Kodak

Installing a Thermal 3 Head onto a Magnus 800 Platesetter

Beta Installation Guide
English

Internal 731-01250B-EN Rev A

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Internal 731-01250B-EN Rev A

Revised February 2008

Introduction

This document describes how to unpack and install a Kodak thermal 3 head (TH3) onto a Kodak Magnus 800 platesetter that is devoid of a head.
This document does not describe the procedure for replacing a platesetter's thermal head, nor does it describe how to upgrade a platesetter's thermal head.

Before you begin

Always wear an anti-static wrist band throughout this entire procedure.

Unpacking the TH3 shipping crate

1



2



3



4

a. Remove foam packaging and kit.



b. Reverse side panel so that wheels are facing down.

5



6



Ensure the side panel remains stationary by supporting it with your foot.

7



8



9



10

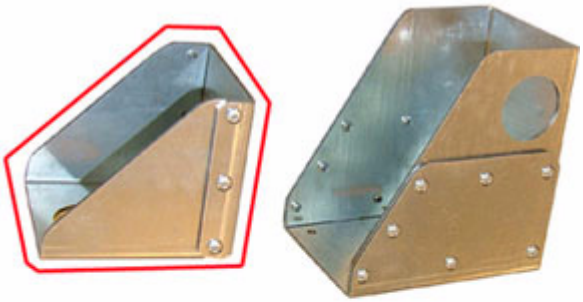


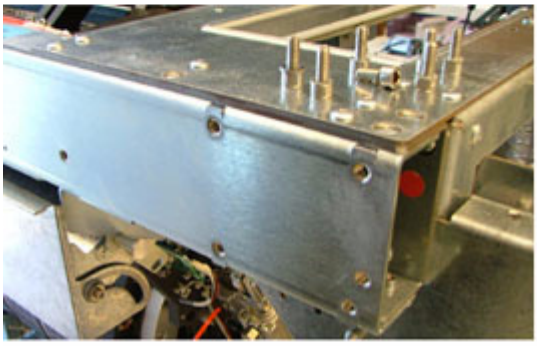
Assembling the TH3 lifting crane

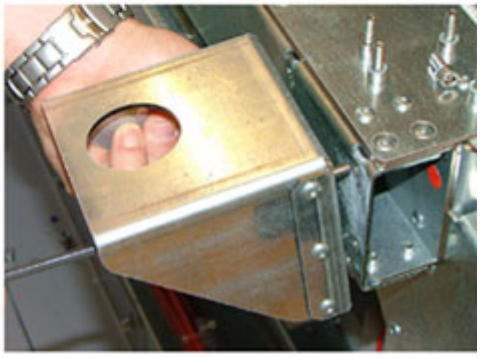
The TH3 lifting crane is designed to assist with the handling of the TH3. Before assembling the TH3 lifting crane, perform the following actions:

- Turn off the air supply
- Remove the front panel
- Remove the two rear panels
- Remove the left and right side panels
- Remove the right side door strap. Dismantle the door and put it in a safe place.

1. Use 4 x M6 screws, washers, and spring washers to secure the small crane column bracket to the upper front side of the platesetter.

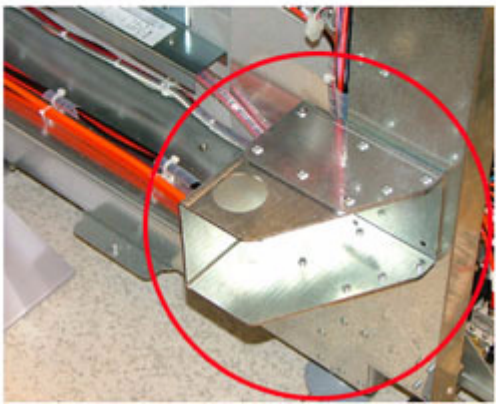




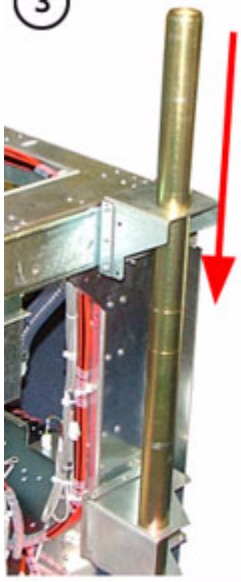


2. Use 6 x M6 screws, washers, and spring washers to secure the large crane column bracket to the lower front side of the platesetter.

