANUFACTURER.**

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**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

1.3

**SECTION 1  
IMPORTANT NOTICES**


**WARNING LABELS**

**WARNING  
DANGER OF INJURY FROM  
EDGE OF ROTATING MATRIX**

FOUND ON BASE PLATE  
ABOVE FRONT PANEL

**EMERGENCY  
STOP**

FOUND ON FRONT PANEL

<b>DANGER</b> 	DO NOT REMOVE COVER UNLESS DISCONNECTED FROM MAINS SUPPLY	MAINS VOLTAGE 200-250 VAC 50Hz
--	---	---

FOUND ON ALL REMOVABLE  
COVERS PROTECTING  
ELECTRICAL SYSTEMS

**NOTE:-**

**THIS MACHINE IS DESIGNED TO PUNCH THE INNER HOLE  
AND OUTER DIAMETER OF CD MATRICES / STAMPERS UP TO  
A MAXIMUM OF 0.35mm THICKNESS AND MUST NOT BE USED  
FOR ANY OTHER PURPOSE.**

**WHEN HANDLING NICKEL  
STAMPERS IT IS ADVISABLE TO  
WEAR PROTECTIVE GLOVES.**

**NOTE :-**

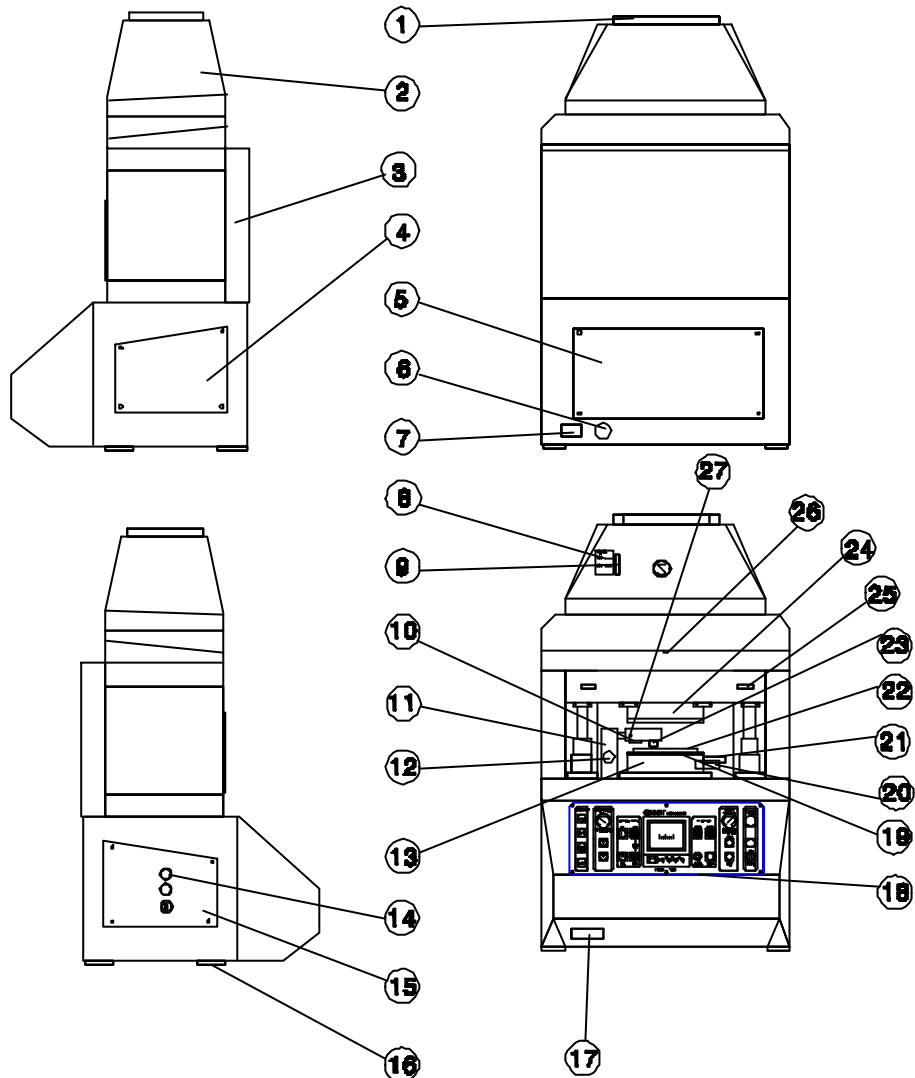
**1 THE COMP 150 HAS BEEN TESTED UNDER "A" WEIGHTED  
CONTINUOUS SOUND AND DOES NOT EXCEED 70 DECIBEL NOISE  
LEVELS.**

**2 THE COMP 150 HAS BEEN TESTED UNDER "C" WEIGHTED  
INSTANTANEOUS SOUND AND DOES NOT EXCEED 130 DECIBEL  
NOISE LEVELS.**

# COMBINED OPTICAL MATRIX PUNCH COMP 150

1.4

## SECTION 2 EQUIPMENT DIAGRAM



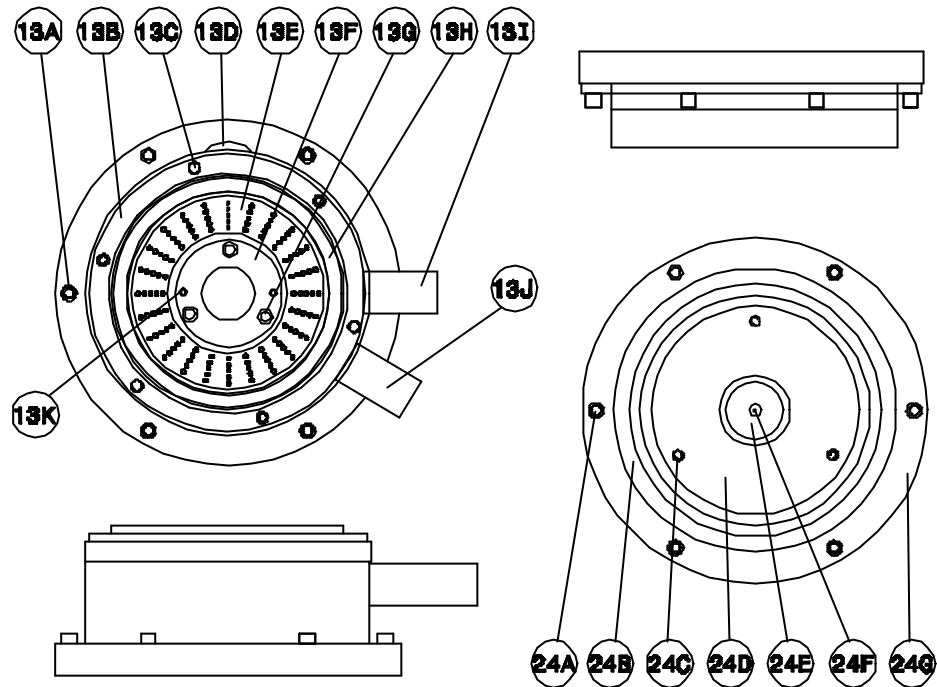
1	TOP CAP	14	PUNCH AND DIE REPLACEMENT CONTROLS
2	TOP COVER	15	PNEUMATICS COVER PLATE
3	BACK COVER	16	ANTI-VIBRATION FEET
4	PLC AND FUSES COVER PLATE	17	CENTRE HOLE WASTE OUTLET
5	HYDRAULIC BOOSTER COVER PLATE	18	CONTROL PANEL
6	PNEUMATIC MAINS INPUT	19	LOWER EJECTION RING
7	MAINS POWER INLET PLUG	20	PRE-CENTRING CYLINDER
8	OIL LEVEL MAX. AND MIN. INDICATOR	21	NUDGE CYLINDER
9	OIL LEVEL SIGHT GLASS	22	VACUUM TURNTABLE
10	VIEWING DIAMETER ADJUSTMENT LEVER	23	OBJECTIVE LENS
11	OPTICAL HEAD	24	UPPER PUNCH AND DIE SET
12	OPTICAL HEAD LAMP UNIT	25	PUNCH COUNTER
13	LOWER PUNCH AND DIE SET	26	FRONT GUARD (SHOWN OPEN)
		27	OPTICAL VIEWING DIAMETER LOCK SCREW

**WARNING:** DO NOT ADJUST ANY PRE-SET INTERNAL PNEUMATIC REGULATORS

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

2.1

**SECTION 2  
EQUIPMENT DIAGRAM**



**LOWER PUNCH and DIE SET  
(OUTER PUNCH AND INNER DIE)**

- 13A 6 OFF LOWER SET RETAINING SCREWS
- 13B LOWER EJECTION RING
- 13C 3 OFF PUNCH SPACER LOCATION THREADS
- 13D VACUUM TABLE DRIVE TRANSFER GEAR
- 13E VACUUM TABLE
- 13F INNER DIAMETER DIE
- 13G INNER DIAMETER DIE RETAINING SCREWS
- 13H OUTER DIAMETER PUNCH
- 13I NUDGE CYLINDER
- 13J PRE-CENTRING CYLINDER
- 13K DIE REMOVAL THREADS

**UPPER PUNCH and DIE SET  
(INNER PUNCH AND OUTER DIE)**

- 24A 6 OFF UPPER SET RETAINING SCREWS
- 24B OUTER DIAMETER DIE
- 24C UPPER STRIPPER PLATE RETAINING SCREWS
- 24D UPPER STRIPPER PLATE
- 24E INNER DIAMETER PUNCH
- 24F PUNCH AND DIE ALIGNMENT CENTRE
- 24G UPPER SET CLAMP RING

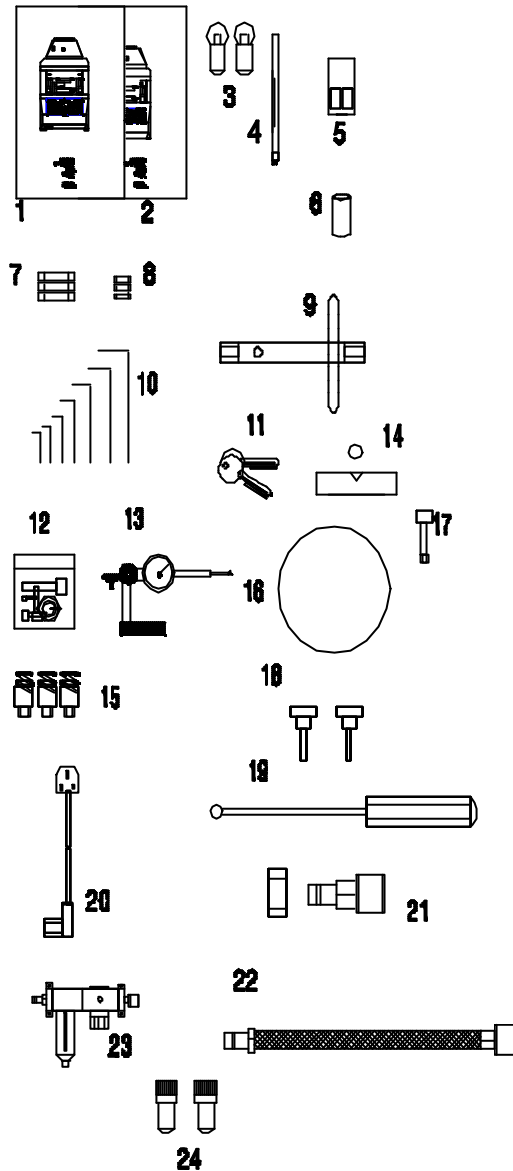
# COMBINED OPTICAL MATRIX PUNCH COMP 150

2.2

## SECTION 2 EQUIPMENT DIAGRAM

The Accessories supplied with the **COMP 150** include the following items :-

1. Service and Commissioning Manual
2. Operating Manual
3. Optical Head Replacement Bulbs
4. Fluorescent Tube
5. Replacement Air Line Filter
6. Replacement Vacuum Filter
7. Mains Fuses
8. Internal Circuit Fuses
9. 30mm AF Box Spanner and Bar
10. Assorted Hex Keys
11. Manual Override Keys for Punch and Die Replacement
12. Assorted Spare Screws
13. Dial Test Indicator and Stand (Including Fixing screws)
14. Punch and Die Alignment Jig (Including 2 off Hardened 8mm Balls)
15. Punch and Die Spacers
16. Punch and Die Protection Mat
17. Lamp Holder Removal Tool
18. 2 Off Die Removal Knurled Screws
19. 5 mm Hex Ball Driver
20. Moulded Mains Lead
21. 1 off Check Unit and Hose Clip
22. 1 off Air Pipe ( Filter Unit to COMP)
23. Filter Regulation Unit
24. Mains Indicator Bulbs.



# COMBINED OPTICAL MATRIX PUNCH COMP 150

2.3

## SECTION 3 ASSEMBLY AND COMMISSIONING

### UNPACKING

When the **COMP 150** arrives it will be packed in a strong pallet sized crate.

