



Cobra Safety Information

v1.01

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1. Introduction

Approvals for EN/UL 60950 (Safety) and EN 60825 (Laser Safety) are currently pending. The content of this document is provisional information provided in anticipation of these approvals.

This manual contains important information about the Cobra system with regard to your health and safety and for protecting the Cobra platesetter against damage. Please read this manual carefully.

This manual contains the following chapters:

1. Introduction (page 2).
2. Safety notices (page 2).
3. Working safely (page 3).
4. Stopping the Cobra platesetter in an emergency (page 4).
5. Additional information for engineers (page 4).
6. Labels on the Cobra platesetter (page 5).

2. Safety notices

WARNING: This equipment must be earthed. Cobra requires a single power outlet, accessible at all times and located as close as possible to the Cobra system.

This equipment complies with BS EN 60825-1:1994 +A1 and A2, and with 21 CFR 1040.10 and 1040.11.

Cobra is a CLASS 1 EMBEDDED LASER product. Once the laser carriage cover is removed Cobra becomes a CLASS 3B LASER DEVICE and appropriate safety precautions must be taken.

CAUTION: The use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser exposure.

WARNING: When the laser carriage cover is removed, the laser beam used in the Cobra platesetter is harmful to the eyes. Servicing should be carried out by HighWater qualified personnel only.

Laser properties:

- Wavelength: 405nm
- Laser output: maximum 60mW

Labels

The labels shown in chapter 6 are present on all Cobra machines. Please ensure that you follow all the necessary safety precautions.

3. Working safely

WARNING: You must work safely in order to protect yourself and others from injury and the Cobra platesetter from damage. Please follow the instructions in this section carefully.

Under normal operating conditions it is not possible for you to come into contact with the laser beam when the Cobra platesetter's cover is open. However, you the user must ensure that:

- All access doors to the Cobra room display the BSI-approved warning symbol:



- When an engineer is working on the laser, no-one enters the room unless they are wearing safety goggles that meet approved standards.
- You have received training on safety procedures, as well as instructions on how to operate Cobra.
- Cobra is never left in a condition where the operator can be exposed to the laser beam.

3.1 Protecting yourself from injury

- The edges of a plate are sharp so take great care when handling plates and, in particular, keep the edges of the plate away from your face.

3.2 Protecting the Cobra drum from damage

- Do not put any object, other than a plate, into the drum.

3.3 Protecting the plate from being fogged by light

- In the brightroom, use the appropriate safety lighting (as recommended by the plate manufacturer) to prevent fogging of your plates.
- While the brightroom is in use you need to prevent its door from being opened. To do this, you could:
 - Use an external light on the brightroom to show when it is in use.
 - Put a message on the door to indicate that the brightroom is in use.

WARNING: For safety reasons, we recommend that you DO NOT lock the brightroom door.

- After output, protect the plate from unsafe light sources until it has been processed.

4. Stopping the Cobra platesetter in an emergency

If you need to stop the Cobra platesetter immediately because of potential injury or damage to a person or the Cobra platesetter, then do one of the following:

Either

Open the Cobra platesetter's cover. This will immediately stop the carriage and laser.

Or

Disconnect the system from the power source by removing the mains plug from the wall socket.

WARNING: Switching off Cobra during operation using the power switch is NOT recommended and should only be used in an emergency.

5. Additional information for engineers

This section is intended for installation and service engineers who may be operating the Cobra platesetter when there is a potential risk of being exposed to the Cobra laser, or a risk of coming into contact with moving mechanical parts.

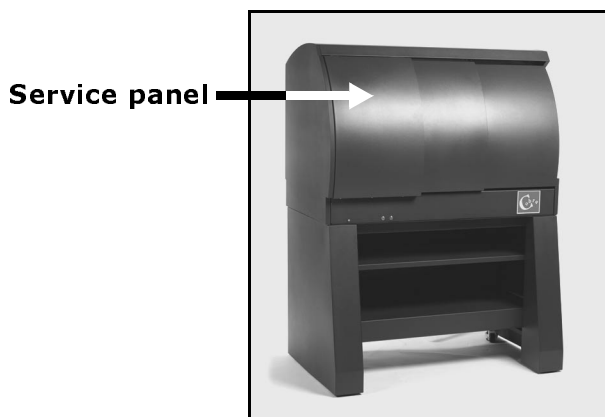
WARNING: All engineers must carefully read this section and abide by the safety requirements when they work on the Cobra platesetter.

5.1 Safety information



Cobra, under normal operation, is a CLASS 1 embedded laser product and is inherently safe for operators because they cannot operate the laser if the cover is open. Service engineers will be able to remove the cover and they may then be exposed to the laser, which is a CLASS 3B product.