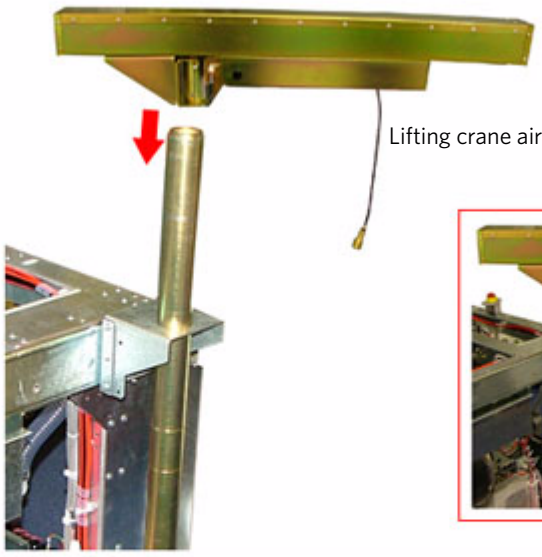




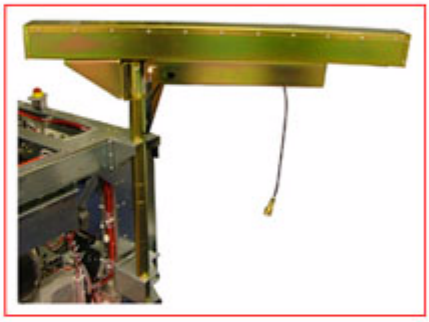
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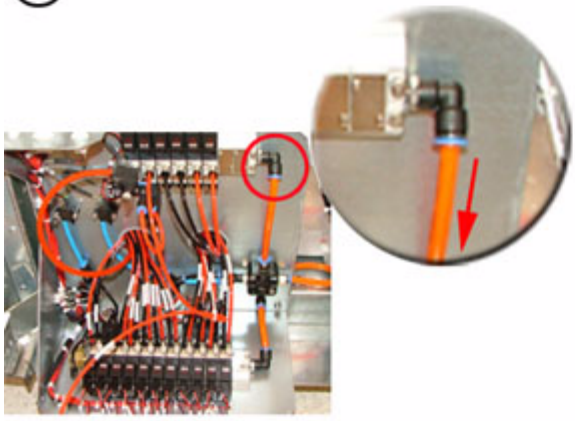
4



Lifting crane air tube



5



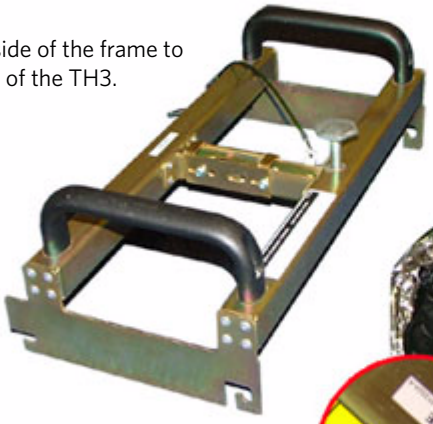
Lifting crane air tube



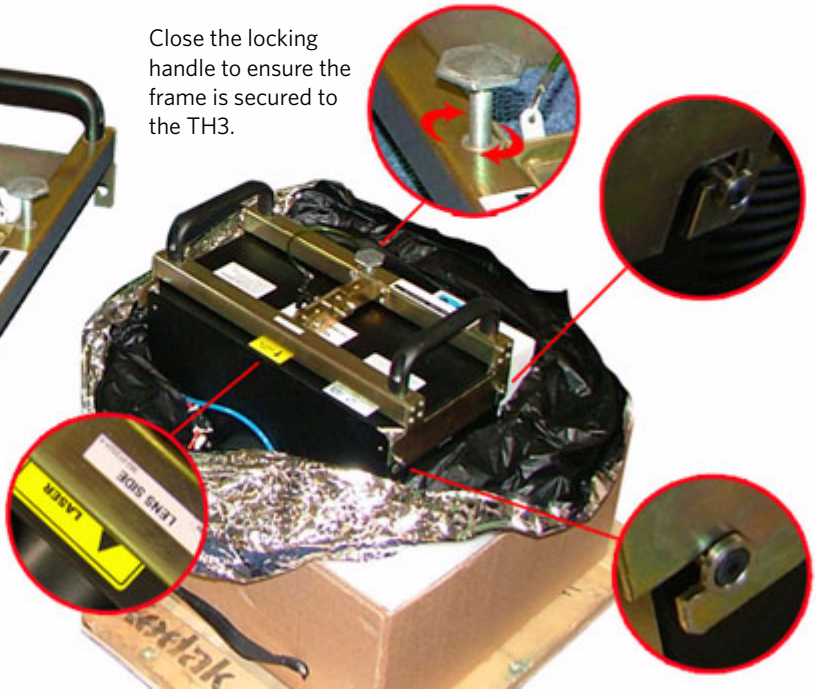


6

Secure this side of the frame to the lens side of the TH3.



