Kodak

Trendsetter 400/800, AL, CL, and NEWS

Corrective Action for the Carriage Flex Tube Setscrew

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Revision History

Revision	Date	Author	Comments
A	12 Jul 2007	Ken Johnston	New document

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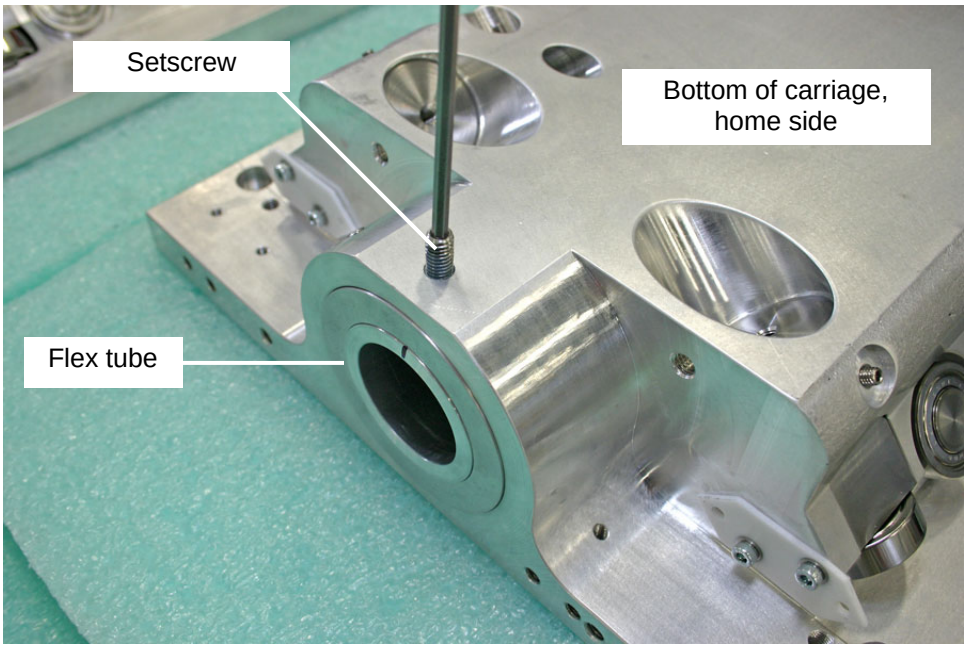
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1. BACKGROUND

Recently, several Kodak® Trendsetter® 400/800, AL, CL, and NEWS™ output devices were shipped from the production facility with the setscrew that fastens the thermal head carriage to the flex tube installed incorrectly. On the affected devices, this setscrew was installed with no adhesive and was not tightened with the correct amount of torque.



This procedure describes how to remove the setscrew, apply Loctite® 242 adhesive, and reinstall the setscrew, applying the 7.0 N·m of torque.

Note: The procedure is slightly more complicated for Trendsetter NEWS 200 output devices, owing to the fact that the home-side (master) carriage must be completely removed from the machine in order to access the flex tube setscrew on the away-side (slave) head. Sections of the procedure that are exclusive to NEWS 200 devices are identified with **[NEWS 200 only]** in bold text at the beginning of the section. If you are performing this procedure on a machine that is not a NEWS 200, skip these sections.

2. MACHINES AFFECTED

The following machines require corrective action for the carriage flex tube setscrew.

- **Trendsetter 400/800 III**
  Serial number TG0211
- **Trendsetter AL**
  TG0137, TG0213
- **Trendsetter CL**
  TG0136, TG0138–0140, TG0212
- **Trendsetter NEWS 50**
  NG0211, NG0212

- **Trendsetter NEWS 70**
  NG0098, NG0116, NG0119, NG0121, NG0125, NG0127, NG0131, NG0134, NG0136, NG0137, NG0191, NG0195, NG0197, NG0199–0206, NG0210
- **Trendsetter NEWS 100**
  NG0113, NG0118, NG0122, NG0130, NG0207–0209
- **Trendsetter NEWS 150**
  NG0103, NG0109, NG0120, NG0193
- **Trendsetter NEWS 200**
  NG0080, NG0114, NG0117, NG0123, NG0124, NG0126, NG0129, NG0132, NG0133, NG0135, NG0190, NG0192, NG0196, NG0198, NG0214

3. WHO SHOULD USE THIS PROCEDURE

This procedure is intended for trained field engineers who are familiar with the standard procedures for servicing Trendsetter output devices. In particular, persons performing this procedure must be familiar with:

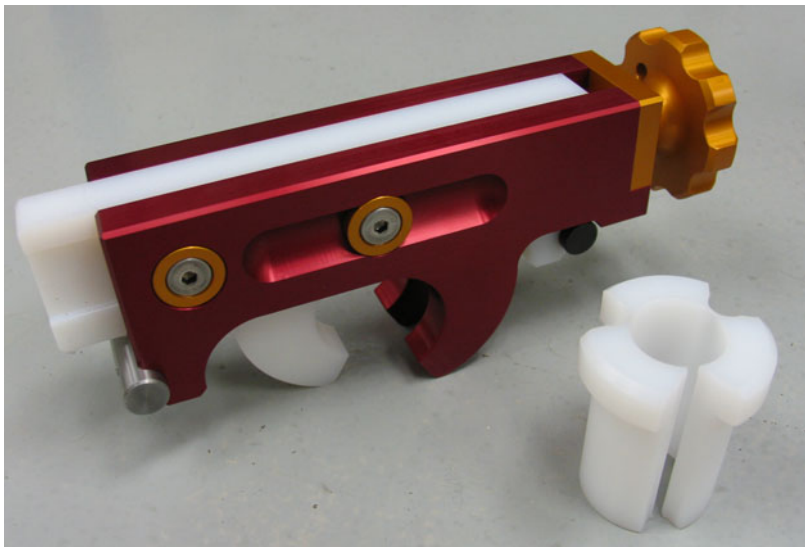
- Safety policies for Field Engineers (see link at the top of the All CTP Devices Safety page on TechPlanet)
- Thermal imaging head removal, reinstallation, and positioning procedures
- Best practices for preventing damage to physically delicate or static-sensitive equipment

Note: Do not begin this procedure unless you are sure there is enough time available to complete it in its entirety. For NEWS 200 devices, extra time is required to remove and reinstall the heat exchanger two thermal imaging heads. Geometric correction to align the two heads for proper stitching is also required after you reinstall the heads.

4. PARTS/TOOLS REQUIRED

Kit 516-00031A contains:

- Ballscrew hanger jig (690-01361A)



- Calibrated 7.0 N·m torque wrench (690-01362A)



Not included in kit:

- Loctite 242
- **[NEWS 200 only]** Sheet of foam or similar material on which to place the heat exchanger when it is removed from the fan box

5. PROCEDURE

5.1 [NEWS 200 only] Removing the Heat Exchanger

Because the NEWS 200 output device has two thermal imaging heads and two carriages, the only way to gain access to the flex tube setscrew on the away-side carriage is to remove the home-side carriage first, by sliding it off the end of the ballscrew and removing it through the fan box. To do this, you must remove the heat exchanger to clear a path for the home-side carriage.

If you are working on an output device that is not a NEWS 200 model, skip to section 5.2.

1. Turn off power to the output device.
2. Remove the fan box access panel.

3. Remove the screws from heat exchanger plate.



4. Remove the two screws from the bottom of the heat exchanger.



5. Remove the M6 screws from the top of the heat exchanger.



6. Slide the heat exchanger out and place it on a piece of foam or similar material to protect the underside from damage.

