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1. HALF WEB INSTALLATION

Purpose:

An update of the Lotem systems for the photography of 457 x 457 mm plates.

1.1 Changes to be Implemented:

1. Replacement of plate centering system
2. Installation of the bar and punch system assembly
3. Replacement of head spoilers
4. Replacement of lower roller (loading)
5. Replacement of upper roller
6. Replacement of plate vertical and horizontal centering system in a loading cassette.
7. Replacement of plate unloading system
8. Replacement of paper-shredding system
9. Changes in registry
10. Electrical tests and system adjustments.

1.2 Replacement of Plate Centering System

Required Tools

- Allen spanner 10
- Jig for centering the centering system

Required Parts

Part Description	Cat#
507F1L188	Centering system

Installation Procedure

1. Disconnect the centering motor connector.
2. Disconnect the short circuit detector connector of the centering system.
3. Dismantle the 4 screws connecting the centering system to the machine frame.
4. Remove the centering system.
5. Install a new centering system in its place.
6. Install the centering jig for the centering system on the punch bar.
7. Close the short circuit pins of the centering system until they reach the jig.
8. Fasten the 4 screws connecting the centering system to the machine frame.
9. Remove the system centering jig.
10. Connect the centering motor connector and the short circuit detector connector.

1.2.1 Loading System, Plate Centering System, Centering

System Factor Parameter adjustment in the Registry

1. Click to open Loading System > Centering System >Centering Motor

2. Select the **Centering Motor** and click the right mouse button to reach registry :
   - ❖ Pos Factor = 1
   - ❖ Virtual H.P. APP Value = 0
3. Execute Save → Send.
4. Place a plate manually in the centering system with known size and perform centering (**Punch/Cent)** 5 times.

Note: During the "Centering" make sure that the plate is straight along both axes.

5. In order to perform **HP** for the Centering system you must use the **HP Detector** option.
6. Calculate the average value of the 5 results from this position.
7. Enter the result into the following formula :
   Virtual HP = (Value from step 6) * (-0.010613) - (Plate Size)
8. Enter the value into Loading System > Centering System > Centering Motor > Virtual H.P. APP Value.
9. Re-enter the original value into **Pos Factor =**(-0.010613) and then execute **Save → Send**.
10. Check a number of plate sizes, by performing centering, Verify that the value received in the Centering Motor window is correct. 10.Check a number of plate sizes, by performing centering.
11. Verify that the value received in the Centering Motor window is correct.

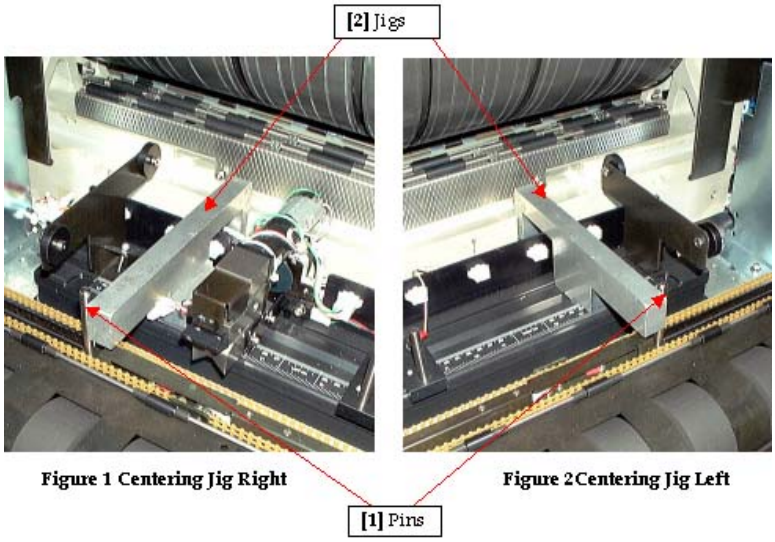


Figure 1 Centering Jig Right

Figure 2Centering Jig Left

1.3 Installation of a New Motor Connector for Bar and Punch System Assembly

Note: Only for machines where the punch harness bracket is split into three units