Close the locking handle to ensure the frame is secured to the TH3.



Adjusting the yaw on the platesetter carriage

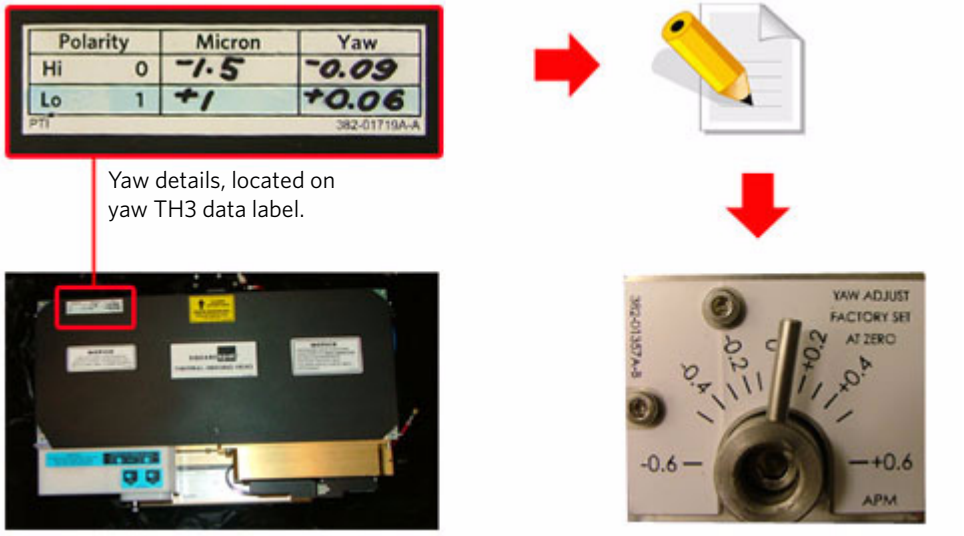


Figure 1: Adjusting the yaw

Extending the head install on adjustment screw

Make sure the head on install adjustment screw, located on the platesetter carriage, is fully extended.

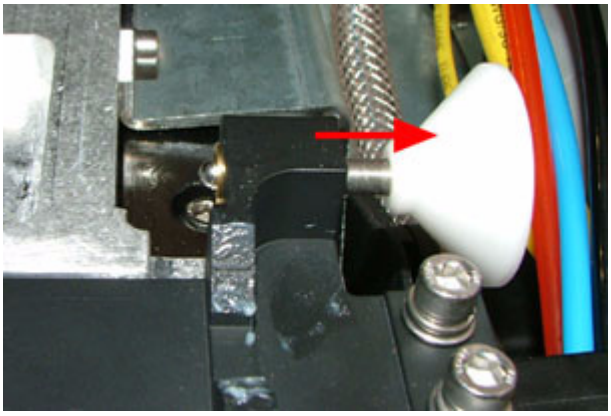
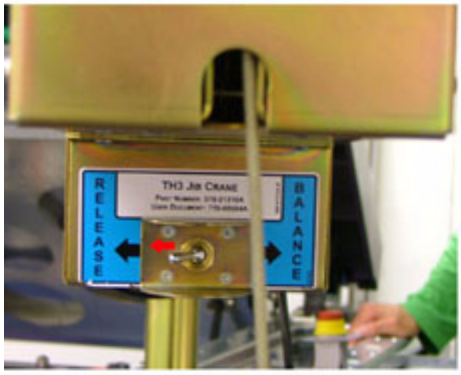


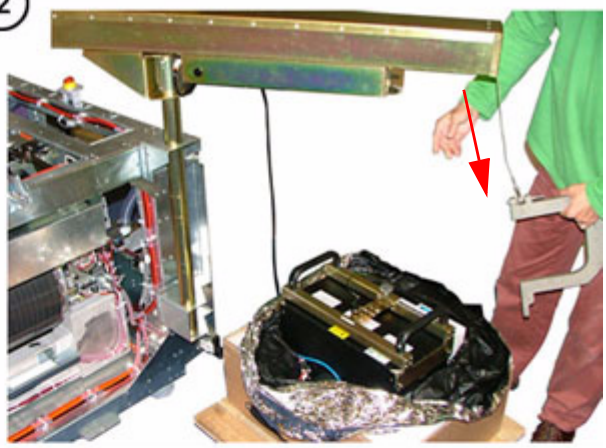
Figure 2: Head on install adjustment screw

Installing the TH3 onto the carriage

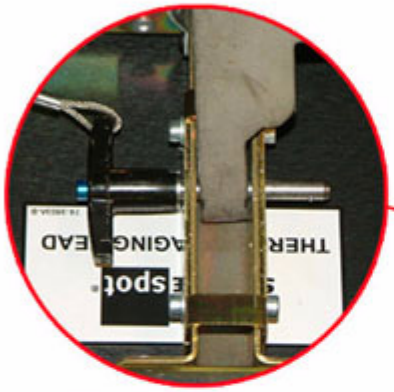
1 Turn on the air supply and set the crane boom operating mode to RELEASE.