The Top and Side Panels should be removed using a suitable spanner. Remove included ancillary parts such as Toolcase, Top Cap and Pressure Regulator (if not on bench)

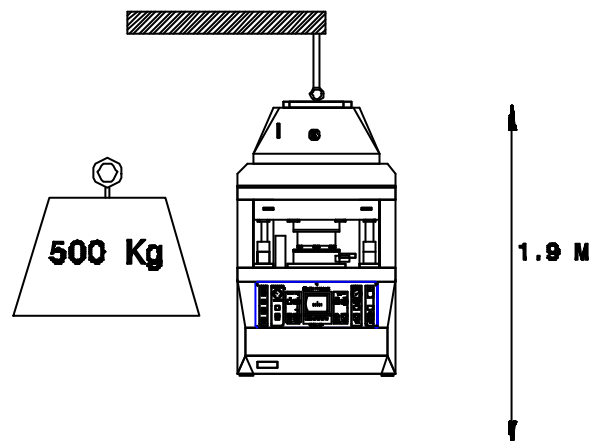
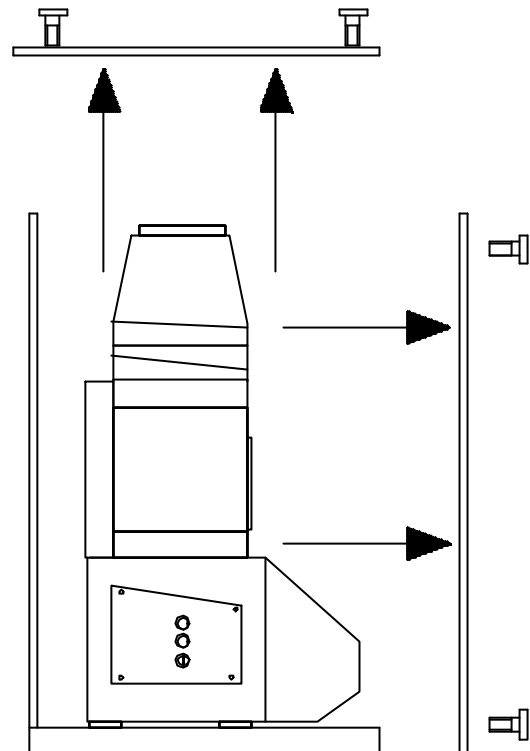
Remove strapping before lifting **COMP 150** from the crate.

There is a lifting eye bolt provided on top of the **Comp 150** to enable the machine to be lifted out of the packing case.

The lifting device should be able to carry at least 500Kg and have a lifting height of 1.9 Metres.

### WARNING

Keep clear of machine while it is being lifted.



### NOTE:-

**WEIGHT OF COMP 150 INCLUDING PACKING CASE = 600Kg (0.6t)**

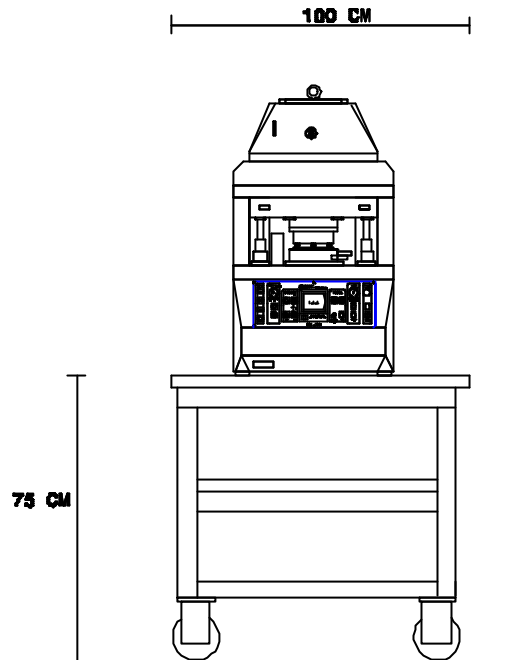
**WEIGHT OF COMP 150 BENCH (IF SUPPLIED) = 200Kg (0.2t)**

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150  
3.1  
SECTION 3  
ASSEMBLY AND COMMISSIONING**

**LOCATING**

The **COMP 150** should be mounted on a bench of at least 100 cm wide, 80 cm deep. The ideal height of the bench should be 75 cm

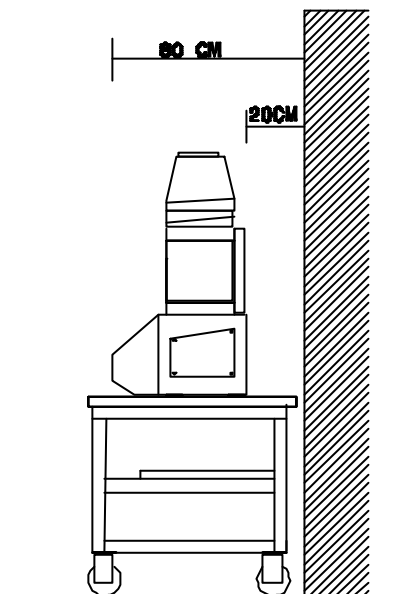
The COMP 150 should be 20 cm from the wall and, if possible, the bench should have wheels to allow the machine to be moved away from the wall to permit access to the rear.



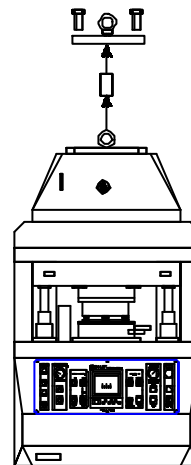
**Important:-**

The bench should be able to support 500Kg.

**SIBERT INSTRUMENTS** produce a purpose made bench for the **COMP 150**. This bench accommodates the filter and regulation unit and has built in connectors for pneumatic and electric mains supplies.



When the machine is positioned on its bench, the Lifting Eye Mounting plate together with Lifting Eye and Plastic Packing piece must be removed by unscrewing the 4 securing bolts using the 30mm Box Spanner supplied in the Toolcase.



# COMBINED OPTICAL MATRIX PUNCH COMP 150

3.2

## SECTION 3 ASSEMBLY AND COMMISSIONING

After removing the Eye Bolt Mounting Plate together with Eye Bolt the **Top Cover** can be screwed in position on top of the machine using the 4 off M6 Hex Cap Head screws provided.

This cover plate allows access to the **Hydraulic Oil Top-Up Tube** (see section 9)

### CONNECTING TO SUPPLIES

#### Mains Electricity

The **Comp 150** is supplied with a moulded electric mains supply lead which connects to the **Mains Power Inlet Plug (7)** at the rear of the machine.

The machine will be delivered to operate on either:-

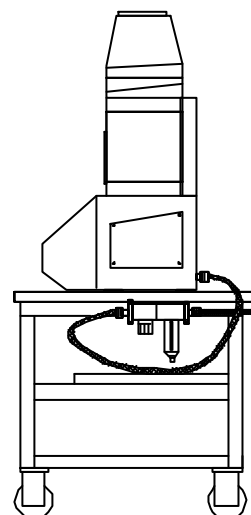
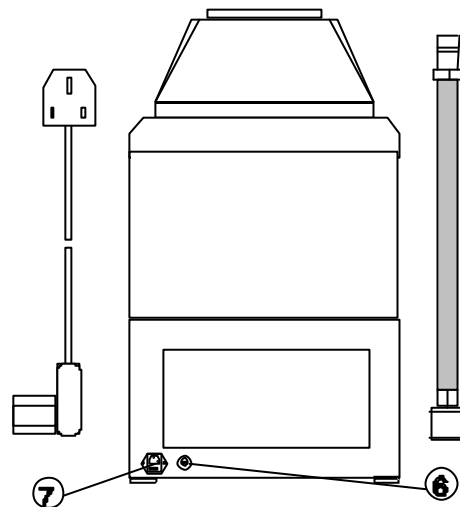
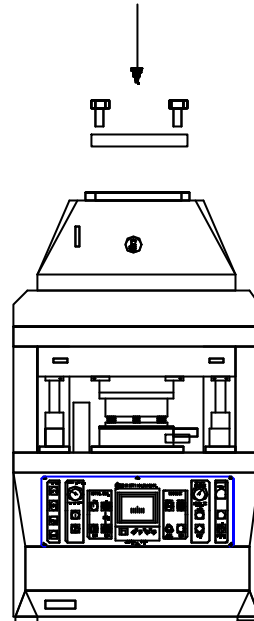
220V  $\pm$ 10% 50/60 Hz  
110V  $\pm$ 10% 50/60 Hz

Check specification on the side of machine or see **Section 15**. Connect machine to supply only if it conforms to specification.

#### Pneumatic supply

The **COMP 150** is supplied with an **Air Filter and Regulation Unit** together with an **Air Connection Pipe** for connection to the **Pneumatic Mains Input (6)**.

The **Air Filter and Regulation Unit** should be mounted to the right hand side of the machine.

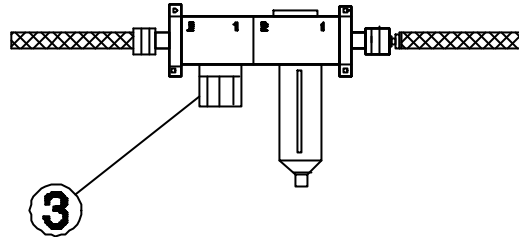


# COMBINED OPTICAL MATRIX PUNCH COMP 150

3.3

## SECTION 3 ASSEMBLY AND COMMISSIONING

Connect the Filter and Regulation Unit to the mains air supply using the check unit provided. **The Regulator (3)** should be adjusted to within 6-8 bar (80-100 psi).

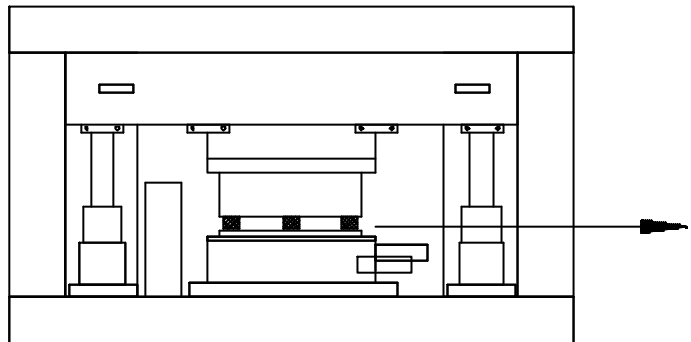


When the air supply is connected and the mains switch is turned on, the top punch plate will rise to its upper position.

The packing pieces which have been protecting the punch and die set can now be removed.

The **COMP 150** is now ready for use but :-

**PLEASE READ BOTH THIS SERVICE MANUAL AND THE OPERATING MANUAL BEFORE ATTEMPTING TO OPERATE THE MACHINE.**



**WHEN HANDLING NICKEL STAMPERS IT IS ADVISABLE TO WEAR PROTECTIVE GLOVES.**

**NOTE :-**

**1 THE COMP 150 HAS BEEN TESTED UNDER "A" WEIGHTED CONTINUOUS SOUND AND DOES NOT EXCEED 70 DECIBEL NOISE LEVELS.**

**2 THE COMP 150 HAS BEEN TESTED UNDER "C" WEIGHTED INSTANTANEOUS SOUND AND DOES NOT EXCEED 130 DECIBEL NOISE LEVELS.**

# COMBINED OPTICAL MATRIX PUNCH COMP 150

3.4

## SECTION 4 PUNCH AND DIE ASSEMBLY REPLACEMENT

### REMOVAL

#### IMPORTANT:-

#### Weight of Punch and Die:-

Lower = 16 Kg

Upper = 8 Kg

Ensure that the optical head is in its out position before proceeding with punch and die replacement.

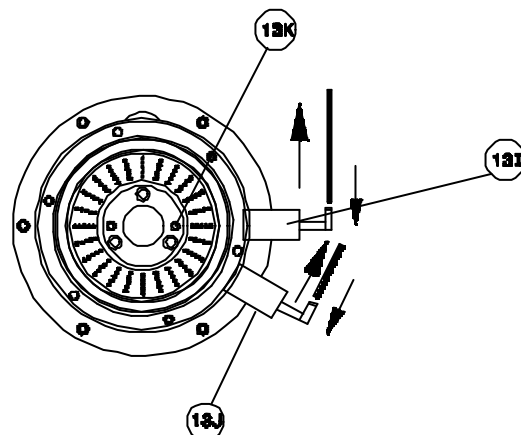
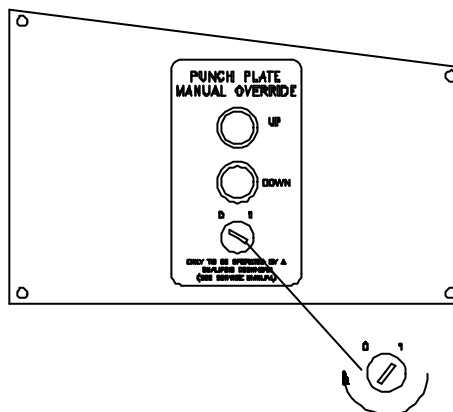
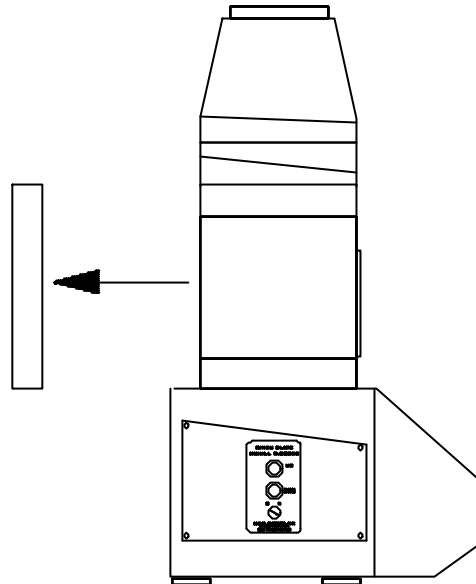
To enable the punch plate to be moved up and down manually the punch plate **Manual Override Key** from the **Toolcase** should be inserted in the keyhole on the left hand side of the machine and rotated to the 1 position.