All engineers must be trained and approved by HighWater, and must follow all safety procedures defined in this document. HighWater will accept no responsibility for any damage to equipment or injury to the person caused by non-approved engineers, or by failure to follow these safety procedures.



Safety warning



Installation and, wherever possible, servicing should be carried out with the service panel fitted. The service panel should only be removed when this is absolutely necessary as part of the recommended procedures.

Access to the Cobra platesetter's internal mechanisms is gained by removing the service panel. This, and all other panels must be replaced and the mains lead reconnected before leaving the equipment.

WARNING: At no time must the machine be operated whilst the service panel is removed and the engineer is not present in the work area.

5.2 Laser precautions

Cobra has a single laser source for the plate expose beam: a blue-violet laser diode. It is rated at 60mW and it emits a visible light beam at a nominal wavelength of 405nm. This laser falls into CLASS 3B, which means that direct viewing of the laser beam is **always** hazardous, as is viewing direct reflections. Diffuse reflections are normally safe.

Cobra is designed as a CLASS 1 embedded laser product and is, therefore, safe for the operator. The CLASS 3 ratings apply as soon as a service engineer removes the covers.

WARNING: CLASS 3B lasers are dangerous and, if the beam is viewed incorrectly, it may cause irreversible retinal damage or blindness. Therefore, you the engineer must:

1. Ensure that you and those working with you have adequate eye protection against the laser.
2. Ensure that no unauthorised personnel have access to the work area where the laser is exposed.
3. Ensure that no laser light escapes from the work area.
4. Ensure that the room is clear of unauthorized personnel while you are working on the Cobra platesetter.
5. Ensure that appropriate warning signs are displayed on all doors leading to the work area.
6. Leave the Cobra platesetter in a safe state when it is left unattended.

AT NO TIME MUST THE MACHINE BE OPERATED WHILST THE SERVICE PANEL IS REMOVED AND THE ENGINEER IS NOT PRESENT IN THE WORK AREA.

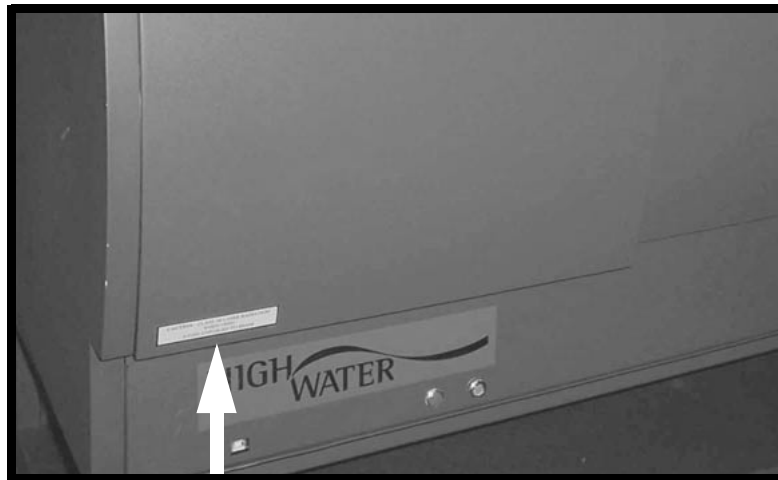
7. Replace and secure all panels before leaving the Cobra work area.

6. Labels on the Cobra platesetter

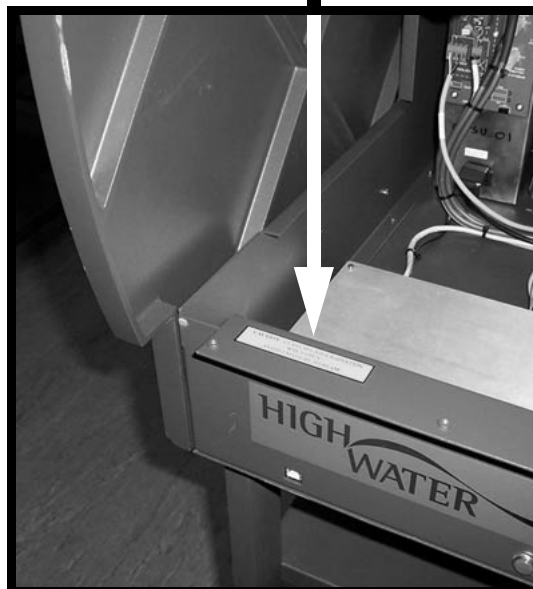
This chapter shows the safety labels that are present on the Cobra platesetter:

- On the service panel (inside and outside).
- On the top curved grey panel (inside and outside).
- On the carriage.
- Other warning labels.
- Product ID and Certification labels.
- MET label.