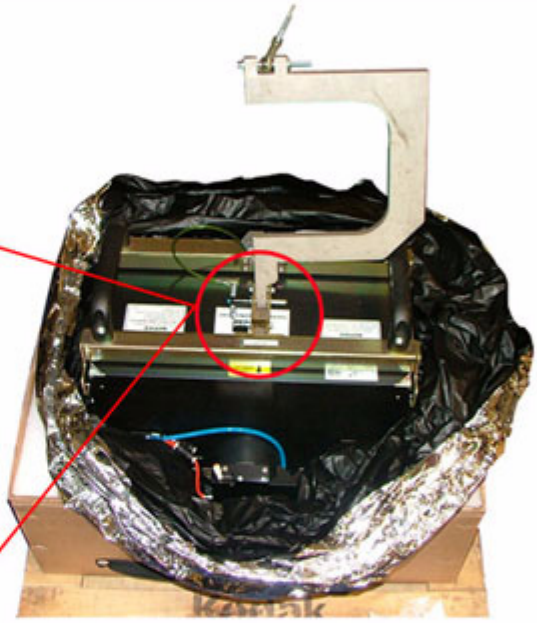
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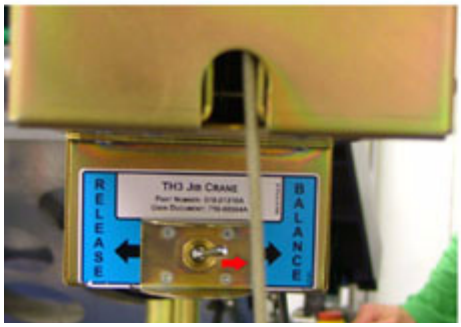




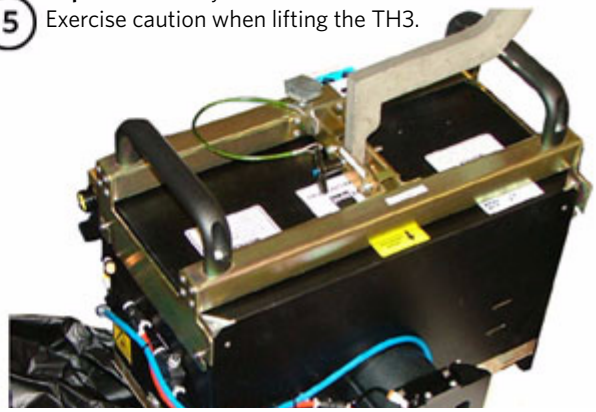


Use the LEVEL LIFT position to lift the TH3 from the crate to the platesetter.

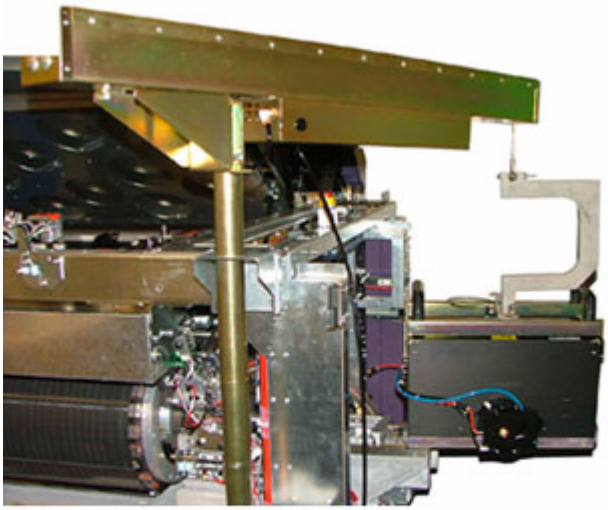
4 Set the crane boom operating mode to BALANCE.



5 **Important:** Always wear an anti-static wrist band. Exercise caution when lifting the TH3.