This **OVERRIDES THE MACHINE GUARDS** and allows the punch plate to be operated pneumatically without the hydraulic cylinder coming into operation.

**Please note: Do not leave the manual override key in the 1 position for extended periods.**

The **Back Cover** holding screws should now be undone and the **Back Cover** carefully removed.

The **Nudge Cylinder (13I)** and **Table Pre-Centring (13J)** (if fitted) air pipe(s) should now be removed. The top of the connector should be pushed in the opposite direction to the pipe being withdrawn.



# COMBINED OPTICAL MATRIX PUNCH COMP 150

4.1

## SECTION 4 PUNCH AND DIE ASSEMBLY REPLACEMENT

Place the **Punch and Die Protection Matt** (supplied in the Toolcase) on the **Lower Punch Set**. This will protect both Top and Bottom Sets when they are removed from the **COMP 150**.

### WARNING

Although the plate is moved pneumatically and not hydraulically, injury can still be caused if fingers are trapped between the two sets.

Using the **Punch Plate Override Button**, gradually lower the top plate until the Punch and Die Sets are just touching.

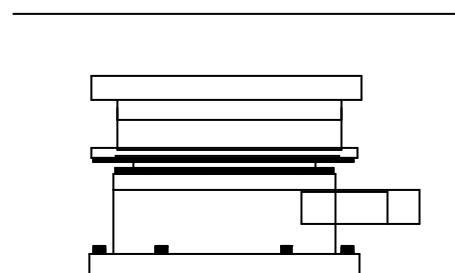
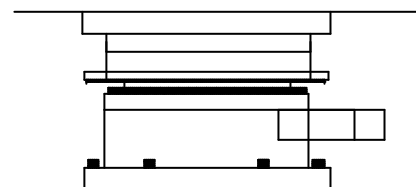
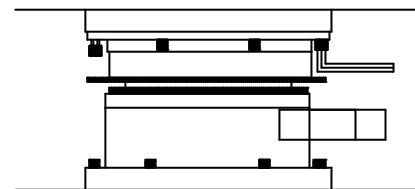
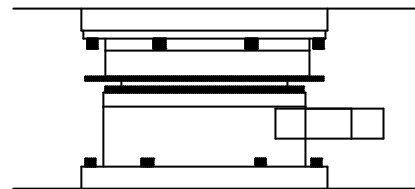
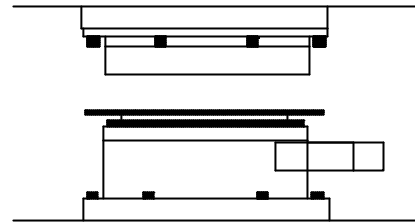
Remove the 6 off M6 **Upper Set Retaining Screws** from the **Top Set Clamp Ring**.

The clamp ring will rest on the **Punch and Die Protection mat**.

Raise the **Punch Plate** slowly ensuring clean separation.

The **Upper Punch and Die Set** can now be lifted clear of the machine.

**Note: Upper Punch and Die Set weight is 8 Kg**

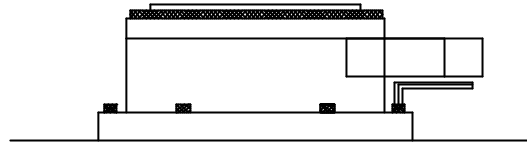


# COMBINED OPTICAL MATRIX PUNCH COMP 150

4.2

## SECTION 4 PUNCH AND DIE ASSEMBLY REPLACEMENT

The 6 off M6 **Lower Set Retaining Screws** should now be removed and the **Lower Punch Set** slid out forwards from the Bottom Punch Plate.  
**Note: Lower Punch and Die Set weight is 16 Kg**



### EXAMINATION

With the Punch and Die Sets removed from the **COMP 150** they can be examined for wear or damage. It is easier to examine the **Top Set** when the **Upper Stripper Plate (24D)** is removed (see later in this section).

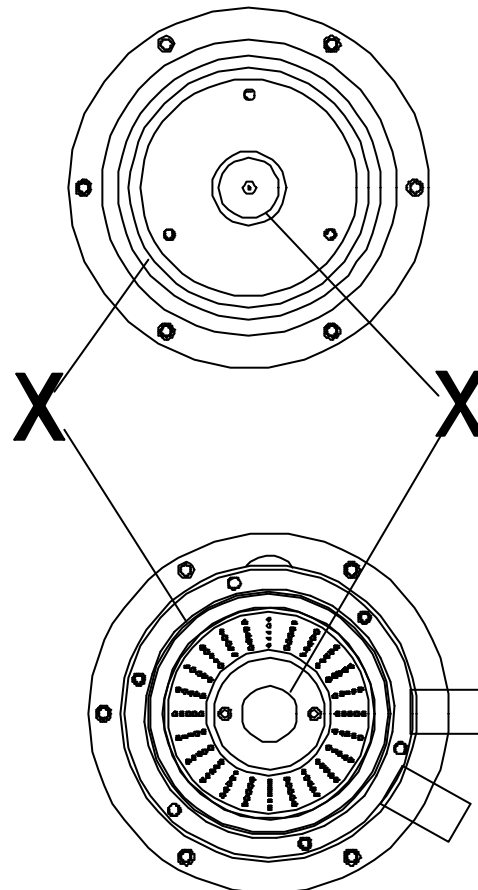
The cutting edges marked **(X)** should be free from chips and not be shiny or polished.

The Centre Hole Punch and Die can be removed and replaced with a new, re-sharpened or different sized set. (see later in this section).

If the **Outer Diameter Punch and Die Set** requires sharpening the whole Punch and Die assembly should be returned to **Sibert Instruments**.

(When returned, a routine inspection of the Turntable Vacuum Seals and an alignment check will be carried out)

**Note: Do not remove the screws under Lower Ejection Ring holding the outer diameter Punch or Die to the assembly.**



# COMBINED OPTICAL MATRIX PUNCH COMP 150

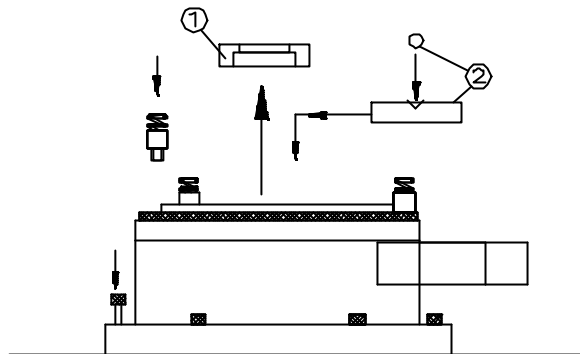
4.3

## SECTION 4

### PUNCH AND DIE ASSEMBLY REPLACEMENT REFITTING AND ALIGNMENT

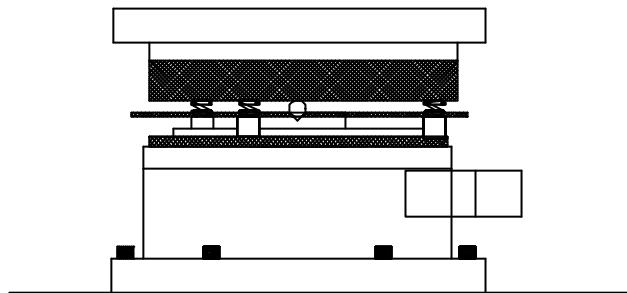
The Lower Set should be slid into position and the 6 off **Lower Set Retaining Screws** replaced.

Pull **Punch and Die** towards the operator (away from gear) to ensure binding does not occur, before fully tightening the **Lower Set Retaining Screws**.



The three **Punch and Die Spacers** should be screwed into the top of the **Outer Stripper Plate**.

The **Punch and Die Alignment Jig and Ball (2)** should be located in place of the Inner Diameter Die (1) (for Die Removal see next section) and the top set carefully rested so that the ball locates into the centre of the Inner Diameter Punch.

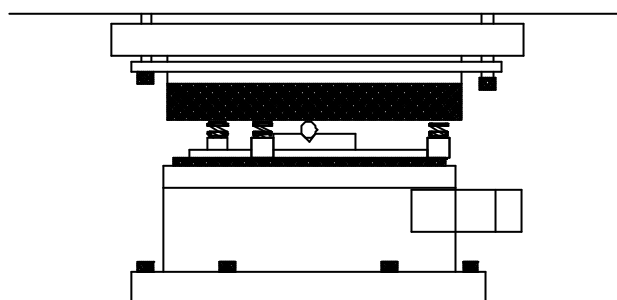


It is important that the sets and the jig are free from dirt and dust.

Do not forget to replace the **Top Set Clamp Ring**.

The three **Punch and Die Spacers** ensure that the top set remains reasonably level.

The Top Punch Plate can now be lowered until it is approximately 5mm above the top set, then insert **Upper Retaining Screws** so they are just located in threads.



The Top Punch Plate can now be lowered until it touches the top set and the two units become aligned by the **Jig and Ball**. Ensure Punch Plate is fully down before fully tightening the **Upper Retaining Screws**.

# COMBINED OPTICAL MATRIX PUNCH COMP 150

4.4

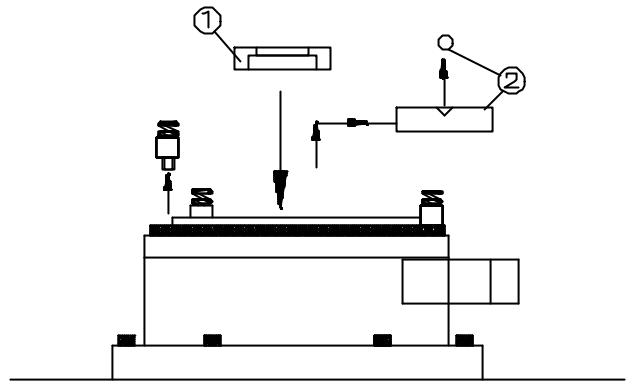
## SECTION 4 PUNCH AND DIE ASSEMBLY REPLACEMENT

Using the **Manual Over-ride Push Buttons** on the side of the **COMP 150**, Raise the **Upper Punch Plate**. Remove the **3 Punch and Die Spacers** and **Die Mount Setting Piece**.

Replace the Die, ensuring seating is clean and lightly tighten 3 screws.

Switch back for normal operation.

Replace Back Cover.



### IMPORTANT

Before operating equipment in Hydraulic mode, **lower manually** to ensure Punch and Die Assemblies penetrate correctly.

Upper Assembly should slide over Lower Assembly using manual over-ride button (located on the side panel).

If Upper Assembly does not slide over Lower Assembly, check alignment of Upper Assembly to Lower Assembly before proceeding.

**IF IN DOUBT CONTACT YOUR SUPPLIER**

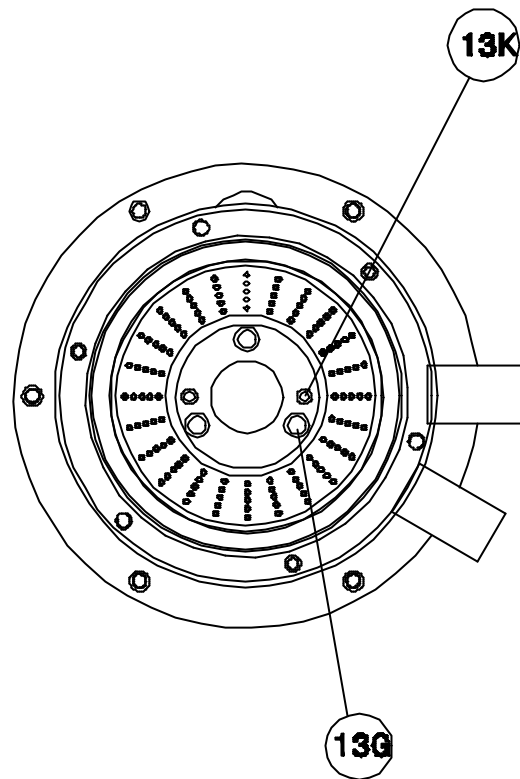
# COMBINED OPTICAL MATRIX PUNCH COMP 150

4.5

## SECTION 5 ID PUNCH AND DIE REPLACEMENT

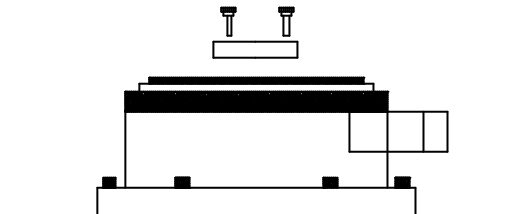
### Inner Punch and Die Replacement

If the **Inner Punch and Die** require replacing for re-sharpening or a change of centre hole size, the complete **Punch and Die Sets** should be removed as described in the previous section (Punch and Die Assembly Replacement).