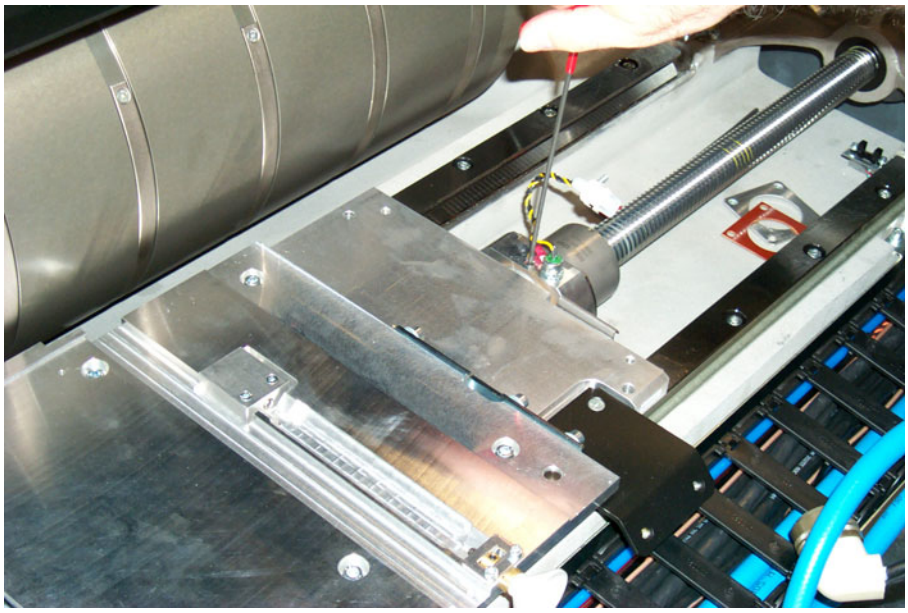


5.2 Removing and Reinstalling the Flex Tube Setscrew with Loctite 242

1. Turn off power to the output device.
2. Remove the rear panel from the output device.
3. Wearing an antistatic wrist strap, disconnect all cables, tubes, and hoses from the thermal imaging head. Wrap the ends of the coolant hoses in paper towel to keep coolant from dripping into the machine. Remove the thermal imaging head and place it on a clean antistatic surface.

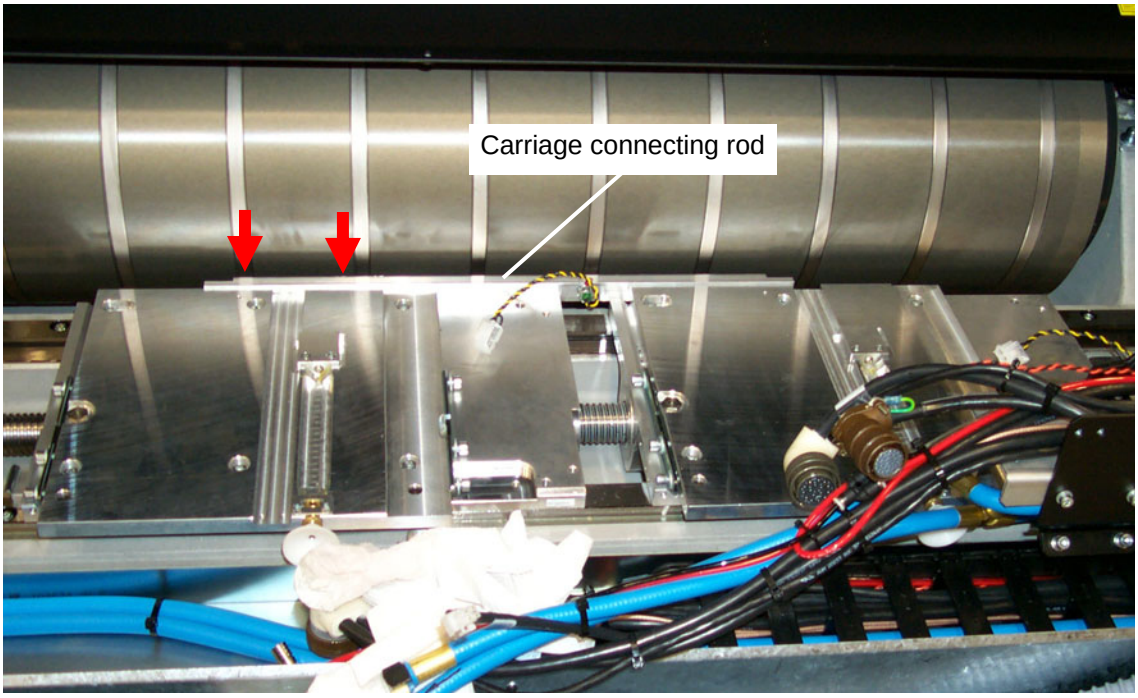
   [NEWS 200 only] Perform this step for both the master and the slave heads.