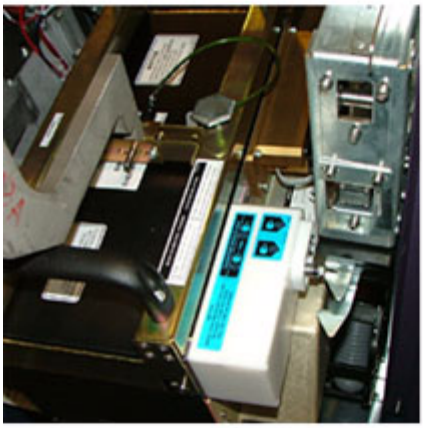
6 **Warning:** Make sure the focus actuator does not collide with the drum.



7

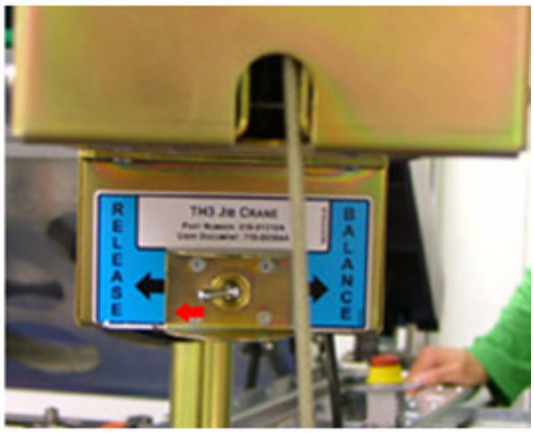


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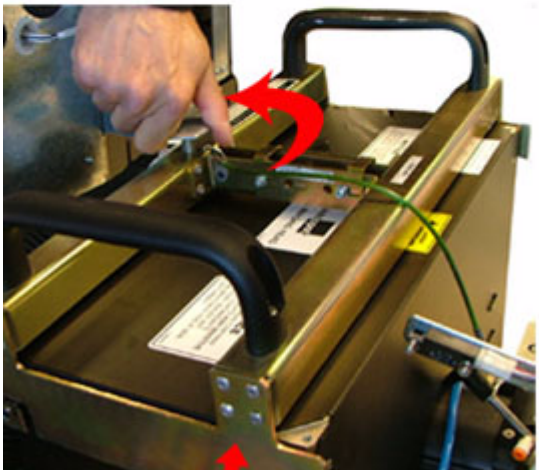
Manually push the TH3 down onto the mounting points located on the platesetter carriage.
Important: Exercise caution when lowering the TH3 onto the carriage.

9



Set the crane boom operating mode to RELEASE.

10 Loosen the locking handle and remove the lifting frame from the TH3.



11. Turn off the air supply.
12. Disconnect the air hose leading to the lifting crane and secure it to the clips on the boom.
13. Remove the boom and crane column from the platesetter.
14. Remove the small and large crane column brackets from the front of the platesetter.
15. Remove the two M3 screws securing the protective lens cover from the TH3 lens.
16. Manually move the carriage so that the TH3 is in front of the power supply.
17. Connect the following TH3 connectors:
    Important: Always wear an anti-static wrist band when handling the TH3.
    - Debris removal vacuum hose clamp to the front of the TH3
    - Air jet/whisker jet line (device-regulated)
    - Debris vacuum sense line
    - Power cable to the TH3
    - Coolant hoses to the TH3
    - Differential bypass purge hose