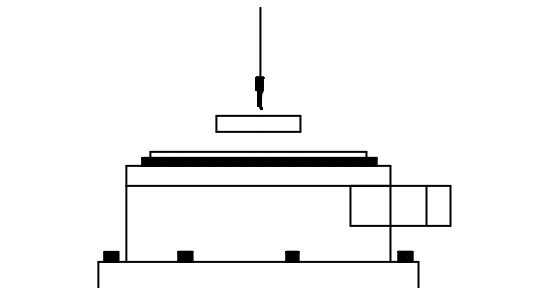
### Replacing the Inner Die

Remove the 3 off M4 **Die Retaining Screws (13G)**. The **Die** can then be extracted by screwing the 2 off **Knurled Die Removal Screws (13K)** through the **Die** (if required).



The maximum amount of material that can be removed when sharpening is 0.63 mm (0.025") which allows for re-sharpening approximately 5 times.

When the Die seating and Die have been cleaned the Die can be relocated on to the seating and the 3 screws replaced.



# COMBINED OPTICAL MATRIX PUNCH COMP 150

5.1

## SECTION 5 ID PUNCH AND DIE REPLACEMENT

### INSPECTING CONCENTRICITY OF ID DIE

It is recommended that the concentricity of the ID Die is checked regularly for run out. The COMP 150 is supplied with a Dial Test Indicator Kit.

The following procedure may be undertaken with the Punch and Die Assembly installed in the equipment. For this operation, the Brass Drive Gear will require removal to enable the turntable to be rotated manually.

### Inspecting Concentricity of ID Die

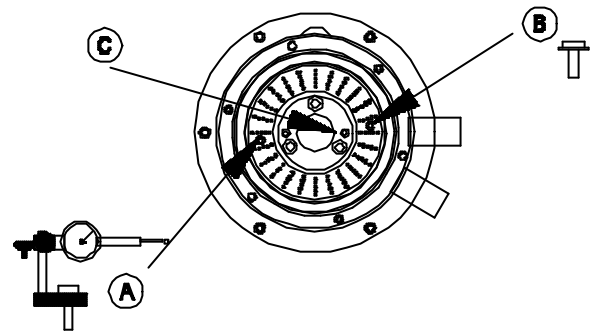
Remove 2 off M4 set screws from the plastic vacuum turntable.

Attach the Dial Test Indicator and Stand (A) to one side, using the M3 x 30mm long and small washer. Secure the other side using the M3 x 16mm long and larger washer(B).

Arrange the Dial Test Indicator so the needle point is touching the inside edge of the Die (C).

#### Note:-

**If the Dial Test Indicator Stand and Opposite screw are over tightened, damage to the Plastic Vacuum Table may occur.**



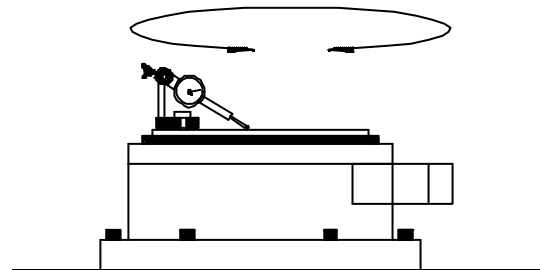
Rotate the turntable so a reading is obtained on the Dial Test Indicator.

Concentricity of the Die should not exceed 0.005mm.

If it does, the die mount should also be checked in the same manner.

Concentricity of Die Mount should not exceed 0.003mm.

If the Die Mount error is too great it will require re-alignment. Alternatively the Punch and Die Assembly may be returned to the Supplier.



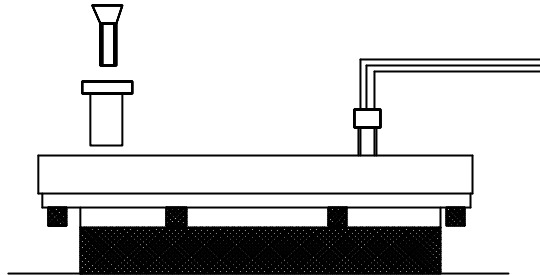
# COMBINED OPTICAL MATRIX PUNCH COMP 150

5.2

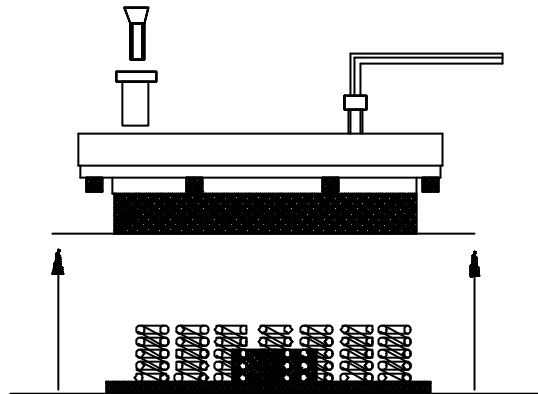
## SECTION 5 ID PUNCH AND DIE REPLACEMENT

### REPLACING THE INNER PUNCH

Remove the 3 off **Inner Stripper Plate** retaining screws together with guides from the back of the Top Set.



Carefully lift the set up leaving the **Stripper Plate** together with the 12 off pressure springs resting on the bench.

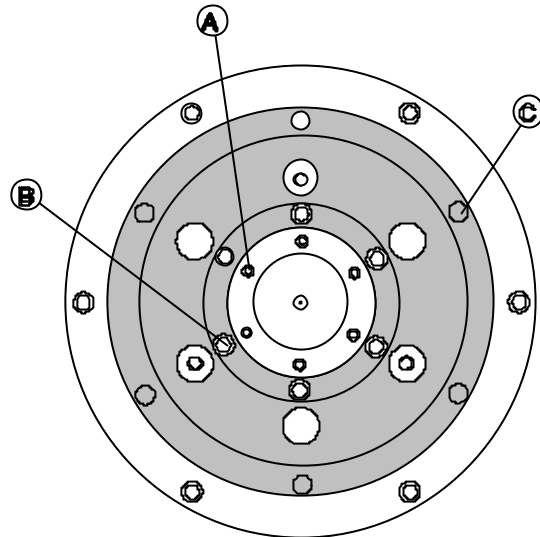


# COMBINED OPTICAL MATRIX PUNCH COMP 150

5.3

## SECTION 5 ID PUNCH AND DIE REPLACEMENT

Loosen and remove the 6 off inner punch retaining screws (A). **Do not remove the Inner Punch Guide Ring (B) or the Outside Diameter Die (C).**

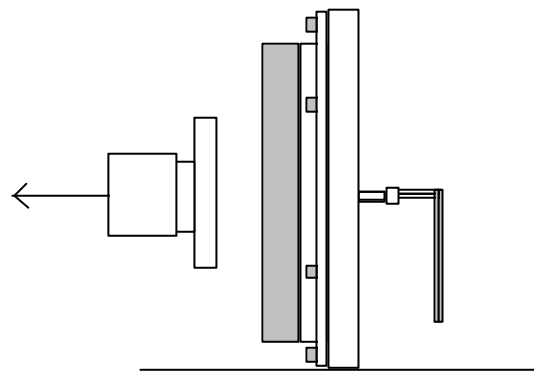


The Punch can be removed by inserting an M6 screw from behind and gently turning it until the punch comes clear of its seating.  
(if required)

The Punch and seating should then be cleaned before relocating and replacing the screws.

Place the 6 off short springs over the Guide Retaining Screws and the 6 off long springs over the pillars and plungers holding the upper stripper plate.

Ensure the Upper Stripper Plate is screwed into position evenly to prevent damage to cutting edge and face of Upper Stripper Plate



Once reassembled please refer back to **Section 4 'Refitting and Alignment'** for correct alignment procedure.

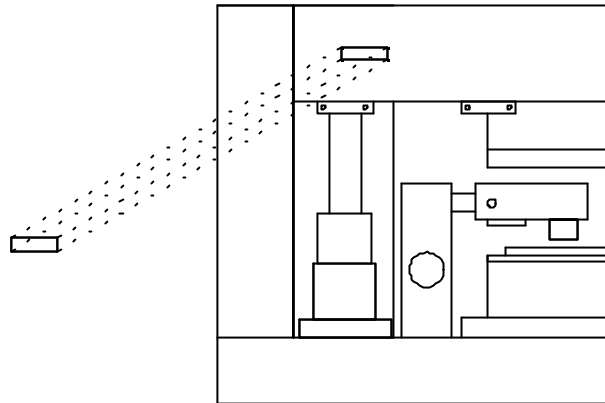
# COMBINED OPTICAL MATRIX PUNCH COMP 150

5.4

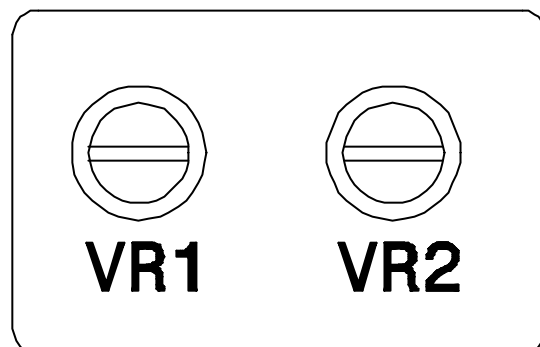
## SECTION 6 OPTICAL HEAD SERVO ADJUSTMENT

The **Optical Head Servo** enables the precise positioning of the Optical Head in its **In** or its **Out** position.

The controls for adjusting this are situated behind the **Front Guard Mounting Plate** on the left side of the **COMP 150**.



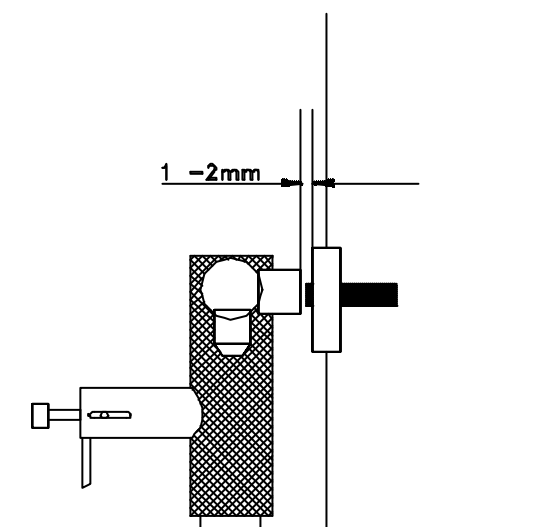
With the cover plate on the Front Guard Mounting Plate removed it will be possible to adjust **VR1** and **VR2** by inserting a screwdriver.



**VR1** adjusts the **Out** position of the **Optical Head** with reference to the sensor mounted behind the Left-hand cast column. If this is not adjusted correctly it will not be possible to start the **Punch Cycle**.

With the **Optical Head** in its **Out** Position **VR1** should be adjusted to give a gap between the sensor and the Target Block on the **Optical Head** of between 1 and 2 mm.

Turning **VR1** clockwise reduces the gap.



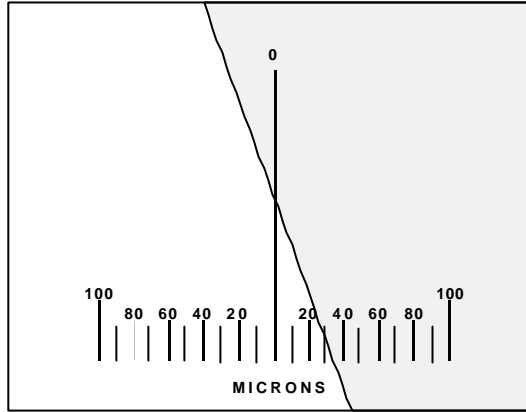
# COMBINED OPTICAL MATRIX PUNCH COMP 150

6.1

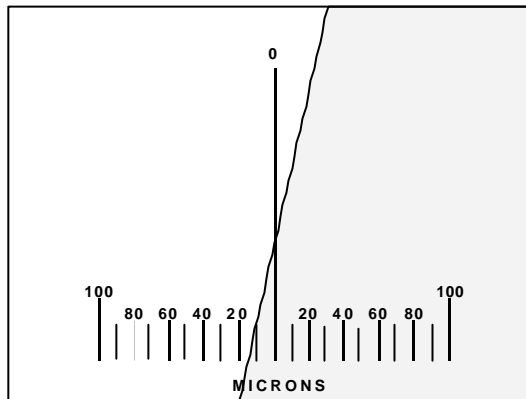
## SECTION 6 OPTICAL HEAD SERVO ADJUSTMENT

Before adjusting **VR2** ensure that the **Optical Head** is in the **In** position and a stamper is vacuumed onto the **Turntable** and is in focus and centred.