4. Loosen the set screw on top of ball screw assembly.



5. Slide the carriage out of the ball screw nut.

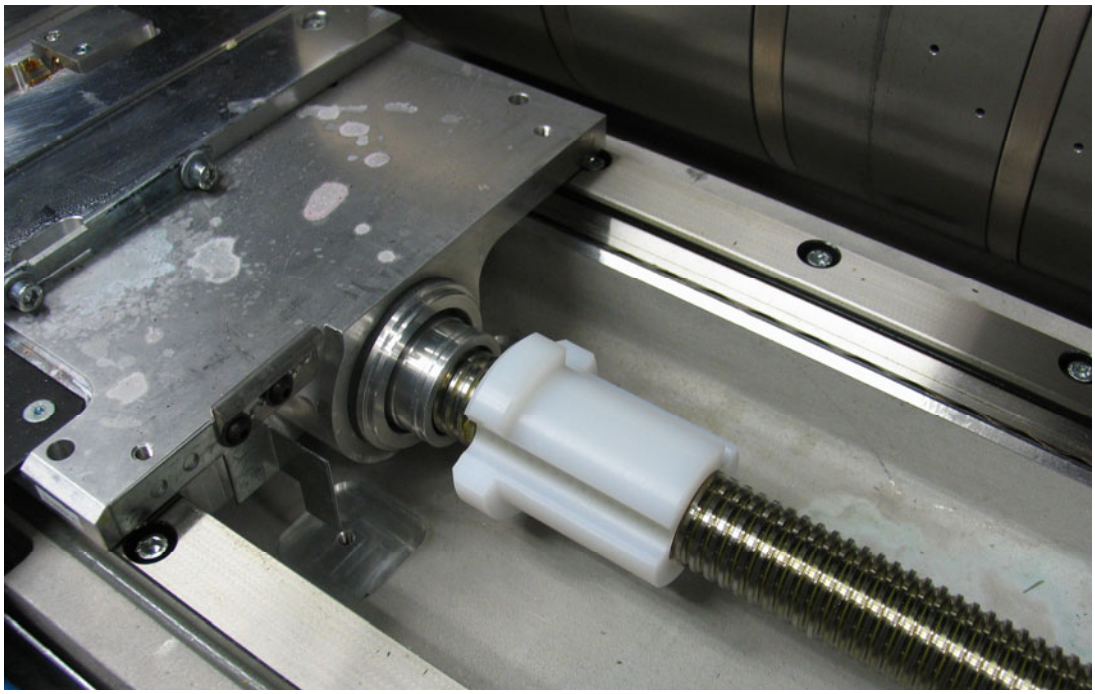
6. **[NEWS 200 only]** Remove the fasteners that attach the carriage connecting rod to the home-side carriage, so that you can slide it independently of the away-side carriage.



7. Slide the carriage to the left along the ballscrew, until it almost touches the ballscrew hanger.

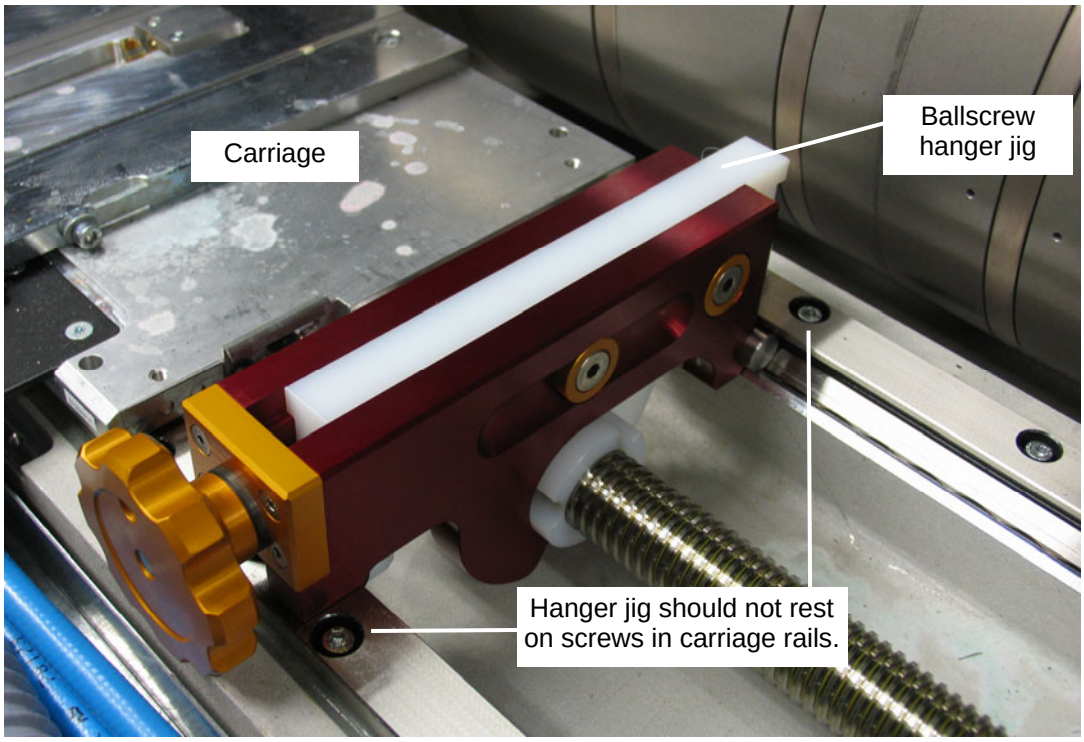
8. To keep the ballscrew in the correct position:

   a. Attach the plastic sleeve supplied with the ballscrew hanger jig kit to the ballscrew, on the away side of the carriage.

