Aligning the encoder

Background

The encoder is assembled and aligned at the factory. It is a precision instrument and must be handled gently. It is mounted on the drum pin using an encoder mounting adaptor which supports the encoder shaft in a bearing. The encoder shaft is fastened to the drum on threads and fastened to the encoder collar by two set screws.

The encoder must be aligned to the drum in its index position.

Context

- ☑ Trendsetter 3230 (TS4 Version)
- ☑ Trendsetter 3244 (TS8)
- ☑ Trendsetter 400/800 – MPE and MCE

Tools

- 1.5mm hex. tool (square end only)
- 2.5mm hex. Tool
- 9 volt battery
- Sensor tester jig (10-3622B) B1
- Encoder Index Adapter jig (92-0147A) B2



WARNING: Failure to follow the safety policies and procedures for field engineers may create a dangerous situation that could result in serious injury as well as damage to the output device. For more information, see: http://techplanet.creo.com/output/computer_to_plate/all_ctp/nav/safety.htm

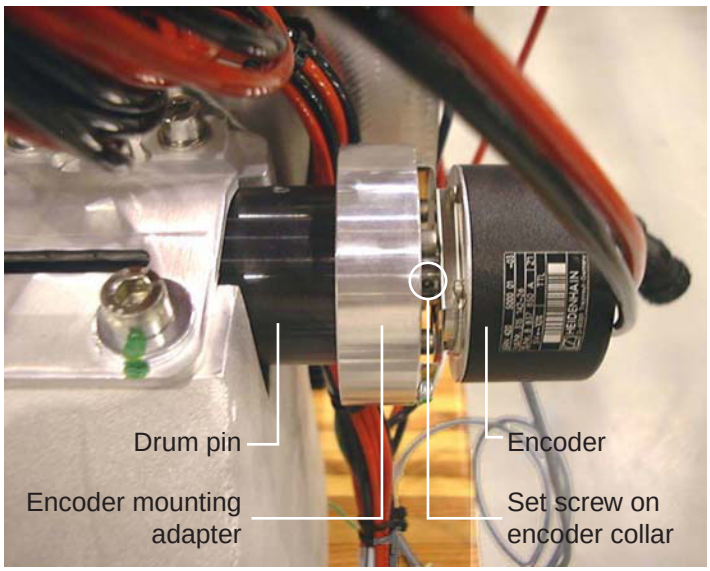
Steps

Encoder access on the TS4/TS8:

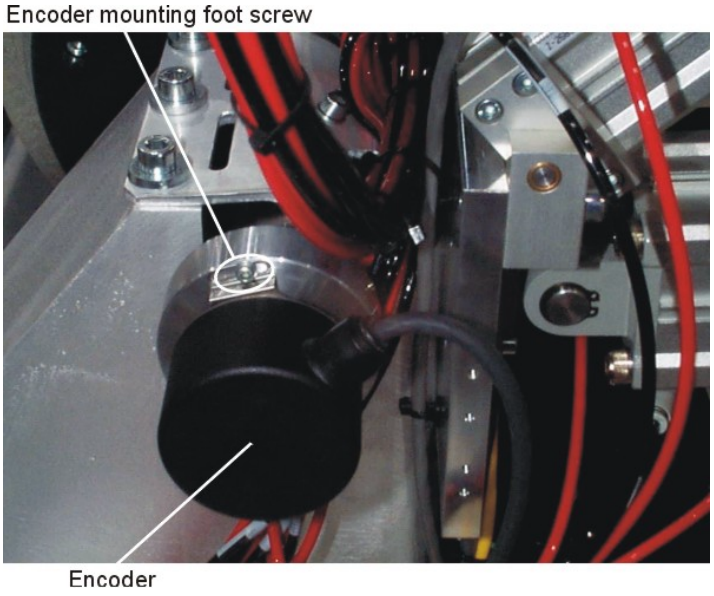
1. Open the top and rear access panels.
2. Remove the power box access panel.
3. Turn off the TS power.
4. Remove the encoder access panel on the rear wall of the power box.