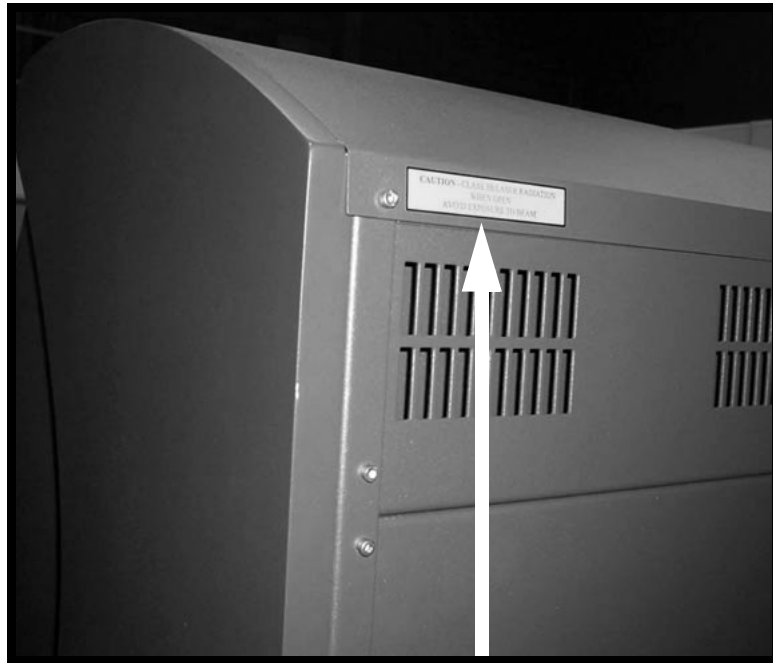
6.1 On the service panel (inside and outside)



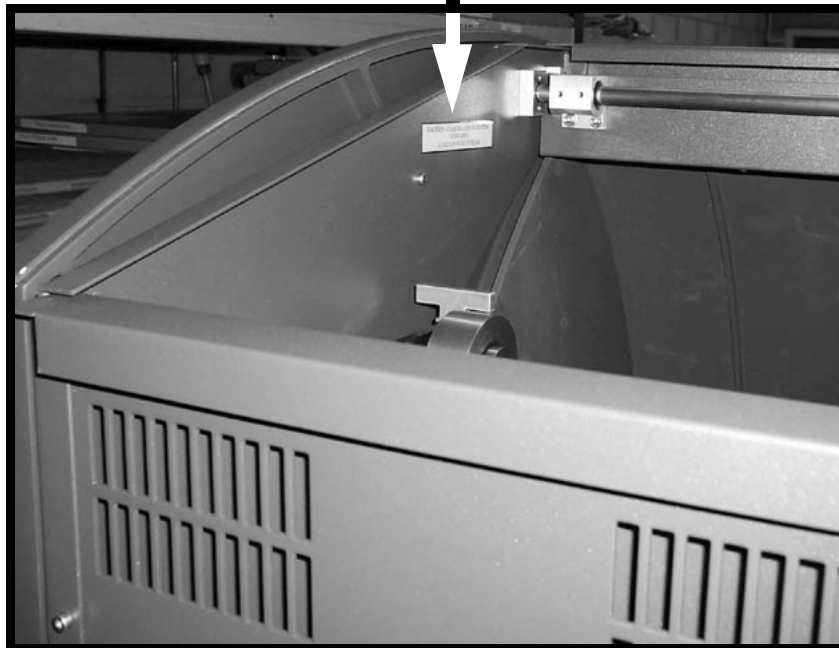
**CAUTION – CLASS 3B LASER RADIATION
WHEN OPEN
AVOID EXPOSURE TO BEAM**



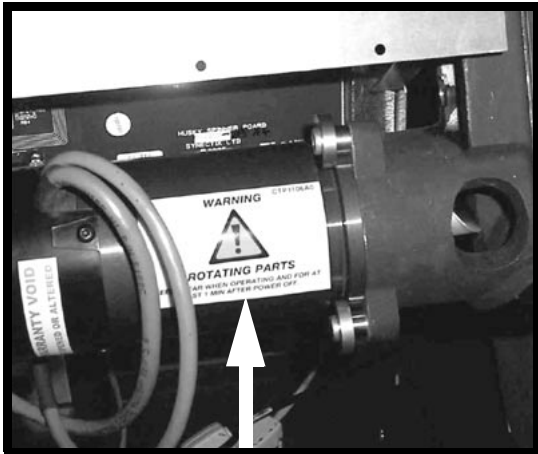
6.2 On the top (curved grey) panel (inside and outside)