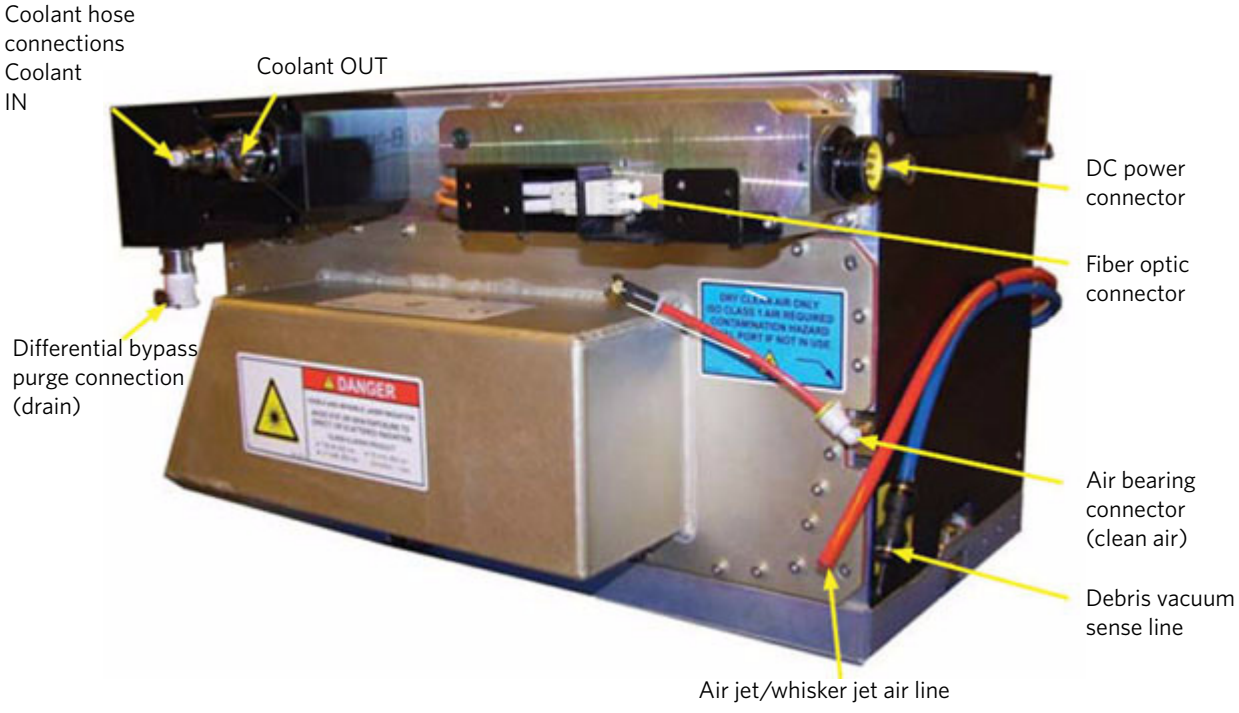


Figure 3: TH3 connectors

18. Secure the two brackets to either side of the TH3.
    - Ensure that the brackets are positioned correctly.
    - Do not tighten the bracket screws. (The bracket screws will be tightened after confirming that the sum and error are optimized.)

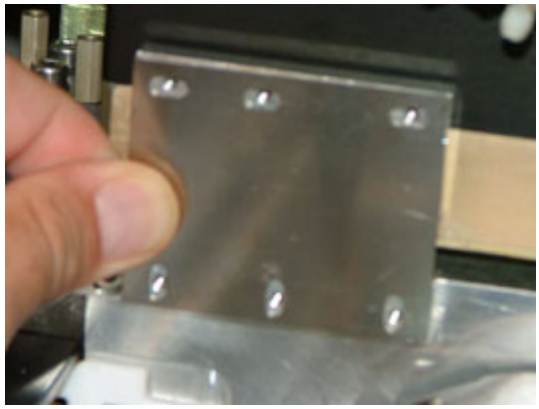
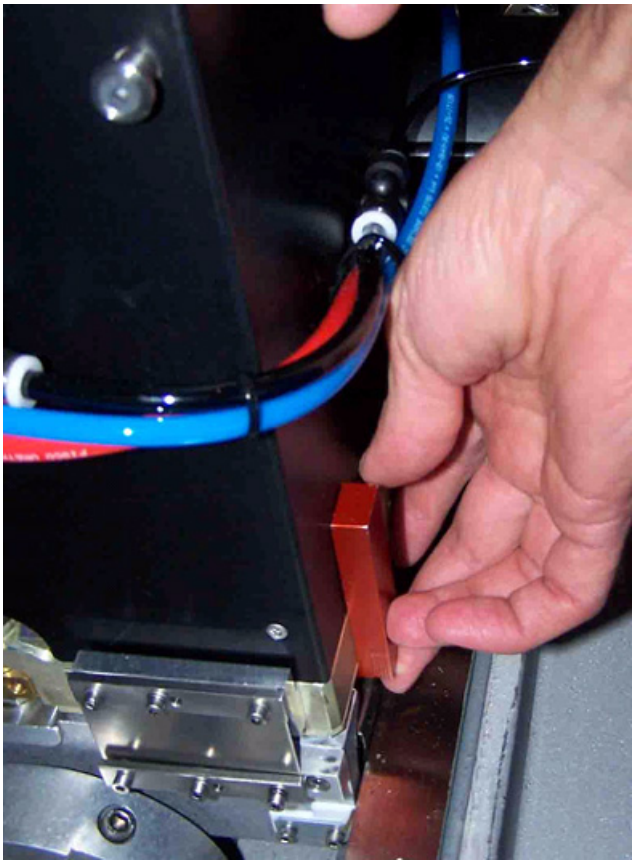


Figure 4: the two brackets to either side of the TH3

19. Use the adjusting jig (690-00772) to optimize the position of the TH3 on the carriage.



20. Reinstall all panels and doors.
21. Turn on the air supply.

Calibrating the TH3

WARNING: Use of controls or adjustments, or performance of procedures other than those specified in this manual, may result in hazardous radiation exposure.