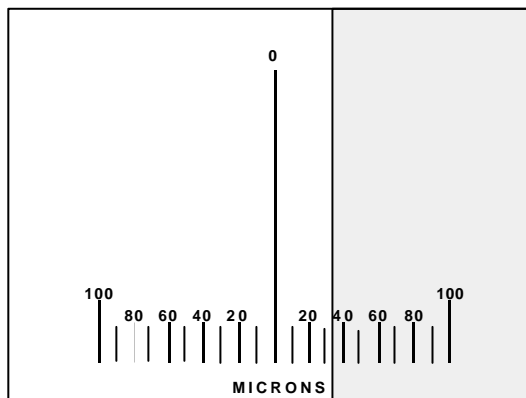
If, when centred, the information is at an angle on the screen, sloping as shown in the diagram, then the **Optical Head** is too far in. **VR2** should be rotated clockwise to bring the edge of the “information” parallel to the lines on the Graticule.



If the “information” is sloping the other way, as shown in this diagram, VR2 should be rotated anticlockwise until the image becomes parallel to the lines on the Graticule (see the bottom diagram).



It may be necessary to readjust VR1 again after VR2 has been set.



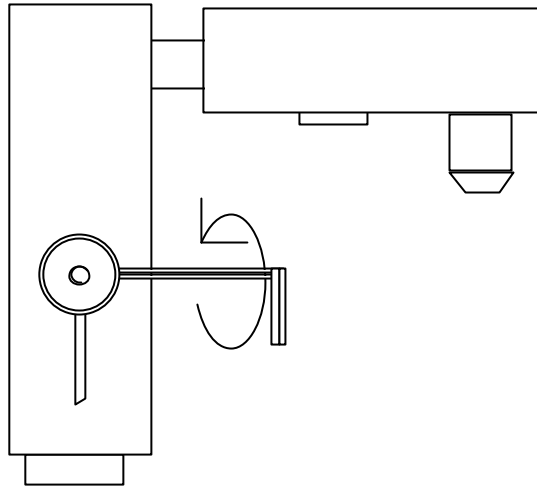
# COMBINED OPTICAL MATRIX PUNCH COMP 150

6.2

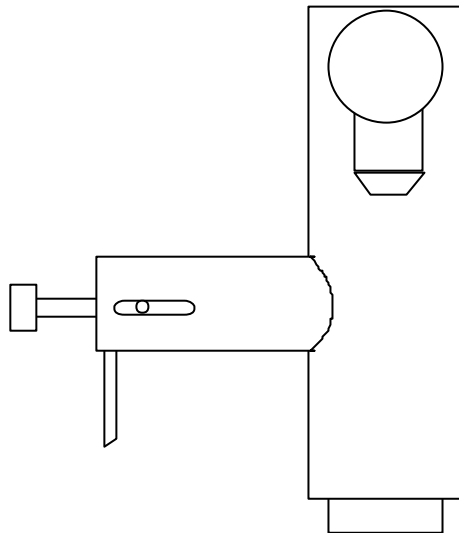
## SECTION 7 OPTICAL HEAD LAMP REPLACEMENT

The **Optical Head Lamp** is located in the tube on the **Optical Head Main Column** and at 90 ° to the main arm.

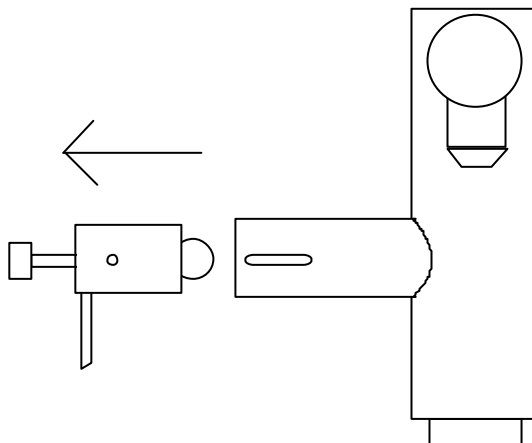
If the Lamp fails the **Optical Head** should be moved to the **In** position and the **Lamp Holder Clamp Screw** in the side of the tube removed.



The **Lamp Holder Removal Tool** should now be screwed into the end of the lamp holder and the assembly carefully withdrawn.



It is important to use this tool and not pull the assembly out by its wire.



# COMBINED OPTICAL MATRIX PUNCH COMP 150

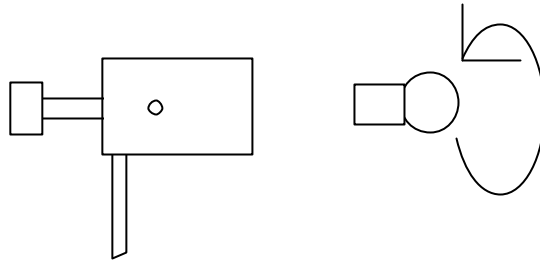
7.1

## SECTION 7 OPTICAL HEAD LAMP REPLACEMENT

With the assembly removed the Lamp can now be replaced with a spare :-

12v G31/2 11mm Round MES Lamp

2 spares are supplied with the **Comp 150** in the Toolcase.

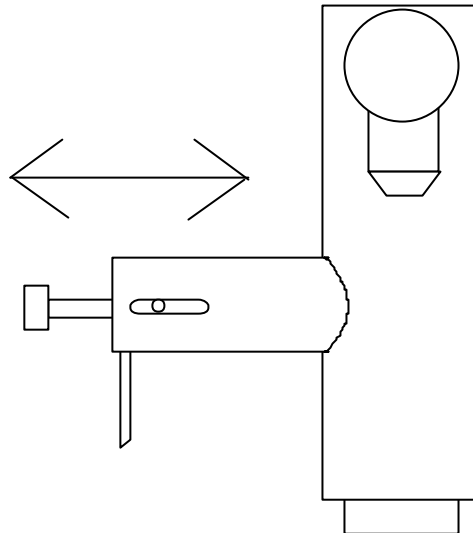


With the new Lamp screwed into position the holder can be replaced into the **Optical Head**.

The **Lamp Holder Clamp Screw** can now be replaced but before tightening the lamp holder should be adjusted in and out for maximum brightness of image on the TV screen.

This should be done with a Matrix in place and in focus.

The **Lamp Holder Clamp Screw** should now be tightened.



# COMBINED OPTICAL MATRIX PUNCH COMP 150

7.2

## SECTION 8 FUSE REPLACEMENT

There is one Mains Supply Fuse fitted externally at the rear of the **COMP 150** on the right-hand side.

The 20 mm fuse is as follows:-

Machine	Rating
240v	F 3.15 Amp
110v	F 6.3 Amp

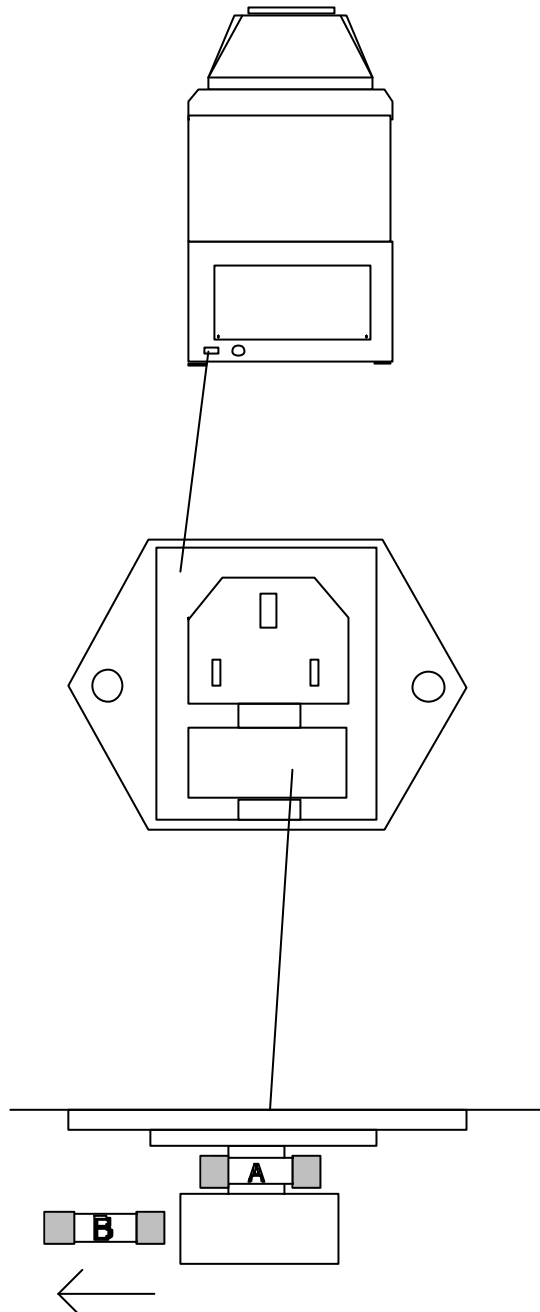
There is also a spare fuse contained in the fuseholder carrier.

Additional fuses can be found in the **Toolcase**.

The fuse (A) can be replaced by removing the moulded mains lead and then pulling the small carrier out from beneath the socket.

The spare fuse (B) is located in the carrier.

If the fuse blows on replacement the reason should be investigated immediately.



# COMBINED OPTICAL MATRIX PUNCH COMP 150

8.1

## SECTION 8 FUSE REPLACEMENT

There are 8 internal fuses situated behind the **PLC** and **Fuse Cover Plate**.

These are labelled 1 - 8 and are located below the **PLC**.

They are all 20 mm fuses.

**Fuse 1** Not Used

**Fuse 2** Optical Head "In/Out"  
For 240v = F 250 ma or 110v = F500ma

**Fuse 3** TV Camera  
For 240v = F 500 ma or 110v = F1A

**Fuse 4** PLC  
For 240v = F 1.6A or 110v = F3.15A

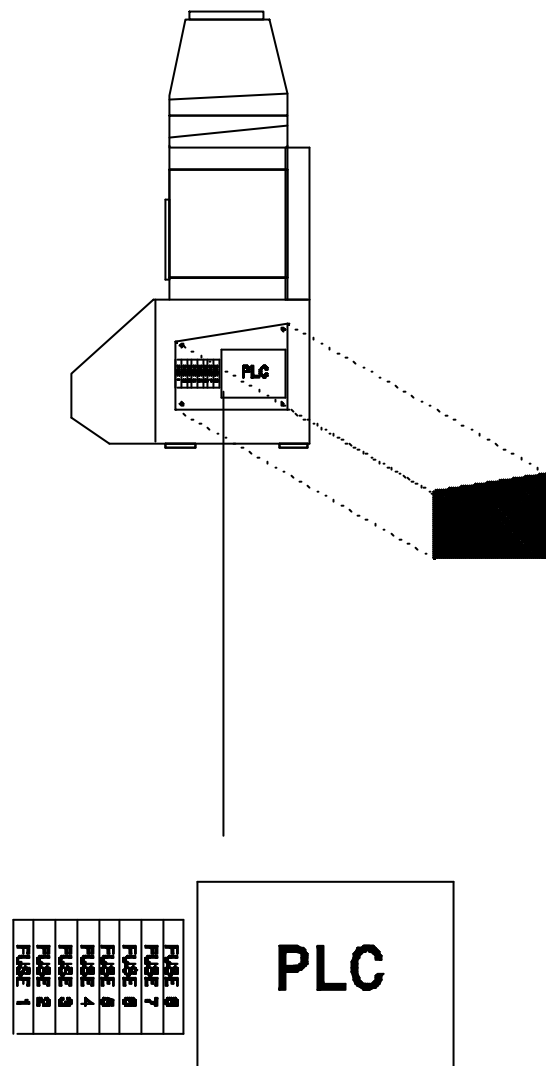
**Fuse 5** Turntable Rotation  
For 240v = F 1.0A or 110v = F2.0A

**Fuse 6** TV Monitor  
For 240v = F 500 ma or 110v = F1.0A

**Fuse 7** Fluorescent Tube  
For 240v = F 500 ma or 110v = F1A

**Fuse 8** Main Air Solenoid  
For 240v = F 250 ma or 110v = F500ma

If any of these fuses blow on replacement the reason should be investigated.



# COMBINED OPTICAL MATRIX PUNCH COMP 150

8.2

## SECTION 9 OIL LEVEL TOP UP

If the Reservoir oil level in the sight glass falls below the marked **Min.** level it is important to check for oil leaks as this can be the only reason for the oil level falling.