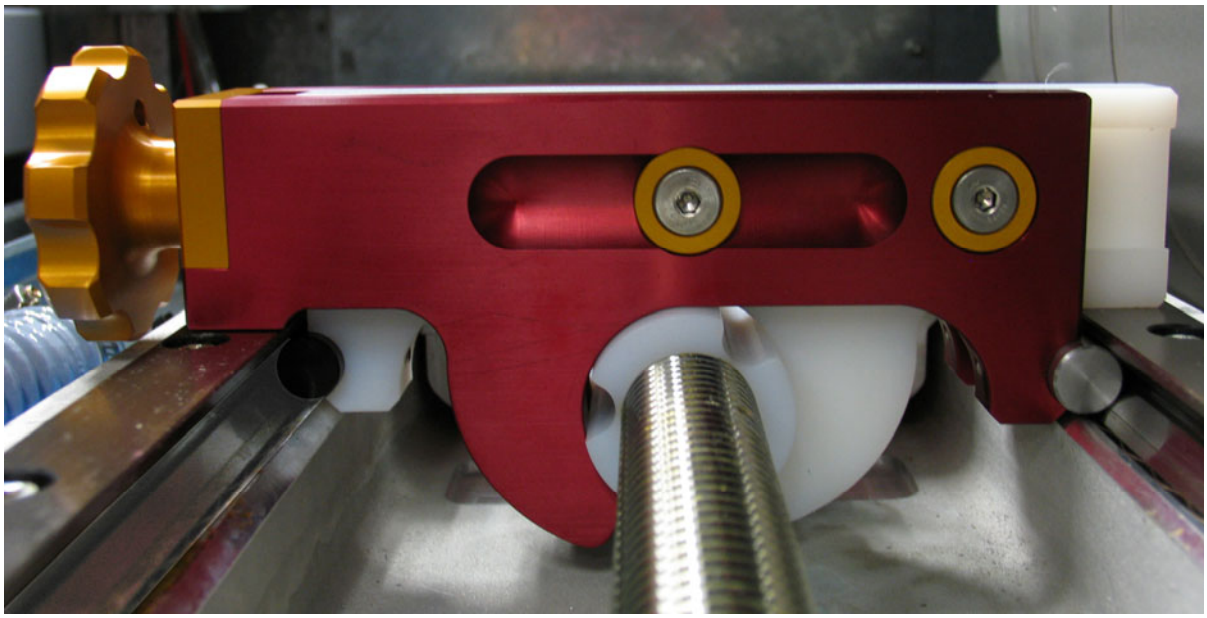


b. Install the ballscrew hanger jig over top of the plastic sleeve.

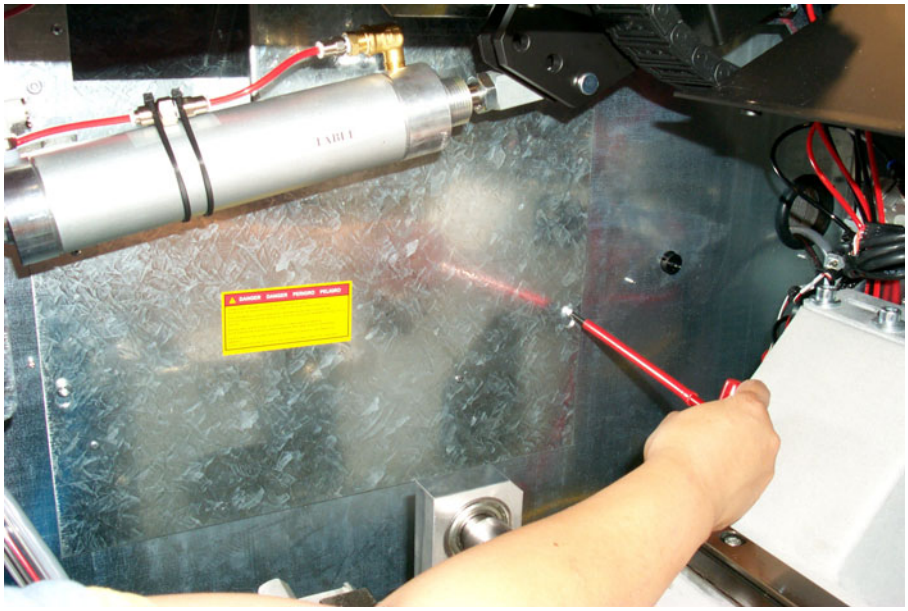
Note: Ensure that the ballscrew hanger jig is not sitting on top of any of the screws that attach the carriage rails to the engine frame. These screws can protrude slightly above the rails and interfere with the correct alignment of the hanger jig.



c. Turn the gold-colored knob on the hanger jig clockwise to expand the jig while it grips the plastic sleeve on the ballscrew.