Required Tools

- Cutter
- Allen spanner 8, 10

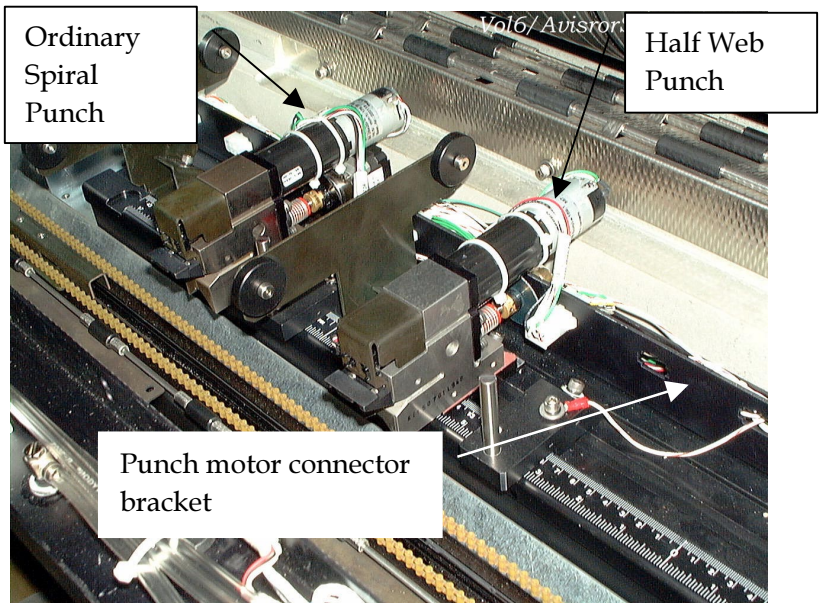
Required Parts

Part Description	Cat#
Punch wiring bar	298A9L587
10 cable clips	203A10030
2 short-circuit pin supports	507A2D057
2 earth cables	504L2D054
Mobile punch	507DL477
Stop screw	290A9L688

2 nuts	381A09000
2 washers	382A16000

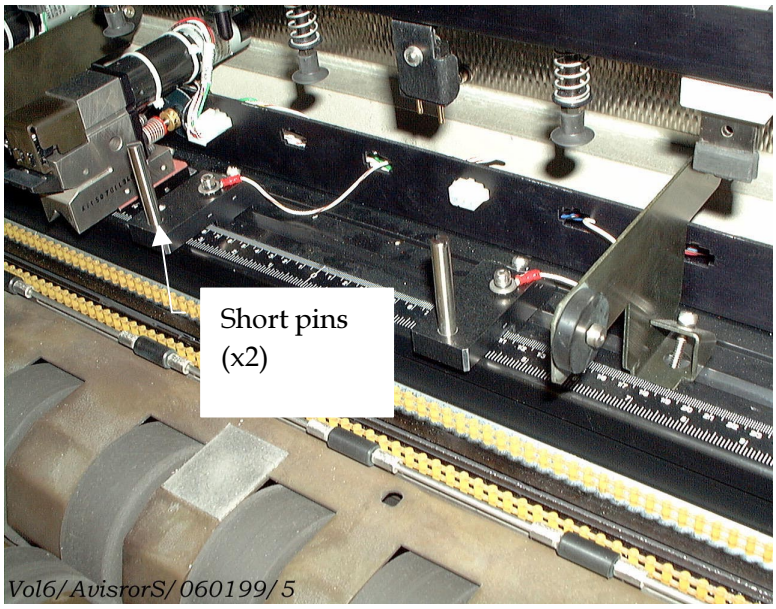
Installation Procedure

1. Remove the punch harness connectors only from their place in the long punch wiring bar.
2. Disconnect the earth cables from the short-circuit pins
3. Release the braid from the bar by disconnecting the clips.
4. Dismantle only the two central plate supports.
5. Dismantle two screws connecting the spiral stepper motor to the bar.
6. Dismantle spiral HP detector in order to slide stepper motor from the bracket.
7. Dismantle the long punch wiring bar only.
8. Reinstall the new punch wiring bar – 298A9L587 in its place.



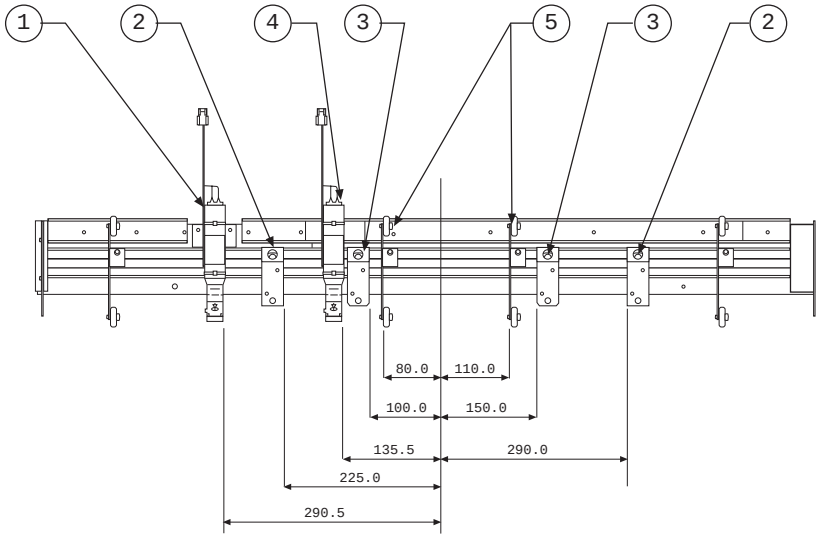
9. Rewire the punch braid in its place and tie it with 203A10030 wiring clips.

10. On the new punch wiring bar Install the stop screw – 290A9L688, nuts – 381A09000 and washers – 382A16000, according to the drawing.
11. Install the 2 new 507A2D057 short-circuit pin supports of the punch bar, locating it 9.5 cm to the right and left of the center of the bar.



12. Move an existing short-circuit pin support to a position 25 cm to the left of the center of the punch bar.
13. Install 2 plate supports, in such a way that the right support will be located at a distance of 18 cm from the center of the bar, and the left support will be located at 22 cm from the center.
14. Install the Mobile Punch at a distance of 151 cm from the center of the punch bar.
15. Connect the punch connector to the punch braid in connector No. 4.
16. Connect the earth cables to the existing short-circuit pins.
17. Install the 504L2D054 earth cables so that they will short on each side between the old shorting pins and the new ones.

1.3.1 Plate support Pins and Spiral Punches



#	Description	Quantity
1	Spiral Punch	1
2	Short Pin	2
3	Short Pins for Half Web	2
4	Spiral Punch Half Web	1
5	Plate Support rollers	2

1.4 Replacement of Head Spoilers

Required Tools

- Allen spanner 8
- Locktite 242
- Screw marking paint

Required Parts

- Head spoiler with a 3-mm diameter pin 507B2D056
- Head spoiler with a 4-mm diameter pin 507B2D055
- 2 medium-sized head spoilers 291B9L551



Installation Procedure

1. Dismantle the 4 central head spoilers.
2. Install a central head spoiler with a 3-mm diameter 507B2D056 pin in the center of the drum.
3. Install a central head spoiler with a 4-mm diameter 507B2D055 pin in the center of the drum.

4. Install the two new medium-size 2914B9L551 spoilers from both sides of the central spoilers.

   Attention:

   1. The pins in the central spoilers must be placed at the ends of the external spoilers.
   2. The screws must be coated with Locktite 242 prior to threading them.
   3. The spoilers must be installed while moving them towards the grippers.

1.5 Replacement of Lower Roller (Loading)

Required Tools

- Long nose pliers
- Small circlip pliers
- Allen spanner 10
- Allen spanner 5/64

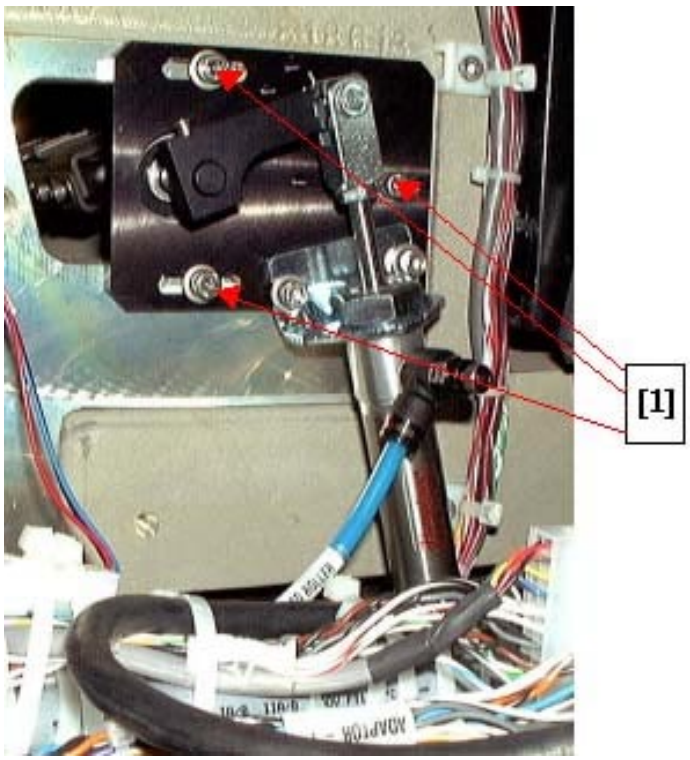
Required Parts

Part Description	Cat#
4 lock rings	363G12001
2 screws 3/8 * 8-32	380A05041
2 flat washers #8	382A10000
2 spring washers #8	382D11000
1 lower roller support	290B5L300
2 E-rings	363G18000
1 roll operating arm	290B5L753
2 roll pins	385T51220
22 springs	290A4L268
22 rollers	290F4L263
1 roller shaft	290B4L792

Installation Procedure

1. Dismantle the HP detector wiring from left side of the machine..
2. Dismantle the roller HP detector activator.
3. Dismantle the lock ring (small ring only) from the roller shaft.
4. Disconnect the air pressure tube from the operation piston.
5. Dismantle the operation piston from the roller.
6. Mark a location strip between the roller housing and the support structure..

7. Remove three #10 screws from the roller support.
8. Remove the old roller.
   Attention: Ensure that no cylinders or springs fall out during removal of the roller.
9. Insert new roller.
   Attention: Ensure that no cylinders or springs fall out during insertion of the roller.
10. Install the roller using #10 screws in the place where the old roller was dismantled.
11. Install the operation piston.
12. Connect the air pressure tube to the piston.
13. Install the 363G12001 shaft lock ring on the left side of the roller.
14. Install the HP detector activator.



1.6 Replacement of the Upper Roller

Required Tools

- Long nose pliers
- Large circlip pliers
- Allen spanner #10
- Allen spanner #5/64
- Allen spanner #8
- Allen spanner #1/4

Required Parts

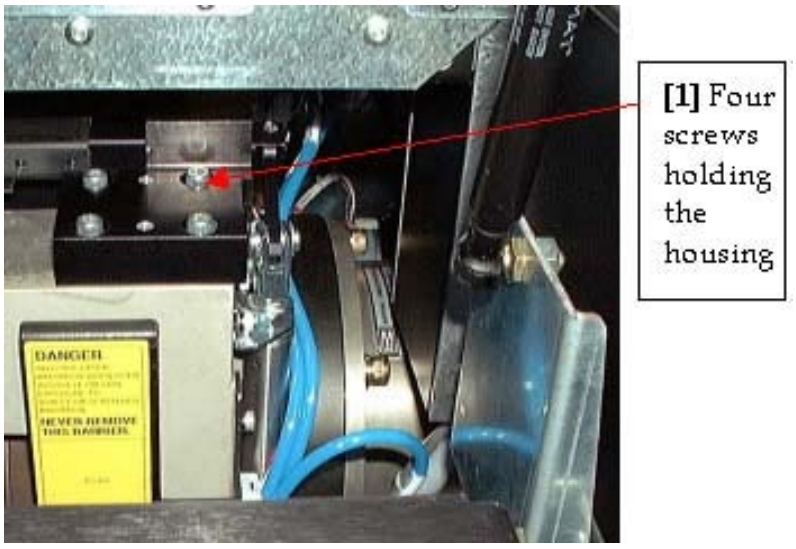
Part Description	Cat#
2 square shafts for the roller	290B4L792
2 bearings	358A13002
2 safety rings	363G12001
1 piston operating rod	290B5L302
4 screws 3/8 * 8-32	380A05041
1 roller	299A4L260
1 roll pin	385T51220
22 springs	290A4L268
22 rollers	290F4L263
4 spring washers #8	382D11000
4 flat washers #8	382A10000

Installation Procedure

1. Disconnect the air tubes from the piston of the gripper.
2. Disconnect the wiring of the gripper and roller detectors.
3. Remove safety pin + pin + washer from the roller operation piston.
4. Dismantle the eight ¼"-screws (4 on each side) connecting the roller base to the support structure and remove the roller and the gripper from the machine.

   Note: Use a hammer and larger screwdriver to assist in removing roller base.

5. Dismantle the flag marker.
6. Dismantle the four 3/8 * 8-32 screws connecting the roller rod to the cylinders.
7. Dismantle the large safety ring from the right and left bearing housing.
8. Withdraw the square shaft from the right + left roller, the shaft must come out with the bearing.
   Attention: The roller must be supported during dismantling.
9. Pick a new roller and remove its square shafts.
10. Insert a square shaft into the right hand roller, while the rod connected to the piston is horizontal with respect to the operation piston of the gripper.
11. Insert the roller rod while the lower springs are in a horizontal position.



12. Insert a square shaft in the right-hand roller.
13. Lock the bearings with the safety rings until the bottom slot.
14. Install four 3/8 * 8-32 set screws on the roller rod, on the opposite side to the gripper + spring + washer + Locktite 242.

15. Place a marker flag between the detectors' jaws, while it conceals only the horizontal detector with 2 set screws.
16. Replace the roller in the support structure, while the pins are inserted accordingly.
17. Lock the roller with ¼" screws + spring washer + Locktite 242.
18. Reconnect the air tubes + detector wiring.

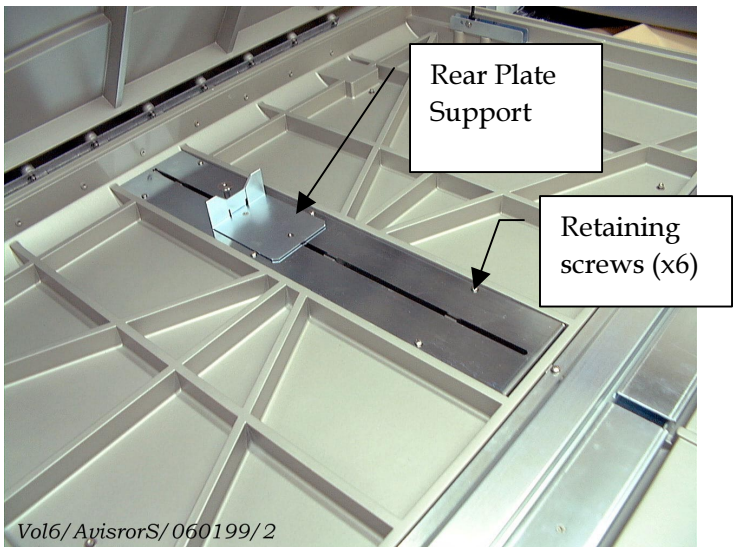
1.7 Replacement of Plates Centering System Brackets, in the Loading Cassette

Required Tools

- Phillips screwdriver
- Allen spanner 10

Required Parts

- Traverse centering system 507C1L729A
- 2 longitudinal centering systems 293A9L419 (assembly)



Installation Procedure

1. Empty the plates from the cassette.
2. Dismantle the traverse centering system (6 Phillips screws)
3. Dismantle the 2 longitudinal plate-centering systems.
4. Install the 507C1L729A traverse centering system.
5. Install the two 293A9L419 longitudinal centering systems.
6. Check for smooth movement of the centering systems that were installed.

1.8 Replacement of Plate Unloading System

Required Tools

- Allen spanner 10
- Allen spanner ¼

Required Parts

- A new 507F1L203 unloading system

Installation Procedure

1. Dismantle the upper rear cover.
2. Disconnect 3 connectors from the unloading system (detector, motor, interlock)
3. Install a new unloading system.
4. Close the upper rear door and verify smooth (mechanical) operation of the interlock.
5. Lock the system assembly screws.
6. Connect the 3 connectors that were disconnected.
7. Close the upper rear cover.

1.9 Replacement of Disposal Roller Housing

Required Tools

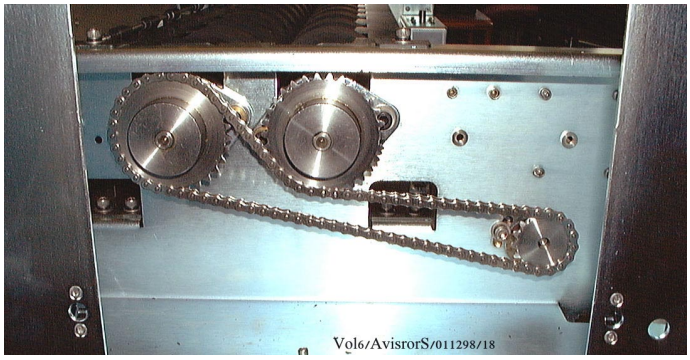
- Cutter
- Allen spanner 4, 8, 10, ¼, 5/64
- Small Phillips screwdriver

Required Parts

Part Description	Cat#
10 cable clips	203A10030
1 square Y	344D71100
2-meter blue pipe	344F10131
1 forked guide	299A5L420A
1 front plate support	507F4L049
2 air nozzles	290A5L671
2 angles for an air tube	344C70010
2 angular air nozzles	290A7L560
2 ¼-28 nuts	381A08001
2 connectors for an air tube	344C70030

Installation Procedure

1. Dismantle the covers above the paper-unloading doors.
2. Dismantle lower front cover (cassette insertion opening)
3. Dismantle the front plate support installed on the paper shredding system.
4. Disconnect the air-pressure tubing connected to the front part of the paper-disposal system.
5. Dismantle the conveying chain of the paper-disposal system by releasing the system operation motor.



6. Dismantle the gear from the front forked cylinder on the left side of the machine.
7. Dismantle the 2 bearings at the ends of the front cylinder.
8. Release 2 set screws on each side of the disposal pins
9. Dismantle the screws that fasten the disposal housing of the paper-disposal system.
10. Remove the disposal housing + front cylinder.
11. Dismantle 4 air vents from the disposal housing.
12. Remove the rubber cylinder from the disposal housing.
13. Insert the rubber cylinder into the new disposal housing. Place the roller above the disposal housing so that the protruding pieces will fit into the grooves. Apply slight pressure so that the roller is pplaced inside the disposal housing.
14. Install the air vents on the new disposal housing.

15. Insert the disposal housing + rubber cylinder in its place in the frame. Place the forked plate so that it is parallel to the rear disposal housing, and install the 6 screws that connect it to the frame.
16. Install the 2 bearings in the ends of the paper-disposal system cylinders.
17. Lock the screws that connect the system to the frame after checking the parallelism and centering of the rubber cylinders in the disposal housinges.
18. Install the geared cylinder on the left-hand side of the front cylinder.
19. Install the conveying chain between the gears and the operating motor, and stretch it by moving the motor.
20. Connect the air-pressure tubing to the air vents in the disposal housinge.
21. Install the new 507F4L049 front plate support
22. Install the lower front cover (cassette opening)
23. Install the covers on both sides of the machine, above the paper-unloading doors.

1.10 Changes in Registry

1. Switch on the Lotem.
2. Open the registry window and make the following changes:
   NEW LOCAL/DETECTORS/Plate on Unload Beside Drum Detector-Open = 1
   NEW LOCAL/SOLENOIDS/Small Plate Suction Valve-Open = 1
   PUNCH CARDS/ Punch Card/DETECTORS/Punch Motor HP Detector- open = 1
   /PUNCHES/Punch Motor #4-Open = 1

1.11 Electrical Tests and System Adjustments

1. Open the machine application.
2. Define the Punch system installed in the machine Hardware/Data Base/Punch.
3. Verify proper operation of the plate-unloading system + system detectors.
4. Verify correct and balanced operation of the paper-shredding system + paper detector.
5. Verify operation of the 2 punches assembled in a joint operation.
6. Verify operation of vacuum loading system + verify operation of 3 vacuum valves.
7. Verify correct operation of the lower loading roller.
8. Load various size plates, prepare the system for smooth loading and verify attachment to the pins on the drum.

1.12 Adjustment Procedure of Punch Loading with an additional Spiral for small plates

1. Verify first that the Spiral Punch assigned for a small plate is adjusted for a maximum hole size.
2. Perform the adjustment in accordance with the Spiral Punch procedure until a proper photo parallelism at a resolution of 100 is obtained.
3. The punch depth measurement obtained will be copied into the additional Spiral Punch.
4. Perform another large plate loading and verify that there is a 0.5-mm space between the pin and the hole assigned for the small plate, and the pin is centered in the hole
5. Take grid photographs on a large plate, and verify proper registration.
6. Take Unimax photographs on a large plate, and verify proper bonding.
7. Perform the loading of the small plate and check bonding; in the event of insufficient bond, add extra, or alternately move the spoiler.
8. As the spoiler is moved, recheck the loading of the large plate.
9. Take grid photographs on a small plate and verify good registration.
10. Take Unimax photographs on a small plate, and verify good bonding.
11. The Punch adjustment shall be performed in accordance with a given requirement, as the punches are moved in one axis on the right or left bar, and in the other axis the parallelism of the holes will be corrected by adding shims as necessary.
12. At Regedit open the small Plate Suction Value
13. Change parameter at: Load Plate/Min Plate - Height for operation will be value 520.