Removing the encoder from the drum:

1. Idle the drum.
2. Release the roller and actuators.
1. Rotate the drum by hand to allow access to the set screws on the encoder collar (see photo below).



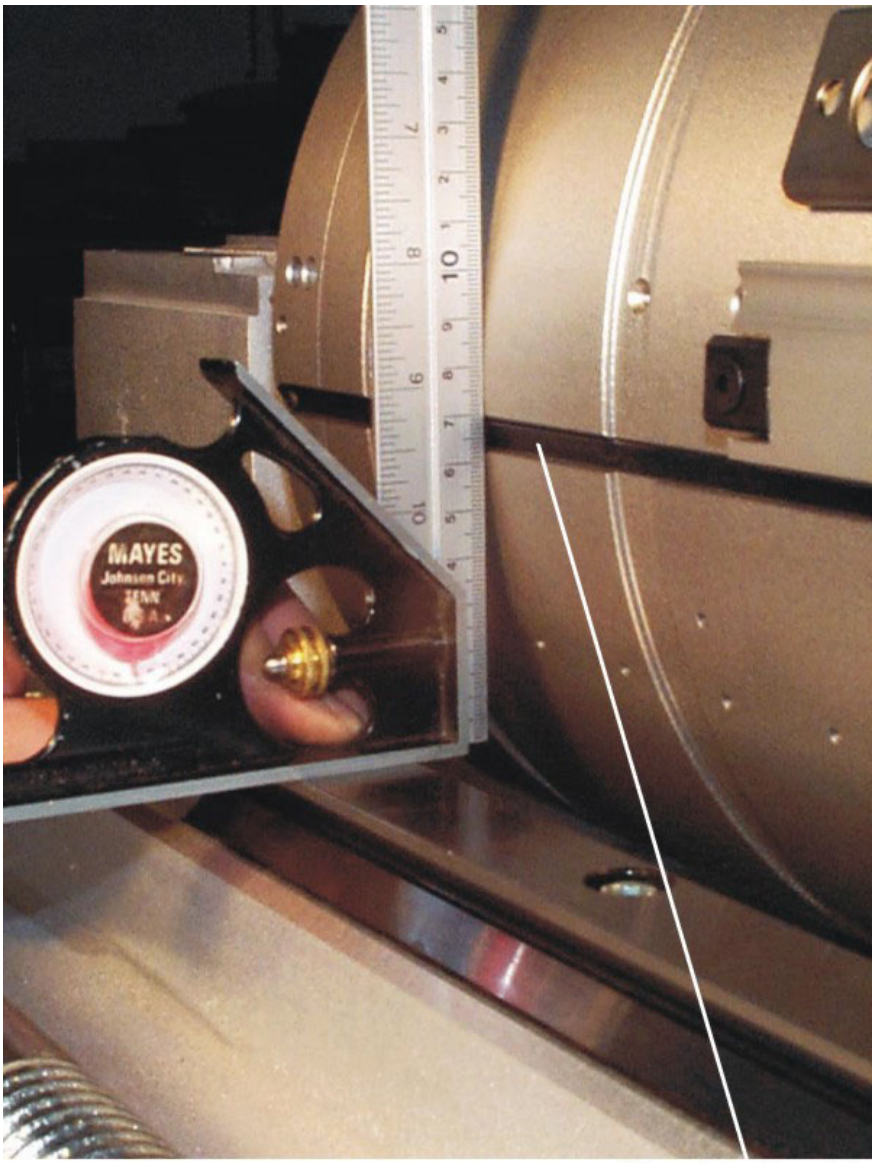
3. Loosen both set screws by one full turn **only**.
5. Remove each of the screws on the encoder mounting brackets (feet).