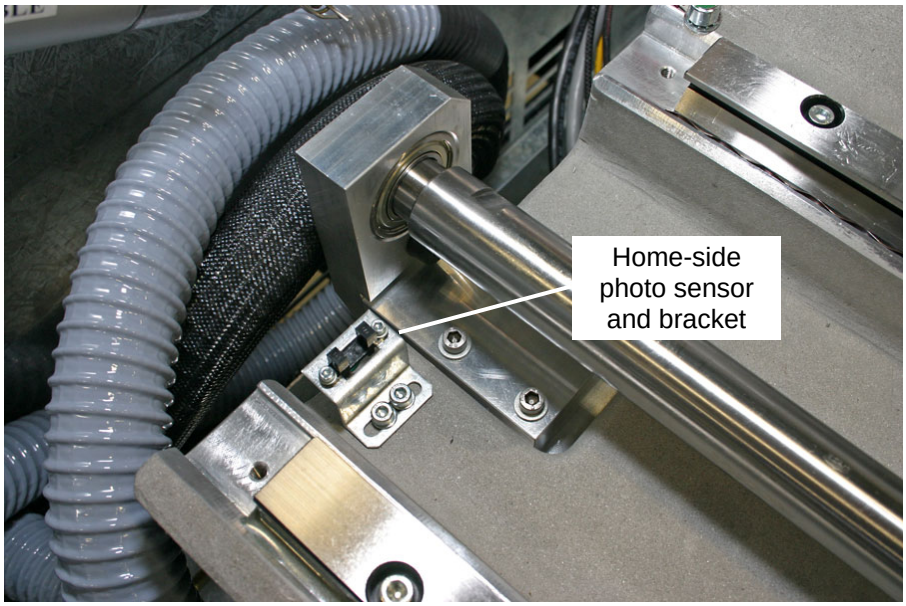
9. **[NEWS 200 only]** Remove the inside fan box access panel.



10. Remove the ball screw hanger by removing the two screws on the outside of the assembly.



11. Mark the position of the home-side photo interrupter sensor and bracket assembly, and then remove this assembly.



12. **[NEWS 200 only]** Use the following procedure to remove the home-side (master) carriage.

    a. Slide the home-side (master) carriage to the left, until it protrudes into the fan box access area.

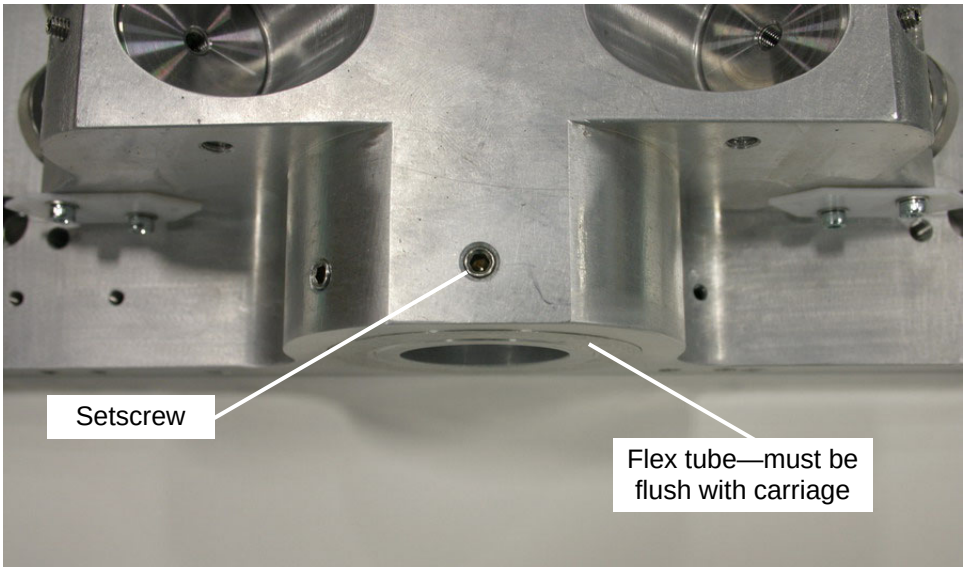
    b. From the fan box access area, remove the master carriage completely, and place it bottom side up on a clean surface.