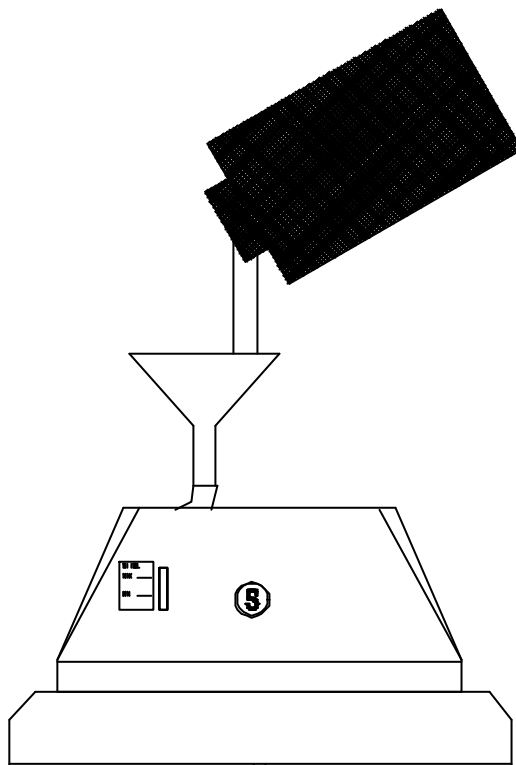
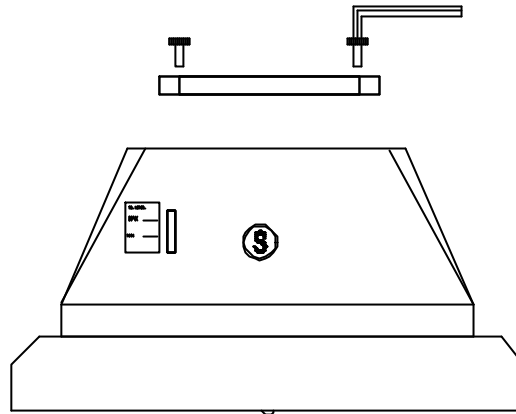
Provided the reason for the fall in oil level is established and the problem rectified, the oil can be topped up.

A flexible tube and funnel may be used to gain access to the reservoir. For this method, the **Top Cap** only needs to be removed.

Alternately, the **Top Cap and Cover** should be removed by undoing the 4 off M6 screws on each item and then lifting them clear.

The Reservoir may now be topped up with hydraulic oil. (BP HLP32)

Replace all covers removed in the above operation.



# COMBINED OPTICAL MATRIX PUNCH COMP 150

9.1

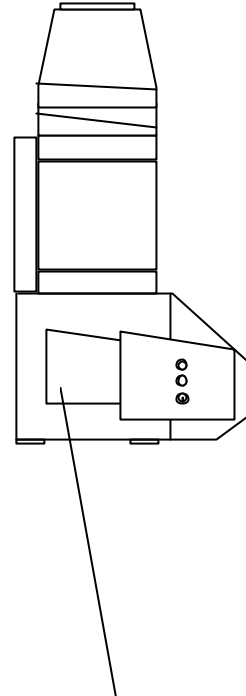
## SECTION 10 VACUUM TABLE FILTER REPLACEMENT

The Vacuum air being drawn from the Turntable is filtered to prevent nickel dust or particles being sucked into the vacuum pump and causing damage.

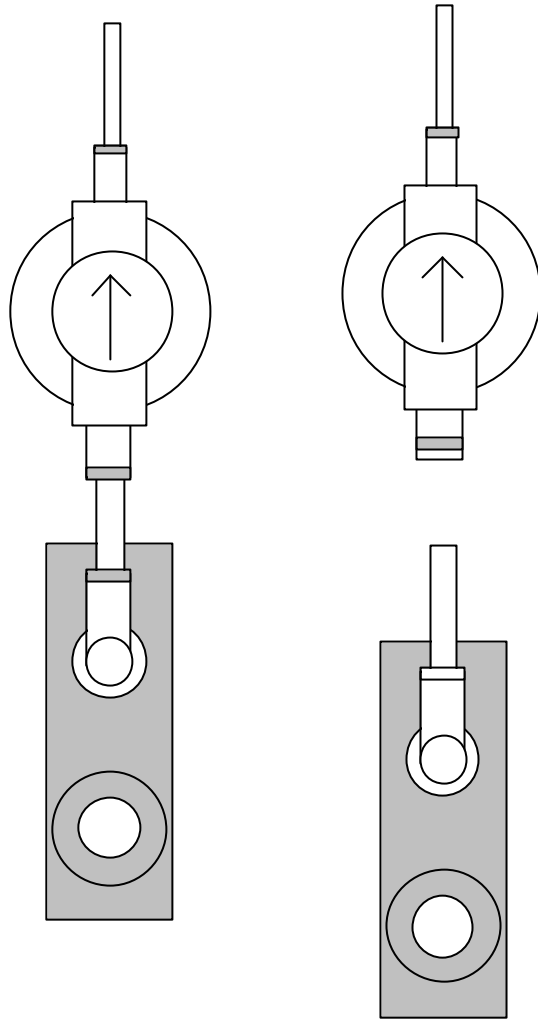
If the Vacuum pressure is insufficient to hold the matrix, the filter may be blocked and need replacing.  
(Check pre-vacuum on Punch and Die set [Maximum – 10Hg] This will indicate a change of vacuum filter is required)

The Filter Bowl Assembly is mounted on the vacuum pump device which is situated behind the **L/H Side Cover Plate (15)**.

With this cover removed the output from the filter bowl should be disconnected and the unit should then be pulled out of the side of the COMP 150.



**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

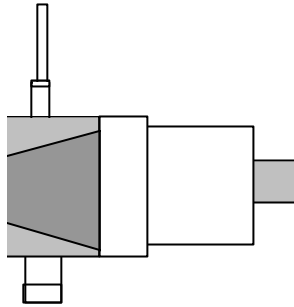


# COMBINED OPTICAL MATRIX PUNCH COMP 150

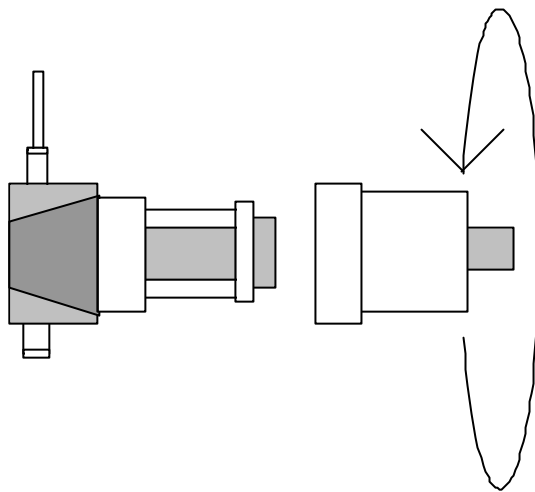
10.1

## SECTION 10 VACUUM TABLE FILTER REPLACEMENT

With the Filter Bowl out of the **COMP 150** the transparent cover bowl can be unscrewed and removed.



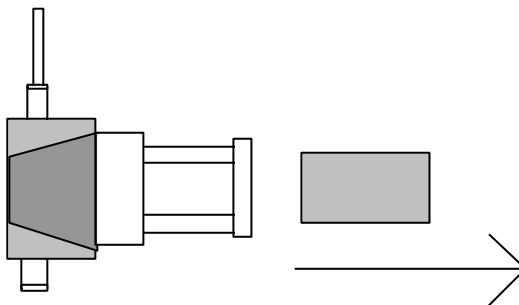
This will allow access to the Fibre Filter which if blocked will be dark grey in colour.



The filter is removed by pulling while gently turning it.

A new filter can then be inserted and the above procedure reversed.

**Never Operate the vacuum without a filter in the bowl.**



# COMBINED OPTICAL MATRIX PUNCH COMP 150

10.2

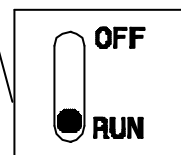
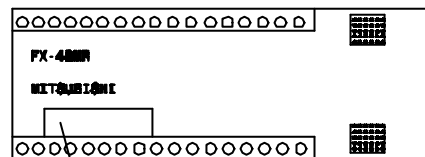
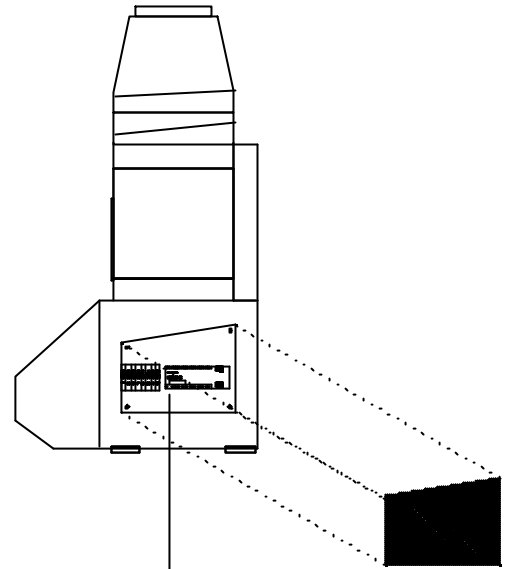
## SECTION 11 PLC

The **Programmable Logic Controller (PLC)** is located behind the right-hand side cover plate.

The **PLC** is factory set with fully programmed **EEPROM Cassette**

**CONTACT SUPPLIER BEFORE ATTEMPTING ANY ADJUSTMENT**

The programme will run continuously provided the machine is switched on and the run switch on the PLC is not in the Off position.



**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

11.1

**SECTION 12  
FX PLC PROGRAMME V2  
(TABLE PRE-CENTRE and PRE-ALIGNMENT)**

STEP	INST.	DATA	COMMENT
0	LD	X 16	OPTICS OUT ?
1	ANI	X 14	NO TABLE VACUUM DETECTED ?
2	AND	X 6	ROTATION BUTTON PUSHED ?
3	OUT	M 230	LATCH TABLE ROTATION ON (1)
4	OUT	M 270	LATCH PRE-CENTRE NUDGE ON (1)
5	LD	Y 20	IS PRE-CENTRE NUDGE LATCHED ON?
6	OUT	T 60	START TIMER
		K 50/80	FOR 5 SECONDS 240V OR 8 SECONDS 110V
9	LD	T 60	IS TIMER FINISHED ?
10	OUT	M 235	ROTATION OFF (1)
11	OUT	M 275	PRE-CENTRE NUDGE OFF
12	LD	X 16	OPTICS OUT ?
13	AND	X 0	VACUUM ON BUTTON PUSHED ?
14	ANI	X 21	IS FRONT GUARD NOT DOWN ?
15	OUT	M 260	PILLARS IN (1)
16	LD	X 6	ROTATION BUTTON PUSHED ?
17	OR	X 7	NUDGE BUTTON PUSHED ?
18	OR	X 1	VACUUM OFF BUTTON PUSHED ?
19	OR	X 21	FRONT GUARD DOWN ?
20	OUT	M 265	PILLARS OUT (1)
21	LD	X 0	VACUUM ON PANEL SWITCH PUSHED ?
22	OR	Y 4	VACUUM SOLENOID
23	LDI	X 1	VACUUM OFF PANEL SWITCH PUSHED ?
24	OR	X 21	GUARD CLOSED ?
25	ORI	X 25	PUNCH NOT AT TOP ?
26	ANB		
27	OUT	Y 4	VACUUM SOLENOID ?
28	LD	X 1	VACUUM OFF PANEL SWITCH PUSHED ?
29	AND	X 21	GUARD CLOSED ?
30	OUT	M 114	ALARM
31	OUT	M 142	GUARD WARNING
32	LD	X 1	VACUUM OFF PANEL SWITCH PUSHED ?
33	ANI	X 25	PUNCH PLATE NOT AT TOP ?
34	OUT	M 100	ALARM
35	OUT	M 120	PUNCHING WARNING
36	LD	X 2	OPTICS IN PANEL SWITCH PUSHED ?
37	OR	Y 7	OPTICS IN
38	ANI	X 3	OPTICS OUT PANEL SWITCH PUSHED ?
39	AND	X 25	PUNCH PLATE AT TOP ?
40	OUT	Y 7	OPTICS IN
41	LD	X 2	OPTICS IN PANEL SWITCH PUSHED ?
42	ANI	X 25	PUNCH PLATE NOT AT TOP ?

