Brunswick

SERVICE BULLETIN

Capital Equipment Division

Subject: **Pins Falling Over During New Pinsetting Cycle on GS Pinsetters with Gray Pinholders**

Date: 5/18/00

Distribution: All GS-Series Pinsetters Customers

Letter No. CEB00-3

A number of customers with GS pinsetters containing the gray pinholder assembly have reported problems with pins falling over during the new pinsetting cycle. This usually occurs with the 1, 2, or 3 pin. The following is a list of things that must be checked to correct this problem.

1. **The setting table must be level to the pin deck.**

   Please refer to Adjustment #19 in the GS Series Pinsetter Operations and Service manual.

2. **The lowest position height of the setting table must be correct.**

   Please refer to Adjustment #19 in the GS Series Pinsetter Operation and Service manual.

3. **The vertical stop bolt must be adjusted.**

   Refer to Adjustment #21 in the GS Series Pinsetter Operation and Service manual.

4. **Individual pin holders must be adjusted.**

   To adjust individual pin holders forward or rearward, loosen the top adjusting screws and tilt the pin holder. See *Figure 1*. It is not recommended to tip the pin holders too far forward as the bottom of the pin holder may hit the belly of the pin when the table raises. This can cause pins to fall over.

5. **The pin holder dampers must be in good condition.**

   Check the condition of the pin holder dampers. Worn or loose dampers will not allow the pin to seat properly in the pin holder housing. If the pin is mis-seated, it can fall out of the pin holder or fall over when the setting table goes to the lowest new pin setting position. Replace any worn or loose dampers as needed. See *Figure 2*.

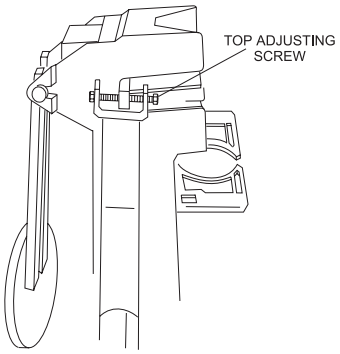

Figure 1

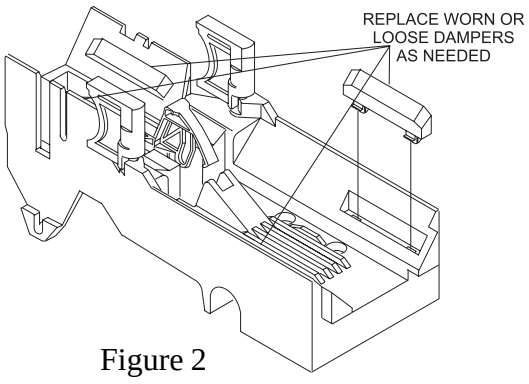

Figure 2

6. The pin holder grippers must be on the same level.

Over time, the pin holder grippers or the pin holder gripper stopper surfaces can wear. If this happens, the grippers will not align on the same level. This condition will allow the pin to seat in the pin holder with some slight side angle. When the grippers open to set new pins, the pin can slide out at an angle and fall over as the pin holder moves back up with the setting table. To correct this condition, carefully trim the gripper stopper on the pin holder housing. Verify that both grippers are once again on the same level. See *Figure 3* for correct gripper level.

7. The pin holder gripper shafts must have the correct amount of shaft play.

The correct amount of gripper shaft play (in and out range within the pin holder housing) should be 1-2 mm. The pin holder housing and the gripper material can wear. This will open up the gripper shaft range to a level above 2 mm. If this excessive gap is present, the grippers will not hold the pin in the pin holder housing at the correct tolerance. This will cause the pin to fall over when the grippers open at the lowest new pin setting height of the setting table.

To correct this problem, a shim washer can be added to the gripper shaft on the back side of the pin holder housing. The washer is placed between the pin holder housing and the gripper shaft catch. See *Figure 4.*

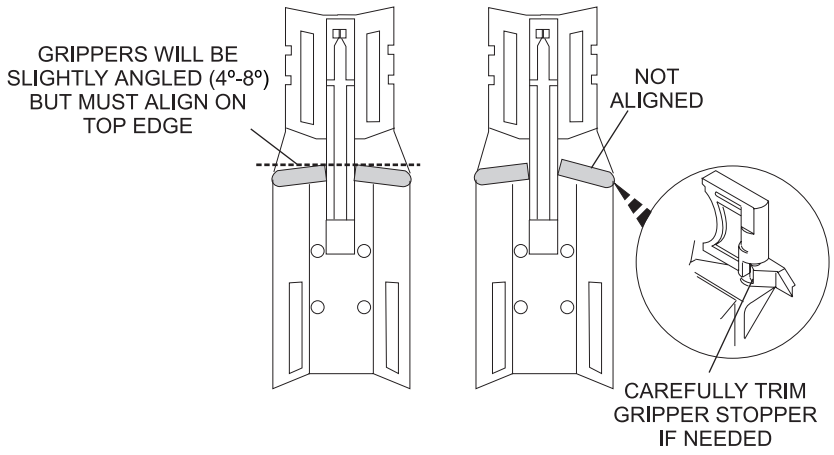

Figure 3

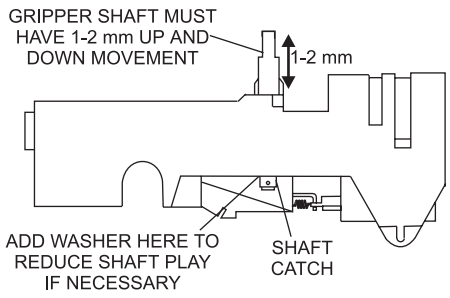

Figure 4

If you have any questions about this Service Bulletin, call the Customer Help Line at USA 231.725.4895.

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