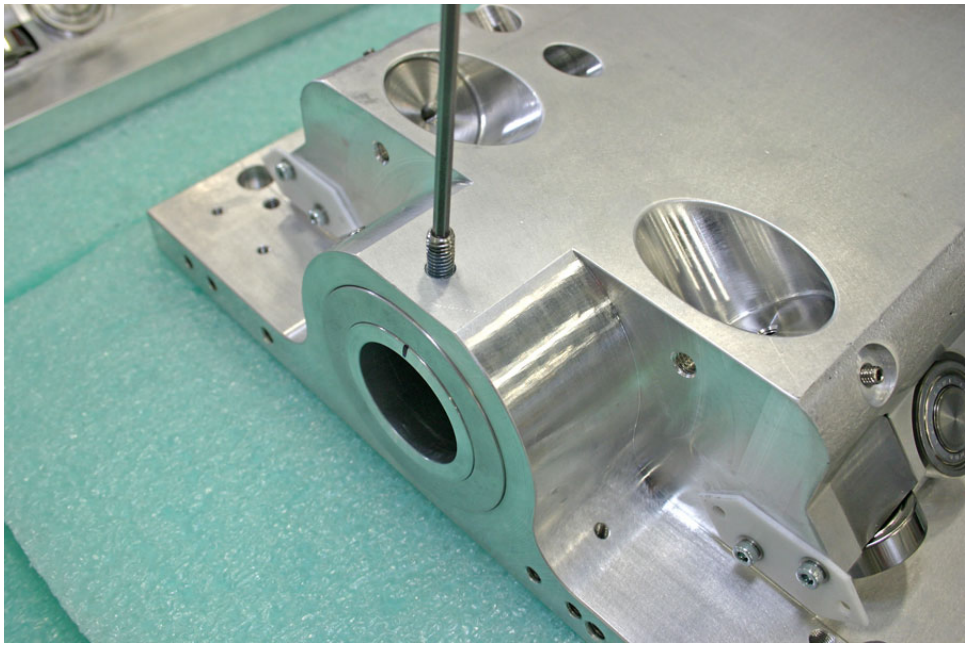
13. Slide the carriage assembly along the ballscrew to the left, so that the flex-tube setscrew on its bottom side is accessible in the space between the end of the ballscrew and the fan box.

14. Remove the carriage flex tube setscrew from the bottom of the carriage and apply Loctite 242 to the setscrew.

    Ensuring that the flex tube is flush with the carriage surface, reinstall the setscrew with the torque wrench supplied with the ballscrew hanger jig kit. Tighten to 7.0 N·m (5.16 lbf·ft) of torque.



Note: For clarity, the carriage is shown removed from output device in this photo. However, the carriage does not need to be removed in order to remove and reinstall the flex-tube setscrew.



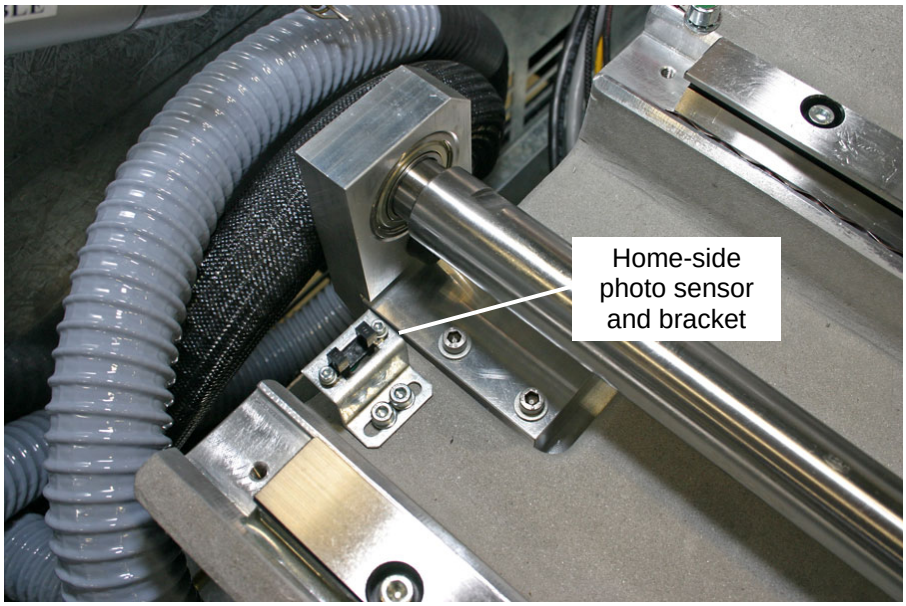
5.3 Repositioning the Carriage and Thermal Imaging Head

1. Slide the carriage assembly from the home end of the ballscrew back toward the ball nut.

2. **[NEWS 200 only]** From the fan box access area, slide the master carriage back onto the ballscrew and into the engine compartment.

