FCO 512-00250A Improving the centering system

Document number: 719-00440A Rev B

Release date: 23 Jan 06

Applies to

- Lotem® 800
- Lotem 800 II
- Lotem 800 Quantum

Priority: Next failure

Component Centering system

Problem

The following problems have been encountered with the existing centering system:

- The tension on the chain may be too high and cause the chain to break.
- The tension on the chain may be too high and cause the sprocket shaft to bend.
- There is no jig available to measure how much tension is placed on the chain.
- Over time the chain's tension may weaken. This can cause the sprocket to skip a chain link, resulting in the plate size being incorrectly measured.
- Occasionally, the centering pin stops prematurely, without centering the plate.
- Occasionally, the chain hook holder collides with the punch entry guide:



Solution

Improve the centering system:

- Add a spring mechanism to the chain. The spring ensures the chain is maintained at the correct tension.
- Isolate the centering pin.
- Replace the wheel sprocket shoulder screw.

FCO 512-00250A

Time required 3 hour

Parts included in FCO

Part Number	Part Name	Quantity
252-03405A	Centering bushing	1
252-08244A	Tension spring	1
252-08245A	Spring hook	1
252-08246A	Centering cover	2
252-08247A	Chain holder hook	1
252-08248A	Spring stopper	1
380A06201	SOC HD CAP STST 10-32*1½"	1
380G01100	PHIL FLT HD STST 4-40*¾"	4
382A07006	Flat washer STST #6L	4
382A13001	FLT WASHSTST#10.203*7/16*.042	1
382D07000	Spring L/W ST ST #6	5
380A03030	SOC HD CAP STST 6-32*5/16	4
380A03021	SOC HD CAP STST 6-32*¼	1
291A6A991	Punch guide 30 mm + glue	4
291A6A992	Punch guide 50 mm + glue	4
252-10047A	Punch guide 69 mm + glue	4
719-00440B	FCO document	1

Procedure

Before you begin:

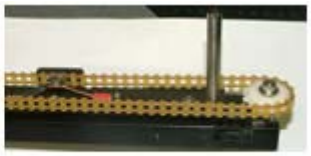
1. In Lotem Controller, locate the Loading System dialog box and perform Step A of the plate loading process.
2. Open the platesetter's door. Use a pencil to mark the location of the plate's edge on the punch beam.
3. Remove the plate from the platesetter.
4. Remove the cassette from the platesetter.

Dismantle the centering system:

Important: Throughout these procedures, *motor side* refers to the left side of the centering system, whereas *sprocket side* refers to the right side of the centering system:

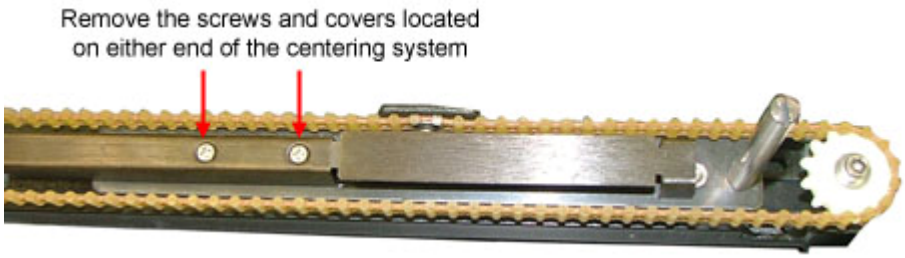


Motor side of centering system



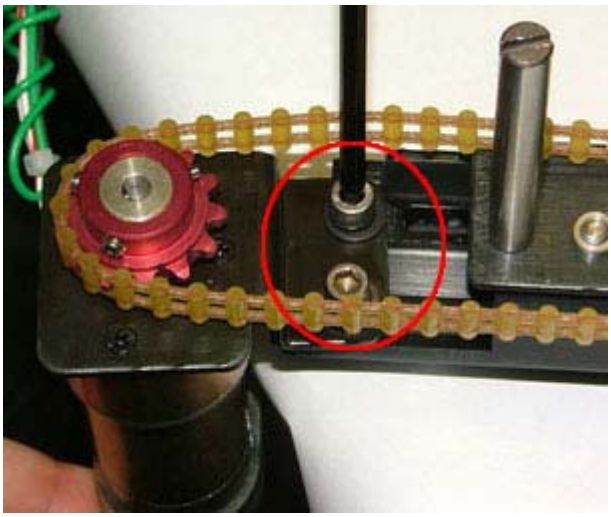
Sprocket side of centering system

1. Disconnect the centering system's motor connector and centering pin cable from the platesetter. Remove the four screws securing the centering system to the mainframe and place the centering system on a table.
2. Remove the four Philips® screws securing the two covers to the centering system:

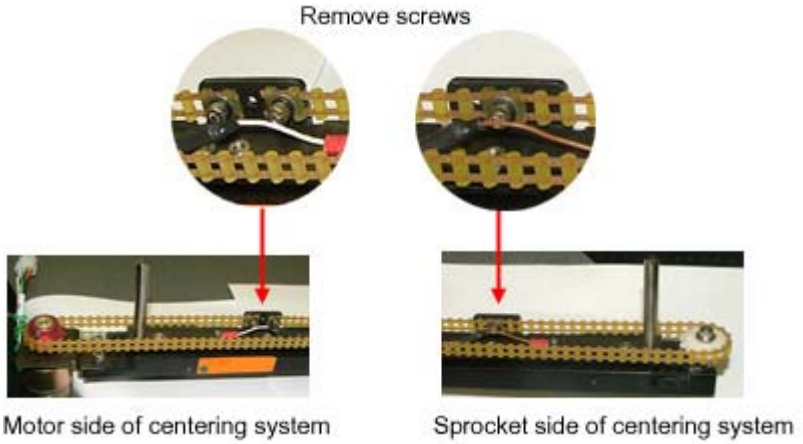


Dispose of the covers, however, place the screws to one side as you will need them later on in this procedure.

3. Loosen, but do not remove, the screws securing the motor bracket to the centering system:



4. Remove the three screws securing the chain to the platesetter. There are two screws located on the motor side of the centering system and one screw on the sprocket side:



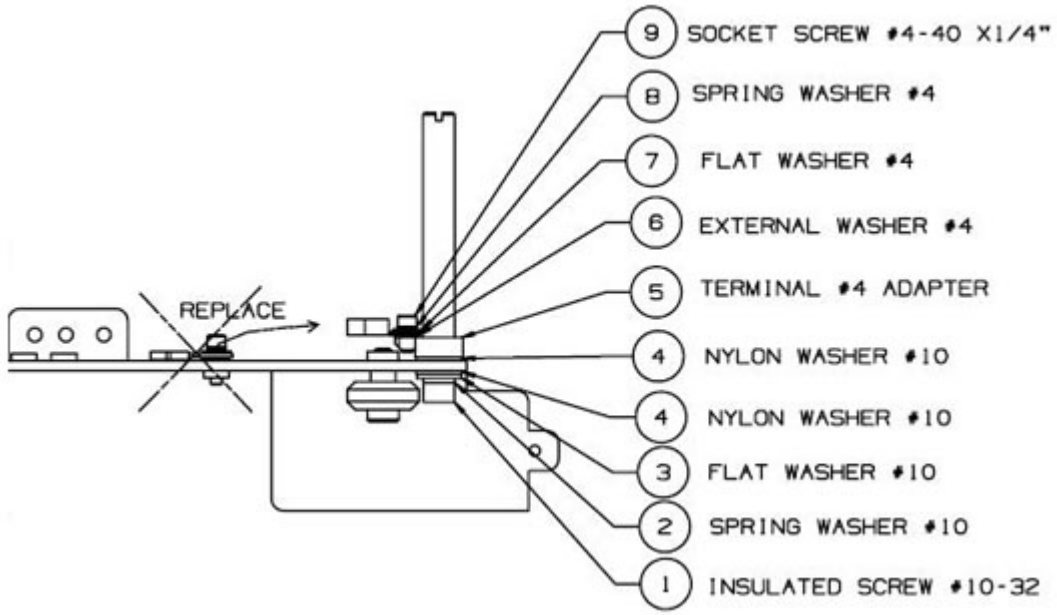
Put the screws and chain to one side, as you will need them later on in this procedure.