WARNING: Before performing the calibration procedure, service engineers must have read and understood the following precautions:

- Magnus 800 Platesetter Safety Guide for Service Engineers (731-01142B-EN Rev A), as they are also applicable to Beta TH3 platesetters
- TH3 Adjustment safety precautions, on page 11.

1. With the exception of the lower rear panel, make sure all the panels are installed on the platesetter and all doors are closed. Ensure that the protective metal tube assembly (see Figure 5 on page 11), located behind the rear panel, is installed onto the platesetter. (By default, the metal tube assembly is installed onto the platesetter at the production plant.) The platesetter can now be operated without having to bypass any safety interlock switches.
2. Turn on the Magnus 800 platesetter and the air supply.
3. In the Magnus 800 Controller software, load a plate onto the drum.
4. In Service Shell, perform the following commands:
   a. `Magnus 800 >> carriage moveto 500`
   b. `Magnus 800 >> drum move 54`
      (This command moves the drum to the edge detection position.)
   c. `Magnus 800 >> set media #`
      (This command provides the TH3 with information relating to the plate loaded on the drum.)
   d. TH3 >> set med
      (This command verifies that the laser focus power is set to 1.)
   e. `Magnus 800 >> load x y z`
      (This command provides the TH3 with information relating to the subscan - x, the mainscan - y, and the plate thickness - z.)
   f. `Magnus 800 >> head install on`
      (This command confirms the sum and error. The sum should be 750 and the error should be 0.) If either the sum or error values are incorrect, see *Adjusting the TH3* on page 11.

Adjusting the TH3

This section describes how to adjust the TH3 until the sum is 750 and the error 0. The TH3 is adjusted by removing the lower rear panel, and inserting an especially provided head adjustment screwdriver (90-1211) through a protective metal tube assembly.

The metal tube assembly comprises of three components: a protective metal tube, a plate, and a warning label, see Figure 5.

When either the service engineer or the operator remove the lower rear panel, the metal tube assembly serves as a laser protective barrier—preventing hazardous laser radiation from being emitted in their direction.

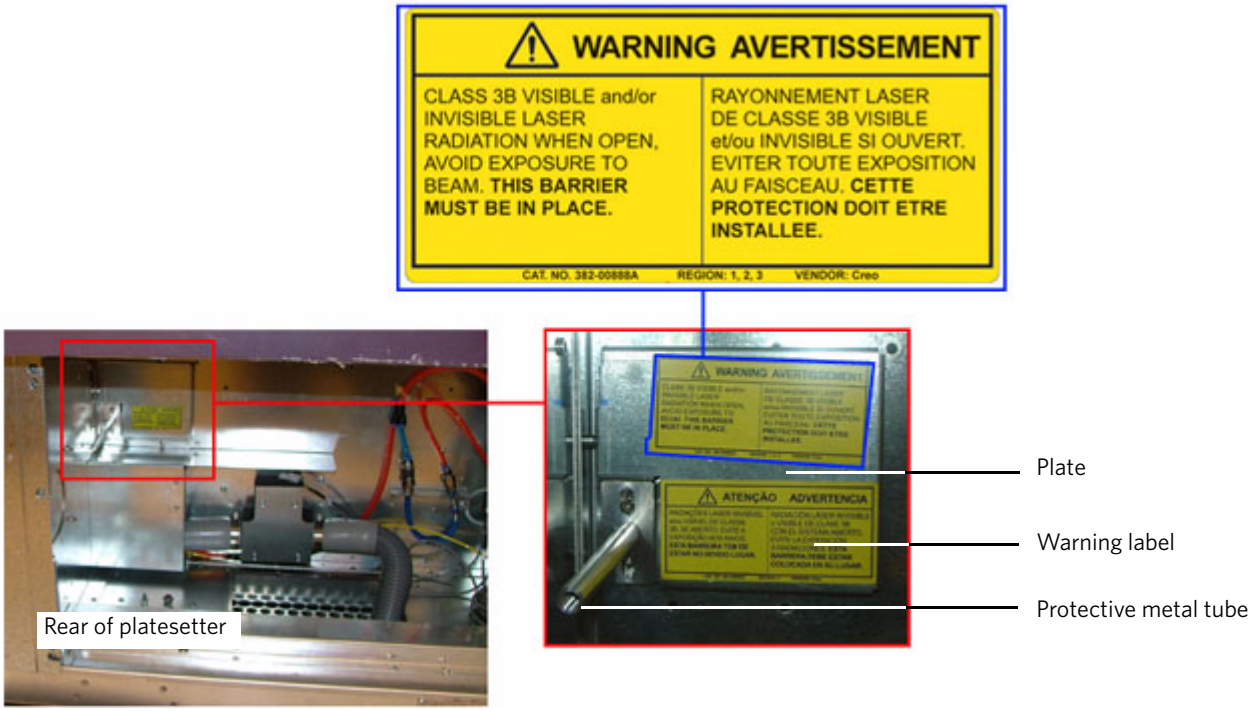


Figure 5: The metal tube assembly comprises of a protective metal tube, a plate, and a warning label

The adjustment procedure is performed whilst the carriage and drum are stationary and the write laser is off.