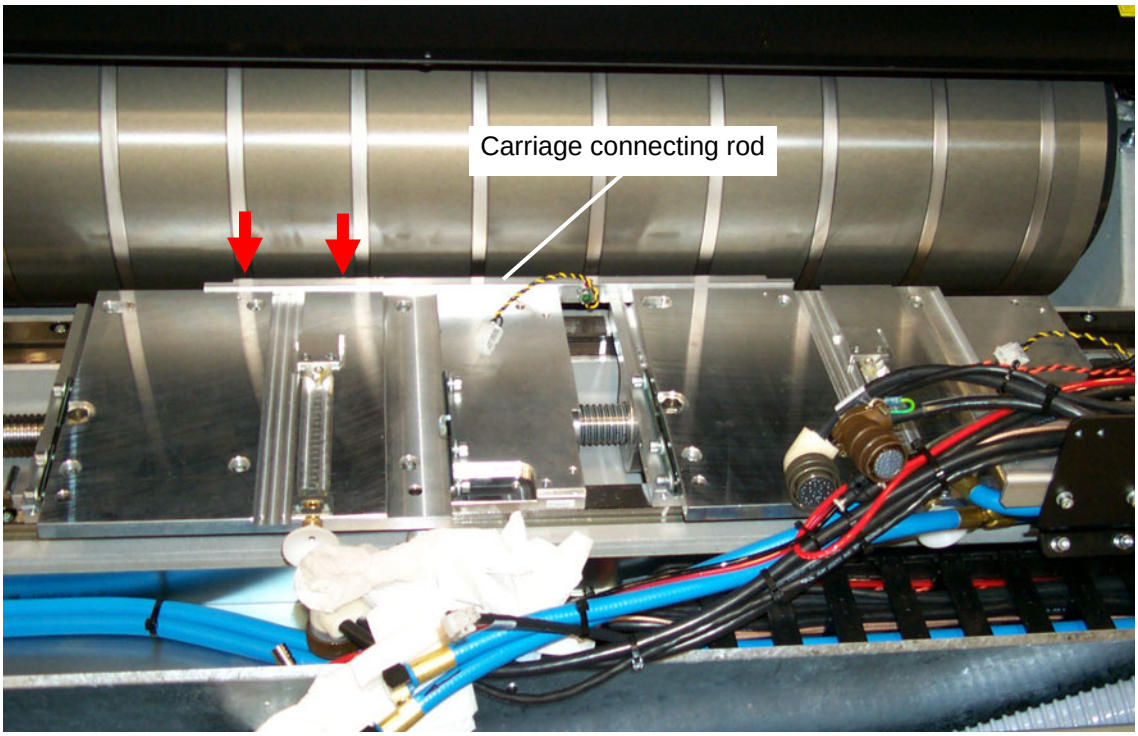


3. Reinstall the ballscrew hanger.
4. Reinstall the home-side photo interrupter sensor and bracket assembly.



5. Remove the ballscrew hanger jig.

6. **[NEWS 200 only]** Reinstall the fasteners that attach the carriage connecting rod to the home-side carriage.



7. Slide the away-side end of the carriage flex tube into the ball screw nut.
8. Tighten the setscrew on top of the ball nut assembly until it makes contact with the flex tube, and then tighten the setscrew another ¼ turn. This is approximately 4.6 N·m (3.4 lbf·ft) of torque.
9. Reinstall the inside fan box access panel.
10. Reattach the head to the carriage and reconnect all of the cables, tubes, and hoses.

    [NEWS 200 only] Reattach the slave head to its carriage and reconnect all of the cables, tubes, and hoses.

11. **[NEWS 200 only]** To reinstall the heat exchanger:

    a. Slide the heat exchanger assembly back into the fan box.

    b. Reinstall the two screws at the bottom of the heat exchanger.

    c. Reinstall the two M6 screws at the top of the heat exchanger.

    d. Reinstall the screws in the heat exchanger plate.

    e. Reinstall the fan box access panel.

12. Reinstall the rear panel of the output device.
13. Turn on the power to the output device.

14. Position the thermal imaging head with a plate on the drum, using the **`head install on`** command, using the appropriate head positioning procedure.

    [NEWS 200 only] Remember that the two heads need to be aligned with one another so that there is no visible stitch line on panorama plates. Refer to the Adjusting geometric correction parameters for stitching procedure on TechPlanet.

Make a note of the serial number of the output device on which you performed the corrective action for the carriage flex-tube setscrew and send it in an e-mail message to Frank van Eerdt or Andrew So.