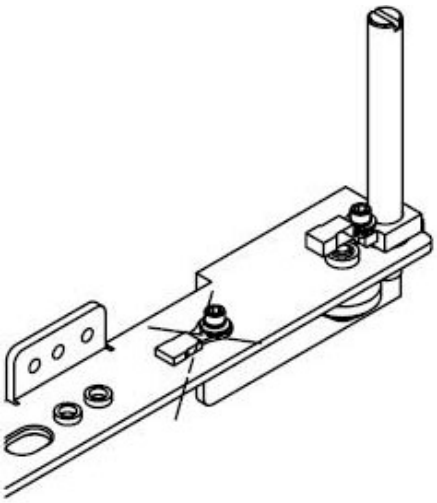
5. Remove the shoulder screw located on the sprocket side of the centering system, and put the sprocket to one side:



Isolate the centering pin:

Move and isolate the centering pin (on both sides of the centering system) according to the diagram below:





Assemble the improved centering system:

1. Assemble the new bushing (part number 252-03405A), new screw (10-32, L=1½ part number 380A06201), and flat washer #10 (part number 382A13001) to the existing sprocket.
   Put Loctite® 242 on the screw thread and install it onto sprocket side of the centering system. The screw should protrude below the centering system:



Assemble sprocket, bushing, screw and washer.





Install on sprocket end of centering system

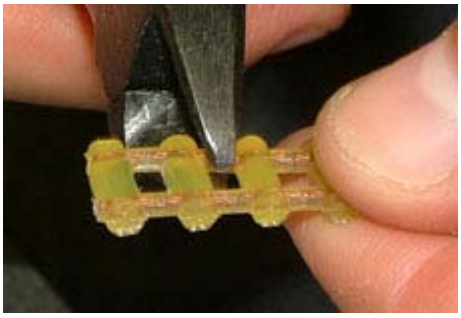


Make sure screw protrudes below centering system

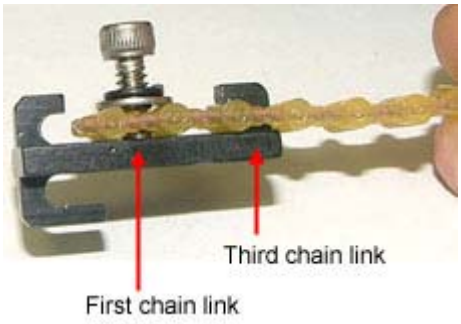
2. There are three holes with threads, all located on the sprocket side pin assembly of the centering system. Use a screw (6-32; L=5/16” part number 380A03030), dipped in Loctite 242 adhesive, to install the spring hook (part number 252-08245A) into the first hole - that is the hole furthest away from the sprocket. The thread of the screw should protrude slightly:



3. Cut the first two links of the chain:



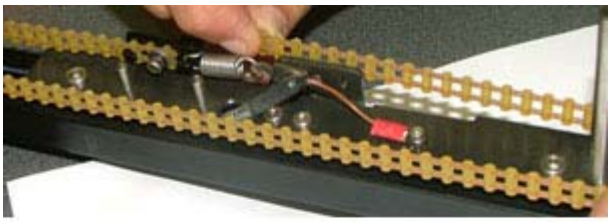
4. Insert the third link of the chain onto the chain holder hook (part number 252-08247A). Secure the chain to the holder with a flat washer #6 (part number 382A07006), spring (part number 382D07000), and a screw (6-32, L=5/16”) dipped in Loctite 242:



5. Attach one end of the spring (part number 252-08244A) to the chain holder, and the other end of the spring to the spring hook:



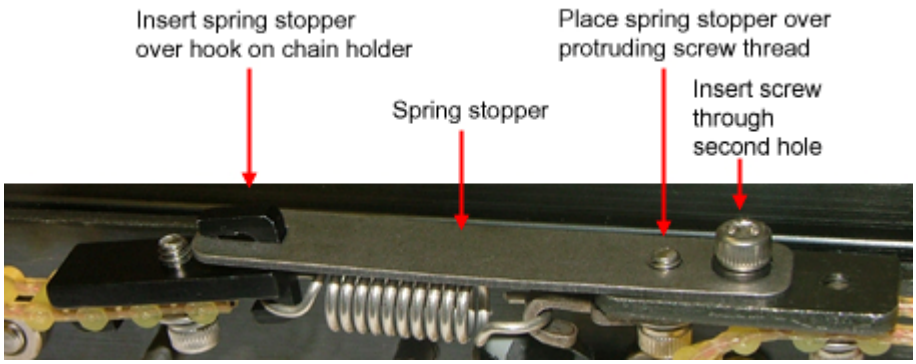
6. Wrap the chain around both the sprockets. When the spring is slightly expanded, insert a screw (6-32; L=5/16”) dipped in Loctite 242 adhesive, through the chain link closest to the third hole. The first hole is occupied by the spring hook, the third hole is the hole closest to the sprocket wheel:



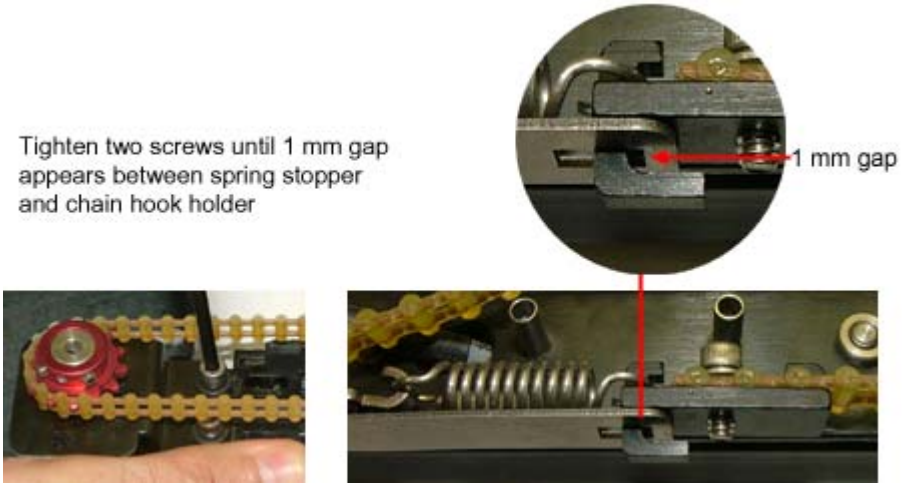




7. Assemble the spring stopper:
   - Place the spring stopper's square opening (part number 252-08248A) over the chain holder hook.
   - Insert the hole on the spring stopper over the protruding thread of the spring hook screw.
   - Use a screw (6-32; L=1/4" part number 380A03021), dipped in Loctite 242 adhesive, to secure the spring stopper to the second hole:

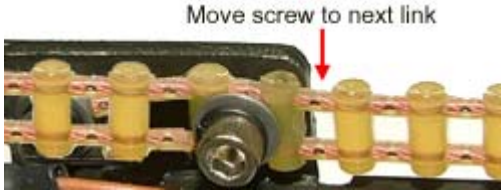


8. Pull the motor assembly towards you and then slowly tighten the two screws securing the motor bracket to the centering system. Tighten the motor bracket screws until the spring expands enough to produce a 1 mm gap between the end of the spring stopper and the chain hook holder:



Important: The 1 mm gap ensures that the tension on the chain is set to 5.3 kg.
Do the following if the tightened motor bracket screws fails to produce a 1 mm gap between the end of the spring stopper and the chain hook holder:

- Loosen both the motor bracket screws.
- Remove the screw securing the chain to the centering system (step 6) and insert it through the next chain link, as shown. This will increase the tension on the chain:



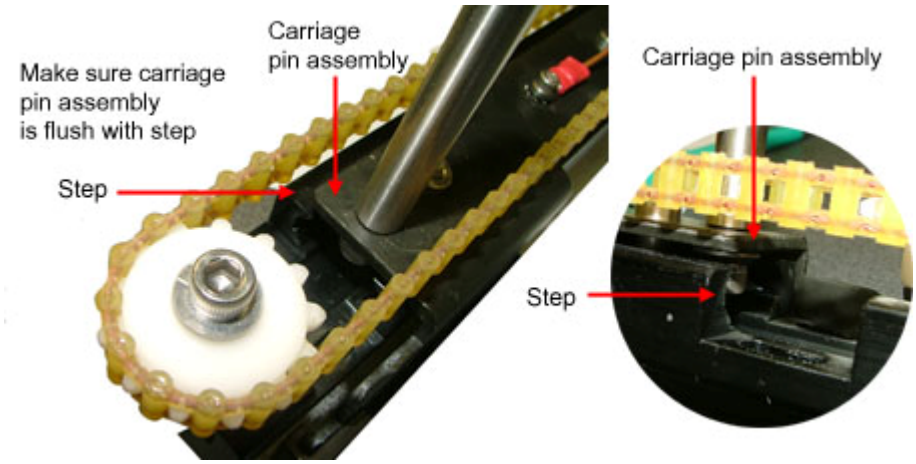
- Repeat step 8.

9. After you are sure that the correct tension has been achieved, cut the chain one link from the screw:



Center the pin assemblies and install the covers:

1. Make sure the edges of both carriage pin assemblies are flush to within 0.5 mm with the steps of the centering system base:



2. On the motor side, secure the chain to the centering system by inserting a screw (6-32; L=5/16”), dipped in Loctite 242 adhesive, into the chain link closest aligned with one of the three holes on the carriage pin assembly:



3. Use the four Philips screws (part number 380G0110), removed at the beginning of these procedures, to install the new covers (part number 252-08246A).



Upon completion

1. Make sure the centering system moves freely.
2. Install the centering system into the platesetter.
3. Remove the two screws securing the lower punch guide to the punch. Keep the screws.
4. Dispose of the existing punch guide:



5. Install the new punch guide (part number 291A6A991, 291A6A992, 252-10047A) that is most appropriate for the size of the customer's punch:
   Note: The new punch guides are available in the following dimensions: 30 mm, 50 mm, 69 mm



6. Reconnect the motor connector and centering pin cable.
7. Secure the centering system to the mainframe by slightly tightening the four centering system screws.
8. Insert the cassette into the platesetter.
9. In Lotem Controller, perform Step A of the plate loading process.
10. Check the plate's location in reference to the marks you made on the punch beam:
    - If the plate's location matches the marks, then remove the plate and tighten the four centering screws.
    - If the plate's location does not match the marks, then release the four centering system screws and move the unit along with the plate until the location does match the marks.
11. Tighten the four centering screws.
12. Perform plate loading and make sure the plate is centered on the drum to within 0.5 mm.
13. When the centering system is activated, make sure the centering system spring is not touching any of the punch covers.

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Install FCO Updater	Insert the diskette and double-click on the **exe** file, or download the file from TechPlanet's FCO page. For more information refer to the FCO Updater utility.
Material disposition	Dispose of the old punch guides.
Technical contact	Nir Peleg
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