Static Balancing of the Drum in the Field

Document number: 719-00657A Rev A

Product

Trendsetter® 800 II (not applicable to Trendsetter Spectrum/Proofsetter®)

Background

During high speed rotation (360–400 rpm), an inadequately balanced drum can cause excessive vibration. Vibration intensity varies, depending on plate sizes.

In the factory, the internal drums of Trendsetter platesetters are only balanced statically. Under actual usage conditions, however, the trailing edge clamp (TEC) position varies with plate size, causing the drum balancing to change. Because the Trendsetter engine does not dynamically adjust for this change, it automatically causes some imbalance resulting in machine vibration. This vibration is even more pronounced on a Trendsetter Autoloader device.

Under most conditions, if the floor on which the Trendsetter platesetter is installed is properly built (see the *Site Preparation Guide* and product specifications), and the feet are supporting the platesetter correctly (they are securely positioned on the floor and the casters are raised, not touching the floor), the drum vibration is not excessive.

Solution

Under extreme conditions, where the drum vibration is excessive, it is possible to rebalance the drum in order to adapt it to the plate sizes used by the customer.

It is impossible to accommodate all plate sizes. The rebalancing can be perfectly done only for one plate size, so a compromise is required.

Time required

1 hour

Parts required

Part Number	Part Name	Quantity
518-01763A	KIT, FIELD DRUM STATIC BALANCING	1

Tools required

- Loctite® 242 adhesive
- Brecoflex belt tension meter: 90-1062

Additional documentation

- *Adjusting the Drum Drive Motor Belt Tension*
  http://techplanet.creo.com/output/computer_to_plate/trendsetter_3244/content/docs/tsm_drumbelt.pdf

Procedure

1. Load the plate type that you would like to balance the drum with, or if you are trying to accommodate several plate sizes, estimate the average position of the TE clamps on the drum and put the clamps in that position. To do this, enter the following commands:
   - `drum move <xxx>`
     (where <xxx> is the estimated position in degrees)
   - `tec on`

- `tec unlock`
- `tec off`

2. Turn off the platesetter.
3. Open the front and the top panels to access the engine.
4. Loosen and detach the drum belt from the away side of the drum pulley.
5. Rotate the drum by hand two full rotations and let it come to a full stop.
6. If it is properly balanced, it should stay where you leave it. An imbalance will cause the drum to rotate and settle with the heaviest side facing down.
7. The goal is to balance the drum by adding brass or lead washers to the home side (all Trendsetter 800 II platesetters) and away side (platesetters with V-belt system only) of the drum.
   - With a **V-belt system**, it is possible to balance the drum both from the home and away sides without having to remove the drum. In this case, you must evenly distribute the weights on the home and away side. To do this, add weight on the home side until you find the correct balance. Then, evenly distribute the additional weights symmetrically on the away side.
   - With a **T-belt system** (timing belt), it is not usually practical to add washers to the away side, because the design of the drum pulley requires that the drum be removed. If this is required you will need to order the drum removal kit, also known as the "Elvis" kit. If necessary, contact the 4 & 8-Page Trendsetter PSS for more information.



Figure 1: Weight not installed

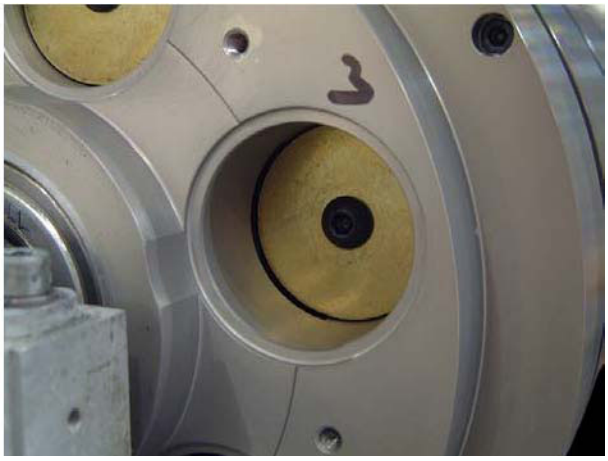


Figure 2: Brass weight installed

   The drum will be perfectly balanced for a particular plate configuration when any manual rotation that is applied to the drum leaves it in a stable position.

8. When the drum is properly balanced, use the supplied screws (part number 52-4432) with Loctite 242 adhesive applied to the threads to fasten the washers to the drum.
9. Reinstall and tension the drum belt. Follow the procedure posted on TechPlanet: http://techplanet.creo.com/output/computer_to_plate/trendsetter_3244/content/docs/tsm_drumbelt.pdf
   - The T-belt system requires a tension of 65–85 Hz
   - The V-belt system requires a tension of 110–130 Hz
10. Close all panels and turn on power to the platesetter.

11. If the TE clamps were put on the drum to simulate an alternative position, use the following commands:
    - `drum move <xxx>`
      (where <xxx> is the position at which you placed the clamps in step 1)
    - `tec unlock`
    - `tec on`
    - `tec lock`
    - `tec off`

Test

1. Load a plate.
2. Spin the drum to the desired speed (maximum 360 rpm for V-speed, 400 rpm for X-speed)
3. Assess the vibration. If you need to accommodate several plate sizes, you may have to perform the balancing exercise again with different plate sizes until you find the best compromise.

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Date submitted	Apr 13, 2006
Last updated	Apr 13, 2006