## COMBINED OPTICAL MATRIX PUNCH COMP 150

43	OUT	M 101	ALARM
44	OUT	M 121	PUNCHING WARNING

12.1

### SECTION 12 FX PLC PROGRAMME V2 (TABLE PRE-CENTRE and PRE-ALIGNMENT)

45	LD	X 4	FOCUS UP PANEL SWITCH PUSHED ?
46	ANI	X 16	OPTICS NOT OUT ?
47	ANI	X 5	DOWN NOT PRESSED ?
48	OUT	Y 11	OPTICS UP
49	LD	X 5	FOCUS DOWN PANEL SWITCH PUSHED ?
50	ANI	X 16	OPTICS NOT IN ?
51	ANI	X 4	UP NOT PRESSED ?
52	OUT	Y 12	OPTICS DOWN
53	LD	X 4	FOCUS UP PANEL SWITCH PUSHED ?
54	OR	X 5	FOCUS DOWN PANEL SWITCH PUSHED ?
55	AND	X 16	OPTICS NOT OUT ?
56	OUT	M 102	ALARM
57	OUT	M 130	OPTICS WARNING
58	LD	X 6	ROTATION PANEL SWITCH PUSHED ?
59	AND	X 25	PUNCH PLATE AT TOP ?
60	ANI	X 7	NUDGE PANEL SWITCH NOT PUSHED ?
61	OUT	<b>M 240</b>	TABLE ROTATION ON NON LATCHED
62	LD	X 6	ROTATION PANEL SWITCH ? PUNCHING WARNING
63	ANI	X 25	PUNCH PLATE NOT AT TOP ?
64	OUT	M 103	ALARM
65	OUT	M 122	PUNCHING WARNING
66	LD	X 7	NUDGE PANEL SWITCH ? NUDGE TABLE
67	AND	X 25	PUNCH PLATE AT TOP ?
68	ANI	X 6	NO ROTATION PANEL SWITCH PUSHED ?
69	OUT	<b>M 210</b>	NUDGE VALVE ON NON LATCHED
70	LD	X 7	NUDGE PANEL SWITCH ? PUNCHING WARNING
71	ANI	X 25	PUNCH PLATE NOT AT TOP ?
72	OUT	M 104	ALARM
73	OUT	M 123	PUNCHING WARNING
74	LD	X 11	RESET PANEL SWITCH PUSHED ? END PUNCH CYCLE
75	OR	M 150	AUX. RELAY LATCHED ?
76	ORI	X 24	PUNCH AT BOTTOM ?
77	ANI	X 10	PUNCH SWITCH ?
78	OUT	M 150	AUX. RELAY
79	LD	M 150	HAS PUNCH CYCLE ENDED ? RAM TIMER
80	OUT	T 50	START ON DELAY
	K	20	FOR 2 SECONDS
83	LD	T 50	IS TIME UP ?
84	OUT	M 151	BLOCKS CAN COME OUT NOW

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

12.2

**SECTION 12  
FX PLC PROGRAMME V2  
(TABLE PRE-CENTRE and PRE-ALIGNMENT)**

85	LDI	X 15	JUMP IF BLOCKS NOT OUT
86	CJ		JUMP
		P 1	
89	LD	X 10	PUNCH PANEL SWITCH ? PUNCH PLATE DOWN
90	OR	Y 0	PUNCH PLATE PNEUMATIC VALVE ON AIR ?
91	AND	X 17	ALL COVERS ON ?
92	AND	X 21	FRONT GUARD DOWN ?
93	AND	X 16	OPTICS OUT ?
94	AND	X 14	VACUUM PRESSURE ?
95	ANI	M 150	NO RESET ?
96	ANI	X 7	NUDGE OFF ?
97	ANI	X 6	ROTATION OFF ?
98	ANI	X 12	STRIPPER OFF ?
99	OUT	Y 0	PUNCH PLATE PNEUMATIC VALVE
100	LDI	X 17	ALL COVERS NOT ON ? GUARD WARNING
101	ORI	X 21	FRONT GUARD NOT DOWN ?
102	AND	X 10	PUNCH PANEL SWITCH PUSHED ?
103	OUT	M 105	ALARM
104	OUT	M 140	GUARD WARNING
105	LD	X 10	PUNCH PANEL SWITCH ? OPTICS WARNING
106	ANI	X 16	OPTICS NOT OUT ?
107	OUT	M 106	ALARM
108	OUT	M 131	OPTICS WARNING
109	LD	X 10	PUNCH PANEL SWITCH ? VACUUM WARNING
110	ANI	X 14	NO VACUUM PRESSURE ?
111	OUT	M 107	ALARM
112	OUT	M 134	VACUUM WARNING
113		P 1	JUMP HERE IF BLOCKS ARE NOT OUT
114	LD	X 22	PUNCH PLATE PRESSURE? HYDRAULIC BLOCKS IN
115	OR	Y 1	BLOCKS IN ?
116	AND	X 17	ALL COVER ON ?
117	AND	X 21	FRONT GUARD DOWN ?
118	AND	X 16	OPTICS OUT ?
119	ANI	M 151	RAM TIMED OUT ?
120	ANI	X 7	NUDGE OFF ?
121	ANI	X 6	ROTATION OFF ?
122	OUT	Y 1	BLOCKS IN

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

12.3

**SECTION 12  
FX PLC PROGRAMME V2  
(TABLE PRE-CENTRE and PRE-ALIGNMENT)**

123	LD	X 23	BLOCKS IN ?	HYDRAULIC RAM
124	OR	Y 2	RAM DOWN ?	
125	AND	X 17	ALL COVERS ON ?	
126	AND	X 21	FRONT GUARD DOWN ?	
127	AND	X 16	OPTICS OUT ?	
128	ANI	M 150	END OF PUNCH CYCLE ?	
129	ANI	X 7	NUDGE OFF ?	
130	ANI	X 6	ROTATION OFF ?	
131	OUT	Y 2	RAM DOWN	
132	LD	X 12	STRIPPER PANEL SWITCH ?	STRIPPER
133	AND	X 25	PUNCH PLATE AT TOP ?	
134	AND	X 16	OPTICS OUT ?	
135	ANI	X 21	FRONT GUARD UP ?	
136	ANI	X 14	NO VACUUM ON ?	
137	OUT	Y 3	STRIPPER UP	
138	LD	X 12	STRIPPER PANEL SWITCH ?	PUNCHING WARNING
139	ANI	X 25	PUNCH PLATE AT TOP ?	
140	OUT	M 110	ALARM	
141	OUT	M 124	PUNCHING WARNING	
142	LD	X 12	STRIPPER PANEL SWITCH ?	OPTICS WARNING
143	ANI	X 16	OPTICS OUT ?	
144	OUT	M 111	ALARM	
145	OUT	M 132	OPTICS NOT OUT	
146	LD	X 12	STRIPPER PANEL SWITCH ?	GUARD WARNING
147	AND	X 21	FRONT GUARD DOWN ?	
148	OUT	M 112	ALARM	
149	OUT	M 141	GUARD WARNING	
150	LD	X 12	STRIPPER PANEL SWITCH PUSHED ?	
151	AND	X 14	VACUUM ON ?	
152	OUT	M 113	ALARM	
153	OUT	M 135	VACUUM WARNING	
154	LD	M 100	ALARM DRIVE	
155	OR	M 101		
156	OR	M 102		
157	OR	M 103		
158	OR	M 104		
159	OR	M 105		
160	OR	M 106		
161	OR	M 107		
162	OR	M 110		
163	OR	M 111		
164	OR	M 112		
165	OR	M 113		

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

166	OR	M 114	
167	OUT	Y 17	ALARM OUTPUT

12.4

**SECTION 12  
FX PLC PROGRAMME V2  
(TABLE PRE-CENTRE and PRE-ALIGNMENT)**

168	LD	M120	
169	OR	M 121	
170	OR	M 122	
171	OR	M 123	
172	OR	M 124	
173	OUT	Y 16	ALARM OUTPUT
174	LD	M 130	OPTICS WARN DRIVER
175	OR	M 131	
176	OR	M 132	
177	OUT	Y 14	ALARM OUTPUT
178	LD	M 134	VACUUM WARN DRIVER
179	OR	M 135	
180	OUT	Y 13	ALARM OUTPUT
181	LD	M 140	GUARD WARN DRIVER
182	OR	M 141	
183	OR	M 142	
184	OUT	Y 15	ALARM OUTPUT
185	LD	M 200	ON PRIMARY NUDGE DRIVER-LATCHING
186	OR	M 201	ON
187	OR	M 202	ON
188	OR	M 203	ON
189	OR	M 204	ON
190	OR	M 220	LATCH
191	ANI	M 205	OFF
192	ANI	M 206	OFF
193	ANI	M 207	OFF
194	ANI	M 208	OFF
195	ANI	M 209	OFF
196	OUT	M 220	TURN ON MAIN NUDGE DRIVER
197	LD	M 210	ON PRIMARY NUDGE DRIVER-NON LATCHING
198	OR	M 211	ON
199	OUT	M 221	TURN ON MAIN NUDGE DRIVER
200	LD	M 220	ON MAIN NUDGE DRIVER
201	OR	M 221	ON
202	OUT	Y 5	TURN ON NUDGE RELAY

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

12.5

**SECTION 12  
FX PLC PROGRAMME V2  
(TABLE PRE-CENTRE and PRE-ALIGNMENT)**

203	LD	M 230	ON PRIMARY ROTATION DRIVER - LATCHING
204	OR	M 231	ON
205	OR	M 232	ON
206	OR	M 233	ON
207	OR	M 234	ON
208	OR	M 250	LATCH
209	ANI	M 235	OFF
210	ANI	M 236	OFF
211	ANI	M 237	OFF
212	ANI	M 238	OFF
213	ANI	M 239	OFF
214	OUT	M 250	TURN ON MAIN ROTATION DRIVER
215	LD	M 240	ON PRIMARY ROTATION DRIVER-NON LATCHING
216	OR	M 241	ON
217	OUT	M 251	TURN ON MAIN ROTATION DRIVER
218	LD	M 250	ON MAIN ROTATION DRIVER
219	OR	M 251	ON
220	OUT	Y 6	TURN ON ROTATION RELAY
221	LD	M 260	PILLARS IN LATCHED
222	OR	M 261	IN
223	OR	M 262	IN
224	OR	M 263	IN
225	OR	M 264	IN
226	OR	Y 21	LATCH
227	ANI	M 265	OUT
228	ANI	M 266	OUT
229	ANI	M 267	OUT
230	ANI	M 268	OUT
231	ANI	M 269	OUT
232	OUT	Y 21	PILLARS IN
233	LD	M 270	PRE-CENTRE NUDGE ON LATCHED
234	OR	M 271	ON
235	OR	M 272	ON
236	OR	M 273	ON
237	OR	M 274	ON
238	OR	Y 20	LATCH
239	ANI	M 275	OFF
240	ANI	M 276	OFF
241	ANI	M 277	OFF
242	ANI	M 278	OFF
243	ANI	M 279	OFF
244	OUT	Y 20	PRE-CENTRE NUDGE ON

# COMBINED OPTICAL MATRIX PUNCH COMP 150

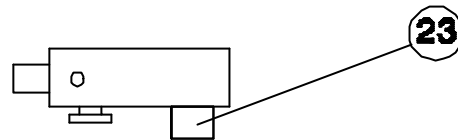
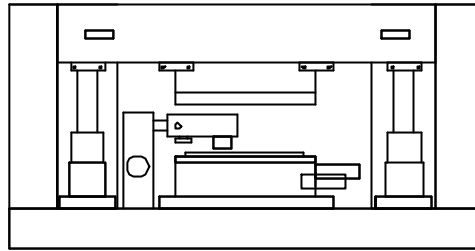
245 END

12.6

## SECTION 13 PREVENTATIVE MAINTENANCE AND SERVICE HISTORY

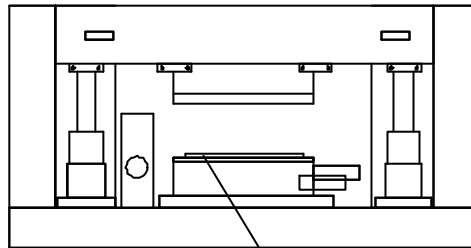
### OPTICAL HEAD

It is important to keep the **Objective Lens ( 23 )** on the **Optical Head** clean to ensure a good image on the **TV Viewing Screen**. It should be cleaned with a clean, dry, soft cloth.



### VACUUM TABLE

The **Vacuum Turntable ( 22 )** should be cleaned daily and checked for nickel particles which could damage the back of the Matrix. Propanol on a clean lint free cloth is recommended for cleaning the **Vacuum Turntable**.



22

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

13.1

**SECTION 13  
PREVENTATIVE MAINTENANCE AND SERVICE HISTORY**

**DAILY**

- 1 Check sufficient mains air pressure
- 2 Check oil level in reservoir
- 3 Check Punch and Die for quality of cut
- 4 General clean of Punch and Die set

**WEEKLY**

- 1 Check front panel is functioning correctly (i.e. all switches and indicators)
- 2 Check optics image on monitor is vertical
- 3 Check image for clarity
- 4 Check for oil leaks (remove access panels) – **IMPORTANT remove mains**
- 5 Check air and vacuum filters
- 6 General clean of complete machine
- 7 Check condition of plastic turntable top and upper stripper plate (for damage)

**MONTHLY**

- 1 Check for air leaks (remove access panels) – **IMPORTANT remove mains**
- 2 Check pre-vacuum on Punch and Die set (Maximum – 10Hg) This will indicate a change of vacuum filter is required
- 3 Check tightness of guide pillar screws
- 4 Check general condition and tightness of connections – **IMPORTANT remove mains**
- 5 Check condition of turntable drive gear
- 6 Check tightness of securing screws on all guards and covers

**YEARLY**

- 1 Check tightness and wear of drive belt
- 2 If not required sooner, replace vacuum filter
- 3 If not required sooner, Punch and Die set should be returned to Sibert for re-alignment, vacuum seal inspection and re-sharpen (spare set will be required)
- 4 Check oil for contamination and particles
- 5 Check all moving parts for wear and damage
- 6 If not required sooner, replace optic bulb
- 7 Remove all panels and covers for full inspection and – **IMPORTANT remove mains**

**NOTE: If required, Sibert can provide a Maintenance Package that includes an annual visit by a Service Engineer**

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

13.2

**SECTION 13  
PREVENTATIVE MAINTENANCE AND SERVICE HISTORY**

<b>DATE</b>	<b>ENGINEER</b>
<b>DETAILS</b>	
<b>DATE</b>	<b>ENGINEER</b>
<b>DETAILS</b>	
<b>DATE</b>	<b>ENGINEER</b>
<b>DETAILS</b>	

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

13.3.a

**SECTION 13  
PREVENTATIVE MAINTENANCE AND SERVICE HISTORY**

<b>DATE</b>	<b>ENGINEER</b>
<b>DETAILS</b>	
<b>DATE</b>	<b>ENGINEER</b>
<b>DETAILS</b>	
<b>DATE</b>	<b>ENGINEER</b>
<b>DETAILS</b>	

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

13.3.b

**SECTION 13  
PREVENTATIVE MAINTENANCE AND SERVICE HISTORY**

<b>DATE</b>	<b>ENGINEER</b>
<b>DETAILS</b>	
<b>DATE</b>	<b>ENGINEER</b>
<b>DETAILS</b>	
<b>DATE</b>	<b>ENGINEER</b>
<b>DETAILS</b>	

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

13.3.c

**SECTION 13  
PREVENTATIVE MAINTENANCE AND SERVICE HISTORY**

<b>DATE</b>	<b>ENGINEER</b>
<b>DETAILS</b>	
<b>DATE</b>	<b>ENGINEER</b>
<b>DETAILS</b>	
<b>DATE</b>	<b>ENGINEER</b>
<b>DETAILS</b>	

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

**SECTION 14  
ELECTRICAL AND PNEUMATIC LAYOUTS AND DIAGRAMS**

Pneumatic Schematic Diagram

Pneumatic Layout Diagram

Electrical Schematic Diagram

Electrical Layout Diagram

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

14.1

**SECTION 15  
SERIAL NUMBER, SPECIFICATION AND TEST CERTIFICATE**

<b>DATE OF DESPATCH:-</b>	
<b>SUPPLIED BY</b> COMPANY NAME:- ADDRESS:-	
<b>SUPPLIED TO</b> COMPANY NAME:- ADDRESS:-	
<b>SERIAL NUMBERS</b> SUPPLIED COMP 150:- SUPPLIED PUNCH AND DIE SET:- SPARE PUNCH AND DIE SET:-	
<b>SPECIFICATION</b> INNER HOLE DIA:- OUTER DIAMETER:- ELECTRICAL SUPPLY:- COLOUR:-	

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

15.1

**SECTION 15  
SERIAL NUMBER, SPECIFICATION AND TEST CERTIFICATE**

**Final Inspection Details**

**Machine Inspected By :-**

**Signed :-**

**Date :-**

**Machine Packed By :-**

**Date :-**

**Machine Issue Numbers :-**

Pneumatic Schematic Issue .....

Pneumatic Layout Issue .....

Electrical Schematic Issue .....

Electrical Layout Issue .....

Parts List Issue .....

**Operating Voltage :-**

**Electrical Power Consumption :-**

**Fuse Rating :-**

**Pneumatic Supply Consumption :-**

**Concentricity of Die to Turntable :-**

**Measured ID Hole of Stamper :-**

**Other Comments :-**

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

15.2

**SECTION 16  
DECLARATION OF CONFORMITY  
DIRECTIVE (89/392/EEC) AMENDED BY (91/368/EEC) AMENDED BY (93/44/EEC)**

**Name of manufacturer:** Sibert Instruments

**Full postal address including country of origin:** Centre House  
The Pines  
Broad Street  
Guildford  
Surrey  
**Postcode:** GU3 3BH  
ENGLAND

**Description of product:** Combined Optical Matrix Punch for  
punching inner and outer diameter  
holes in CD matrix Stampers

**Name , type or model, batch or serial number:** COMP 150

**Standards used:**

EN 292 PTS 1 & 2	PREN 953	IP 65	BS 5216	BS 1490
EN 294	PREN 954	IP 20	BS 2056	BS 5781
EN 418	PREN 983	IP 67	BS 4862	BS 7229
EN 60204 PT 1 & 3	PREN 982	BS 4265 IEC 127	BS 970 PT 1	BS 2874
EN 60320	BS 6500	BS 2950A	BS 4360	BS 2871
PREN 1050	BS 4066 IEC 33	BS 5584	BS 1470	ISO 2184
PREN 1088	BS 3042	BS 4168	BS 1474	ISO 6432
PREN 953	BS 4491 IEC 320	BS 4320	BS 1471	ISO 1307
		BS 3692	BS 6001	ISO 1436/11

**Place of issue:** Sibert Instruments, Guildford

**Name of authorised representative:** Paul Sibert

**Position of authorised representative:** Managing Director

**Declaration**

I declare that as the authorised representative, the above information in relation to the supply/manufacture this product is in conformity with the stated standards and other related documents following the provisions of 93/44/EEC Directives.

**Signature of authorised representative** ..... **Date** .....

For further information Telephone +44 (0) 1483 301622  
Facsimile +44 (0) 1483 302699

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

16.1

**SECTION 16  
EU DECLARATION OF CONFORMITY**

**89/336/EEC Electromagnetic Compatibility Directive, amended by 92/31/EEC & 93/68/EEC  
72/23/EEC Low Voltage Equipment Directive, amended by 93/68/EEC**

**Name of manufacturer:** Sibert Instruments

**Full postal address including country of origin:** Centre House  
The Pines  
Broad Street  
Guildford  
Surrey  
United Kingdom  
**Postcode:** GU3 3BH

**Description of product:** Combined Optical Matrix Punch for  
punching inner & outer diameter  
holes in CD matrix stampers

**Name, type or model, batch or serial number:** COMP 150

**Standards applied:**

EN 55011:- 1991/MEASUREMENTS IN RADIO INTERFERENCE ON IND. EQUIP./RAD'D. EM.  
EN 55011:- 1991/MEASUREMENTS IN RADIO INTERFERENCE ON IND. EQUIP./COND. EM.  
IEC 1000-4-2: 1995/EMC FOR INDUSTRIAL EQUIPMENT/ELECTROSTATIC DISCHARGE REQ.  
IEC 1000-4-4:- 1995/EMC FOR INDUSTRIAL EQUIPMENT/ELEC. FAST TRANSIENT REQ.  
BS EN 55022:- 1995/MEASUREMENTS IN RADIO INTERFERENCE FOR I.T. EQUIP/COND.EM.  
BS EN 55022:- 1995/MEASUREMENTS IN RADIO INTERFERENCE FOR I.T. EQUIP/RAD'D.EM.  
ENV 50141:- 1995/EMC FOR INDUSTRIAL EQUIPMENT/IMM. COND. DIST. BY RAD. FREQS.  
ENV 50140  
UPDATED TO  
BS EN 61000 PT 4.3:- 1997/EMC FOR INDUSTRIAL EQUIPMENT/IMM. RAD'D. RAD. ELEC. MAG. FDS.

**Other standards required:**

BS EN 50081-2:- 1994/ ELECTROMAGNETIC COMP. GENERIC EM. STD./IND. ENVIRONMENT.  
BS EN 50082-1:- 1992/ ELECTROMAGNETIC COMP. GENERAL IMM. STD./IND. ENVIRONMENT.  
BS EN 50082-2:- 1995/ ELECTROMAGNETIC COMP. GENERIC IMM. STD./IND. ENVIRONMENT.  
BS EN 60204 PT 1:- 1993/M/C SAFETY FOR ELEC. EQUIP./SPEC. FOR GENERAL REQUIREMENTS.

**Declaration**

The technical documentation required to demonstrate that the product meets the requirements of EMC, which includes the Low Voltage Directive, has been confirmed by the signatory below and is available for inspection by the relevant enforcement authorities. The CE mark was first applied in: 1995.

**Place of issue:** Sibert Instruments, Guildford

**Name of authorised representative:** Paul Sibert

**Position of authorised representative:** Managing Director

**Signature of authorised representative ..... Date .....**

For further information:- Telephone +44 (0) 1483 301622  
Facsimile +44 (0) 1483 302699

Issue 10 November 1997

**Sibert**

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

16.2

**SECTION 8  
DECLARATION OF CONFORMITY  
DIRECTIVE (89/392/EEC) AMENDED BY (91/368/EEC) AMENDED BY (93/44/EEC)**

**Name of manufacturer:** Sibert Instruments

**Full postal address including country of origin:** Centre House  
The Pines  
Broad Street  
Guildford  
Surrey

**Postcode:** GU3 3BH  
ENGLAND

**Description of product:** Original Matrix Punch for punching the  
outer diameter on Father stampers  
during CD manufacture.

**Name , type or model, batch or serial number:** OMP 250

**Standards used:**

EN 292 PTS 1 & 2	PREN 953	IP 65	BS 5216	BS 1490
EN 294	PREN 954	IP 20	BS 2056	BS 5781
EN 418	PREN 983	IP 67	BS 4862	BS 7229
EN 60204 PT 1 & 3	PREN 982	BS 4265 IEC 127	BS 970 PT 1	BS 2874
EN 60320	BS 6500	BS 2950A	BS 4360	BS 2871
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PREN 1088	BS 3042	BS 4168	BS 1474	ISO 6432
PREN 953	BS 4491 IEC 320	BS 4320	BS 1471	ISO 1307
		BS 3692	BS 6001	ISO 1436/11

**Place of issue:** Sibert Instruments, Guildford

**Name of authorised representative:** Paul Sibert

**Position of authorised representative:** Managing Director

**Declaration**

I declare that as the authorised representative, the above information in relation to the supply/manufacture this product is in conformity with the stated standards and other related documents following the provisions of 93/44/EEC Directives.

**Signature of authorised representative** ..... **Date** .....

For further information Telephone +44 (0) 1483 301622  
Facsimile +44 (0) 1483 302699

**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

16.1

**SECTION 16  
EU DECLARATION OF CONFORMITY**

**89/336/EEC Electromagnetic Compatibility Directive, amended by 92/31/EEC & 93/68/EEC  
72/23/EEC Low Voltage Equipment Directive, amended by 93/68/EEC**

**Name of manufacturer:** Sibert Instruments

**Full postal address including country of origin:** Centre House  
The Pines  
Broad Street  
Guildford  
Surrey  
United Kingdom  
**Postcode:** GU3 3BH

**Description of product:** Original Matrix Punch for punching  
the outer diameter on Father  
stampers during CD manufacture

**Name, type or model, batch or serial number:** OMP 250

**Standards applied:**

EN 55011:- 1991/MEASUREMENTS IN RADIO INTERFERENCE ON IND. EQUIP./RAD'D. EM.  
EN 55011:- 1991/MEASUREMENTS IN RADIO INTERFERENCE ON IND. EQUIP./COND. EM.  
IEC 1000-4-2: 1995/EMC FOR INDUSTRIAL EQUIPMENT/ELECTROSTATIC DISCHARGE REQ.  
IEC 1000-4-4:- 1995/EMC FOR INDUSTRIAL EQUIPMENT/ELEC. FAST TRANSIENT REQ.  
BS EN 55022:- 1995/MEASUREMENTS IN RADIO INTERFERENCE FOR I.T. EQUIP/COND.EM.  
BS EN 55022:- 1995/MEASUREMENTS IN RADIO INTERFERENCE FOR I.T. EQUIP/RAD'D.EM.  
ENV 50141:- 1995/EMC FOR INDUSTRIAL EQUIPMENT/IMM. COND. DIST. BY RAD. FREQS.  
ENV 50140  
UPDATED TO  
BS EN 61000 PT 4.3:- 1997/EMC FOR INDUSTRIAL EQUIPMENT/IMM. RAD'D. RAD. ELEC. MAG. FDS.

**Other standards required:**

BS EN 50081-2:- 1994/ ELECTROMAGNETIC COMP. GENERIC EM. STD./IND. ENVIRONMENT.  
BS EN 50082-1:- 1992/ ELECTROMAGNETIC COMP. GENERAL IMM. STD./IND. ENVIRONMENT.  
BS EN 50082-2:- 1995/ ELECTROMAGNETIC COMP. GENERIC IMM. STD./IND. ENVIRONMENT.  
BS EN 60204 PT 1:- 1993/M/C SAFETY FOR ELEC. EQUIP./SPEC. FOR GENERAL REQUIREMENTS.

**Declaration**

The technical documentation required to demonstrate that the product meets the requirements of EMC, which includes the Low Voltage Directive, has been confirmed by the signatory below and is available for inspection by the relevant enforcement authorities. The CE mark was first applied in: 1995.

**Place of issue:** Sibert Instruments, Guildford

**Name of authorised representative:** Paul Sibert

**Position of authorised representative:** Managing Director

**Signature of authorised representative .....** **Date .....**

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Issue 10 November 1997

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**COMBINED OPTICAL MATRIX PUNCH  
COMP 150**

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