6. Gently slide the encoder off the shaft.

Aligning the encoder:

1. Position the drum so that the top of the edge detection strip is facing towards the back panel. (68mm vertically above the tracks).

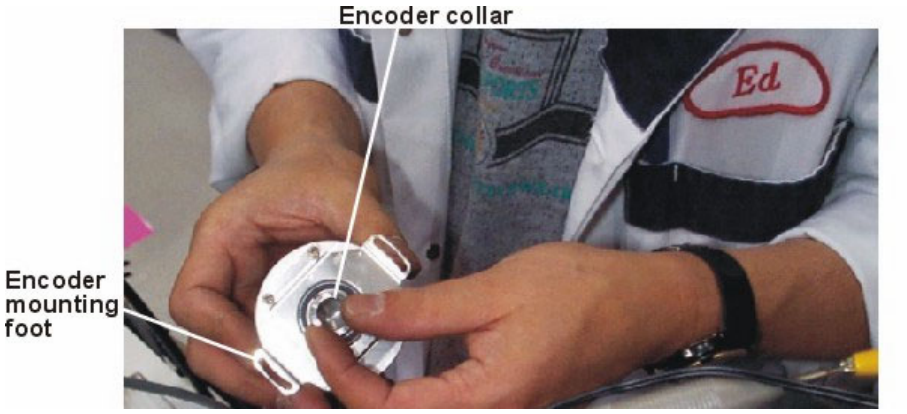


Edge detection strip

2. Place packing material between the drum and casting to stabilize the drum.
3. Attach the following together:
   - 9 volt battery to sensor tester jig (10-3622B)
   - Encoder index adapter jig (92-0147A) to sensor tester jig (reed switch

connector)

- Encoder cable from J4 on backplane (MPE) or J20 on MCE board to encoder index adapter jig (serial connector)



4. To find a starting index position for the encoder, hold the encoder in your hand and slowly turn the encoder collar (see photo) until the flickering LED on the sensor tester stays ON. (Note this is a coarse index position only - fine tuning comes later in the procedure.)
5. With the encoder in, or very close to, index position, carefully place the encoder back on the shaft.

Note: Be sure to keep the encoder close to index position.

6. Tighten the mounting screws through the center of the encoder mounting bracket (feet) slots. This will be adjusted later on.
7. Tighten one of the accessible set screws on the encoder collar.
8. Loosen the mounting screws and slowly rotate the encoder body to finely adjust the encoder to its index position.

Note: If the index position falls at one end of the encoder mounting feet slots (i.e., not near the middle, go back to step 4.)

9. Tighten the mounting screws.
10. Rotate the drum to give access to the second encoder collar set screw.
11. Fasten the second encoder collar set screw.
12. Remove packing material stabilizing the drum..
13. Disconnect the encoder index adapter jig from the encoder cable and reconnect the encoder cable to J4 on the backplane(MPE) or J20 on the MCE board.

Note: Disconnect the battery from the jig when done because leaving the encoder adapter attached to the sensor tester will drain the battery.

14. Turn the Trendsetter on.

15. Enter the `drum init` command at the diagnostic monitor.
16. Check the LEC position using `set al lepos` (MPE) or `set mh LoadPos` (MCE) and record the value here _____
17. Enter the `Drum idle` command.
18. Rotate the drum by hand to the LEC position noted above.
19. Type `lec on` to engage the LEC (LEC should be open).
20. Repeat the following two steps until the encoder has been tightened in position with the error within ±1 tach ticks of the `lecpos`.
    a. Type `drum` and note the current drum position. (Use the `drum` command after every movement of the encoder.)
    b. Loosen the encoder mounting screws and slowly rotate the encoder body to finely adjust the encoder to match the LEC position within ±1.
21. Disengage LEC using `lec off`.
22. Power off.
23. Replace the encoder access panel and the machine panels
24. Power on.
25. Reset the machine.

Notes

Disconnect the battery from the jig when done otherwise the connection will drain the battery.