Important: Before performing this procedure, service engineers must have read and understood the Magnus 800 Platesetter Safety Guide for Service Engineers, and adhere to the following safety precautions.



WARNING: Do not perform this procedure unless you are a certified service engineer.



DANGER: Do not operate the platesetter or attempt to perform this procedure, if the protective metal tube assembly is damaged or missing, because hazardous visible and/or invisible laser radiation may be emitted toward the service engineer or the operator. Even a brief exposure of the eyes to the laser radiation or its reflection can result permanent eye damage.



WARNING: Do not use any other type of screwdriver or tool to adjust the TH3; only use the screwdriver (90-1211) specifically provided for this procedure.



WARNING: Never attempt to dismantle the three protective metal tube assembly components (metal tube, plate, warning label) from one another.



WARNING: If, for whatever reason, the screwdriver snaps when it is inserted into the protective metal tube, it may cause damage to the metal tube assembly. This could potentially expose the service engineer and/or operator to hazardous laser radiation. Under such circumstances, perform the following actions:

- Shutdown, and secure the platesetter in an off position to prevent any laser radiation.
- Make sure that no damage has been sustained to the metal tube assembly.
  A thorough damage assessment may involve dismantling the metal tube assembly from the platesetter. If there are any signs of damage, order a replacement metal tube assembly and specialized screwdriver (90-1211).
  Do not operate the platesetter until the damage has been repaired and the platesetter's interior has been cleaned of any dispersed metal screwdriver filings.



WARNING: If the Magnus 800 Controller software fails, the carriage and/or drum may move while the screwdriver is inside the protective metal tube. This movement may cause the screwdriver to snap and injure your hand. See previous warning.



WARNING: If the screwdriver snaps during calibration, dispersed metal screwdriver filings may cause a mechanical hazard inside the platesetter.



WARNING: Do not perform this procedure until the carriage is stationary at position 878 mm and the drum is at a complete standstill.



WARNING: When opening the platesetter's right side door, wait a few seconds before you begin any work, as it takes the platesetter's safety system approximately three seconds to prevent the emission of any hazardous laser radiation.

1. With the exception of the lower rear panel, make sure all the panels are installed on the platesetter and all the doors are all closed.
2. In Service Shell, perform the following commands:
   a. `Magnus 800 >> carriage moveto 878`
   (This command moves the carriage to position 878 mm, thus enabling the engineer to adjust the position of the TH3.)
   b. `Magnus 800 >> drum move 54`
   (This command moves the drum to the edge detection position.)
   c. `Magnus 800 >> set media #`
   (This command provides the TH3 with information relating to the plate loaded on the drum.)
   d. `TH3 >> set med`
   (This command verifies that the laser focus power is set to 1.)
   e. `Magnus 800 >> head install on`
   (This command activates the laser focus and provides information regarding the reflectivity.)
3. Insert the screwdriver into the TH3 adjustment hole, accessed via the protective metal tube, located behind the platesetter's lower rear panel.
4. Rotate the screwdriver until the TH3 reaches position 0. At this location, the TH3 should be flush against the head on install adjustment screw bracket.
5. In Service Shell, type the following commands:
   a. `TH3 >> foc cal recivergain`
   (This command ensures that the sum is set to 750.)
   b. `Magnus >> head install on`
   (This command enables the operator to verify that the sum is 750 and the error is 0.)
6. Open the platesetter's right side door.
7. Tighten the two brackets installed in step 18 (page 9) of the previous section, *Installing the TH3 onto the carriage*.
8. In the Service Shell command prompt, type `head install on` and then verify that the sum is 750 and the error is 0.
9. In the Magnus 800 Controller software, unload the plate used for checking the sum and error values.
10. Load a plate onto the center of the drum.
11. Expose the KPTT test file and verify the image quality.
    If required optimize the surface depth (SD), power, tilt, slope, and curve.
    - To adjust the tilt, see the TechPlanet procedure Adjusting the Tilt on a Thermal Head.
    - To adjust the plate edge, type the following command in Service Shell: `Magnus >> edgedetectfind`
    (This command optimizes the edge detection feature.)
12. Verify the media setup. For details see the media technical note (available on the Thermal Plates page of the Media site.