**CAUTION – CLASS 3B LASER RADIATION
WHEN OPEN
AVOID EXPOSURE TO BEAM**



6.3 On the carriage

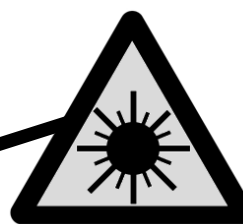
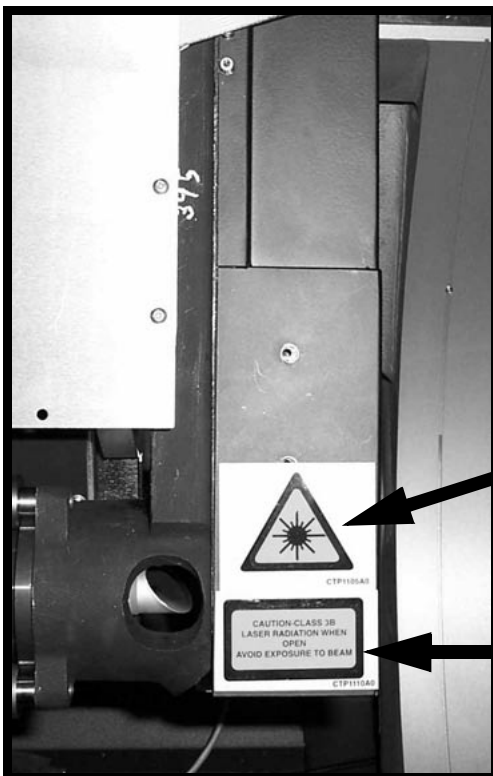


WARNING



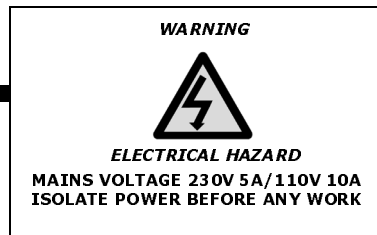
ROTATING PARTS

KEEP CLEAR WHEN OPERATING AND FOR AT LEAST 1 MIN. AFTER POWER OFF

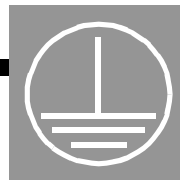


**CAUTION - CLASS 3B
LASER RADIATION WHEN
OPEN
AVOID EXPOSURE TO BEAM**

6.4 Other warning labels



Earth symbol



6.5 Product ID and Certification labels

Product Identification Label



Cobra CB52BV60		CE
Computer to Plate Equipment		
Rating	110/230V 50/60Hz 5 Amps	Serial Number
		CB xxx
	Fuse in IEC Inlet	Date of Manufacture
		June 2010
<p>CAUTION For continued protection against risk of fire, replace only with the same type and rating of fuse ATTENTION Pour ne pas compromettre la protection contre les risques d'incendie, remplacer par un fusible de meme type et de memes caracteristiques nominales.</p>		
<p>HighWater Products Ltd Head Office: 39 Cheltenham Trade Park, Central Way, Cheltenham, Glos, GL51 8LX Tel +44 (0) 1242-578357, Fax +44 (0) 1242-578071 http://www.highwaterproducts.com, Email: info@highwaterproducts.com</p>		
<p>Complies with BS EN 60825-1:1994+A1&A2 and 21 CFR 1040.10 and 1040.11</p>		<p>See Installation Instructions before connecting to supply Voir la notice d'installation avant de raccorder au reseau</p> <p style="text-align: right;">Fuse 230V – T5AH250V</p>

Fuse Rating Label



Rating	110/230V
	50/60Hz
	5 A
	Fuse 230V-T5AH250V in IEC Inlet
	Full Product ID on Rear Panel

Vacuum Pump 230V Product Identification Label

VACUUM ASSEMBLY		VA230V	CE
Cobra Computer to Plate Equipment			
Rating	230V 50Hz 4 Amps	Serial Number	VA
Fuse in IEC Inlet		Date of Manufacture	
CAUTION	For continued protection against risk of fire, replace only with the same type and rating of fuse		
ATTENTION	Pour ne pas compromettre la protection contre les risques d'incendie, remplacer par un fusible de meme type et de memes caracteristiques nominales.		
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See Installation Instructions before connecting to Supply Voir La Notice D'installation avant de raccorder au Reseau			
Fuse230V-T4AH250V			

Vacuum Pump 110V Product Identification Label

VACUUM ASSEMBLY		VA110V	
Cobra Computer to Plate Equipment			
Rating	110V 60Hz 8 Amps	Serial Number	VA
Fuse in IEC Inlet		Date of Manufacture	
CAUTION	For continued protection against risk of fire, replace only with the same type and rating of fuse		
ATTENTION	Pour ne pas compromettre la protection contre les risques d'incendie, remplacer par un fusible de meme type et de memes caracteristiques nominales.		
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See Installation Instructions before connecting to Supply Voir La Notice D'installation avant de raccorder au Reseau			
Fuse110V-T8AH250V			

6.6 MET label

This label is present on 110V machines and will look similar to that shown below:

