

Re-Installing LGR Firmware onto the LC-PAL

NOTE – to perform this procedure, you will need an available Windows-based PC with a serial port that can be utilized to flash firmware onto the CTC autoloader.

1.1. Install PAL Loader Software onto PC

- Locate the PAL System Software CD (typically located in the front of the PAL System user manual binder supplied with the autoloader).
- Place the CD into the available Windows-based PC, and install the “PAL Loader” program onto the PC.
- Place a copy of the file “092506.sss” (provided by LGR with this document) onto the PC.

1.2. Install LGR Firmware

- Turn Auto Loader ‘ON’. The switch is located on the back of the power supply.
- Wait until the arm goes home.
- Attach the Serial cable from the back of the auto loader to the back of the Windows-based PC. These are the commands to follow:
 - Double click – “PAL Loader” Icon on the PC
 - Click ‘update’
 - Click ‘browse’
 - Select ‘092506.SSS’ file from the location where you placed it on the PC, then click ‘Open’
 - Click ‘update’
 - Wait for ≈5 minutes while the firmware loads. When the message, “Update of target memory succeeded” comes, loading was successful.
 - Click ‘close’
 - Click ‘Start Pal’ – this command will activate the auto loader.
 - Click ‘Exit’
- Remove Serial cable from computer. Leave cable unattached.

1.3. Install Septum

- Get one septum and a centering needle.
- Unscrew the injection port from the septum arm.
- Slide centering needle thru the septum nut.
- Slide septum onto the needle with teflon facing downward.
- Screw the septum nut onto the injection port, and tighten by hand.
- Plunge the centering needle a few times.
- Remove centering needle.

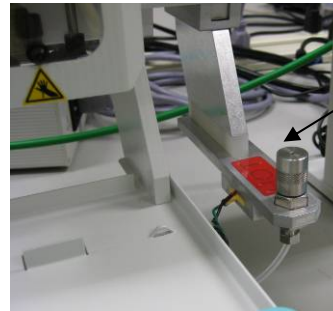


NOTE – For the following steps, make sure there is NO syringe installed in the autoloader!

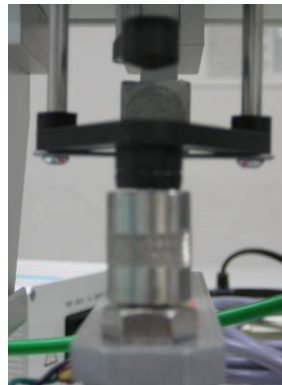
1.4. Locate Septum Inject Point

Use the keypad on the auto loader for the following commands. Note - ‘Enter’ is located on the center point of the dial.

1. Press F1 – (Menu)
2. Select Setup – press F3 – press Enter
3. Select Objects – press F3 – press Enter
4. Select Injectors – press Enter
5. Select LC Vlv1 – press Enter
6. Press F1 – (Check Pos)
7. Use the keypad controls to perfectly center (x,y) the injector onto the septum port.
8. Adjust the z-axis to be 1 “click” above contact with the septum port.
9. On the same menu, scroll down to Needle Penetration
 - a. For v1: set to 24
 - b. For v2: set to 17
10. Press F4 –(Home)



Septum Inject Point



1.5. Locate Tray Holder reference position

Use the keypad on the auto loader only for these commands

1. Remove tray #4.
2. Press F1 – (Menu)
3. Select Setup – Press F3 – Press Enter
4. Select Objects – Press F3 – Press Enter
5. Select Tray Holders – Press Enter
6. Select THldr1 –Press Enter
7. Press F2 to clear Z position.
8. Press F1 – (Check Pos)
9. Using the keypad, center the arm (x,y) on the hole in tray holder and to be flush (z) with the bottom of the tray holder.
10. Adjust (x,y,z) as necessary using keypad
11. Press F4 –(Home)



Tray Holder Reference Position

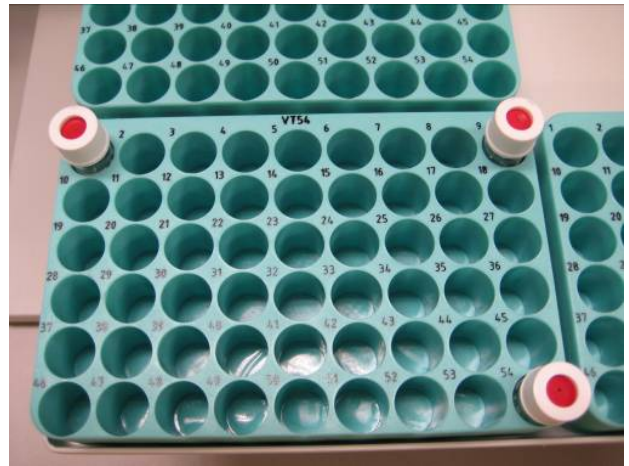
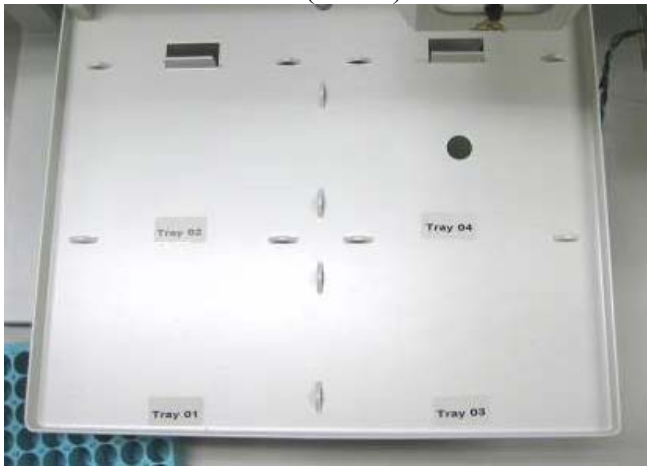
1.6. Locate the 4 Trays

Get 3 vials and place them in positions 1, 9, and 54 of each tray.

Use the keypad on the Auto Loader only for these commands

1. Insert 3 vials into positions 1, 9, and 54 of tray #1.

2. Press F1 – (Menu)
3. Select Setup – Press F3 – Press Enter
4. Select Objects – Press F3 – Press Enter
5. Select Trays – Press Enter
6. Select Tray 01 –Press Enter
7. F1 – (Check Pos) Use the keypad to center the injector on the vials. Note - the position can only be changed when the injector is in position 1, but you need to check the centering on vials 1,9, and 54 and adjust for best centering on all three locations.
8. When complete, Press ESC
9. Select Tray02 –Press Enter
10. Repeat above procedures for each tray.
11. Press F4- (Home)



1.7. Setting Over Injection

Use the keypad on the Auto Loader only for these commands

1. Press F1 – (Menu)
2. Select Setup – Press F3 – Press Enter
3. Select Objects – Press F3 – Press Enter
4. Select Syringes – Press Enter
5. Select 1.2uL – Press Enter
6. Select Syringe ID – Press Enter
7. Set Syringe ID to 12 – Press Enter
8. Select Overfill – Press Enter
9. Set to 10% - Press Enter
10. Press F4 –(Home)

1.8. Setting Change Syringe Position

Use the keypad on the Auto Loader only for these commands

1. Press F1 – (Menu)
2. Select Setup – Press F3 – Press Enter
3. Select Objects – Press F3 – Press Enter
4. Select Positions – Press Enter
5. Select Chg Syr –Press Enter
6. Press F1 – (Check Pos)

7. Adjust x-axis as necessary using keypad. Default y and z should be fine.
8. Press F4 –(Home)

