

Roman Pot Operations for Shift Crew

As soon as the first run is started CALL MCR (X4662) for permission to operate the RPs. If Roman Pots are moved without the permission it will cause BEAM DUMP.

On the right monitor on the top shelf you should see the Roman Pot operations window.

Before you get the permission from MCR you should see the red fields.

After you get permission by MCR calling back you will see green fields (See the next page.)

4/6/15

The screenshot displays two side-by-side control windows for Roman Pots. The left window, titled "Roman Pot (on acclin21)", shows a "Blue Ring" status. The right window shows a "Yellow Ring" status. Both windows feature a table of parameters and a "Permit Status" row. Red arrows point to the "Permit Status" row in both tables, which shows "enable" for all pots. Below the tables are graphical representations of the pots and their diatron levels over time.

	W1U	W1D	W2U	W2D
Which Pot to Move?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Insert Target Position (mm):	40.0	-40.0	40.0	-40.0
Insert Target Position (step):	384860	385350	386838	385858
Current Position (step):	0	0	0	0
LVDT position (mm):	88.913	-88.917	88.916	-88.789
Fast Moving Fraction:	0.9	0.9	0.9	0.9
Nudge Step Size (steps):	200	200	250	230
Cur Motor Speed (steps/seo):	4000	4000	4000	4000
Enable Motion Control:	off	off	off	off
At Limit:	Retracted	Retracted	Retracted	Retracted
Motor Speed V0 (steps/seo):	5000	5000	5000	5000
Motor Speed Vc (steps/seo):	4000	4000	4000	4000
Single Rate Limit:	200000	200000	200000	200000
Single Rate PMT1:	1	1	1	1
Single Rate PMT2:	1	1	1	1
Permit Status:	enable	enable	enable	enable

	E1U	E1D	E2U	E2D
Which Pot to Move?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Insert Target Position (mm):	40.0	-40.0	40.0	-40.0
Insert Target Position (step):	393463	386600	385735	390027
Current Position (step):	0	0	0	0
LVDT position (mm):	89.700	-88.969	88.890	-89.204
Fast Moving Fraction:	1.0	0.9	0.9	0.9
Nudge Step Size (steps):	200	203	200	200
Cur Motor Speed (steps/seo):	5000	5000	5000	5000
Enable Motion Control:	off	off	off	off
At Limit:	Retracted	Retracted	Retracted	Retracted
Motor Speed V0 (steps/seo):	5000	5000	5000	5000
Motor Speed Vc (steps/seo):	4000	4000	4000	4000
Single Rate Limit:	200000	200000	200000	200000
Single Rate PMT1:	1	1	1	1
Single Rate PMT2:	1	1	1	1
Permit Status:	enable	enable	enable	enable

Roman Pot Operations for Shift Crew

If you don't see the green lines you need kill Roman Pot process on the acnlin21 terminal window on the left monitor (see the last page) and restart the Roman Pot GUI.

There are several lines which show the status of the Roman Pots. Familiarize yourself with those lines.

The pictures in the middle of the ops window show position of the Roman Pots with respect to the beam center, for informational purposes only.

The screenshot displays the Roman Pot GUI with the following components:

- Control Panels:** Buttons for 'Insert', 'Home', 'Stop', 'Nudge In', and 'Nudge Out' are present for each pot.
- Status Indicators:** 'Blue Ring' for W1 and W2, and 'Yellow Ring' for E1 and E2.
- Position Tables:**

	W1U	W1D	W2U	W2D
Which Pot to Move?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Insert Target Position (mm):	40.0	-40.0	40.0	-40.0
Insert Target Position (step):	384860	385350	386838	385858
Current Position (step):	384860	385350	386838	385858
LVDT position (mm):	39.995	-39.978	40.044	-39.892
Fast Moving Fraction:	0.9	0.9	0.9	0.9
Nudge Step Size (steps):	200	200	250	230
Cur Motor Speed (steps/sec):	4000	4000	4000	4000
Enable Motion Control:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
At Limit:	No	No	No	No
Motor Speed Vo (steps/sec):	5000	5000	5000	5000
Motor Speed Vc (steps/sec):	4000	4000	4000	4000
Single Rate Limit:	200000	200000	200000	200000
Single Rate PMT1:	38	36	26	92
Single Rate PMT2:	48	32	129	116
Permit Status:	disable	disable	disable	disable

	E1U	E1D	E2U	E2D
Which Pot to Move?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Insert Target Position (mm):	40.0	-40.0	40.0	-40.0
Insert Target Position (step):	393463	386600	385735	390027
Current Position (step):	393463	386600	385735	390027
LVDT position (mm):	39.851	-40.022	39.911	-39.466
Fast Moving Fraction:	1.0	0.9	0.9	0.9
Nudge Step Size (steps):	200	203	200	200
Cur Motor Speed (steps/sec):	5000	4000	4000	4000
Enable Motion Control:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
At Limit:	No	No	No	No
Motor Speed Vo (steps/sec):	5000	5000	5000	5000
Motor Speed Vc (steps/sec):	4000	4000	4000	4000
Single Rate Limit:	200000	200000	200000	200000
Single Rate PMT1:	55	92	253	91
Single Rate PMT2:	36	88	47	52
Permit Status:	disable	disable	disable	disable
- Position Diagrams:** Schematic drawings of the pots W1, W2, E1, and E2 showing their relative positions to the beam center.
- Graphs:** Plots of 'diation level [mrk]' vs 'time of day' for W1, W2, E1, and E2, showing data points for 'calcMan.NMC.b-7w-H:resultantValueM' and 'calcMan.NMC.b-7w-V:resultantValueM'.
- Log Window:** A scrollable log showing system messages such as 'Stopped one roman pot: SLOW' and 'Insert done!'.

Green arrows on the right side of the screenshot point to the 'LVDT' label and the corresponding data rows in the position tables.

4/6/15

Roman Pot Operations for Shift Crew

After getting the permission from MCR and seeing the fields turn green, in the top line type the desired distance for the roman pots to go to. The numbers are Positive for the upper Roman Pots and negative for the down Roman Pots. The sign matters and must be typed in.

At all times during the insertion watch rates shown on the screen next to the control screens. The should not increase rapidly, only smoothly while insertion is in progress.

Insertion is done in few steps:

1. Check the box under each RP label so that it is included that RP in the motion. Normally all four boxes need to be checked.
2. Go to 50 and -50 (mm), by typing 50 and -50 in the second line from the top to assure all is working OK and no RP runs out of control.
3. Hit the **Insert** button. Watch the rates and LVDT position line fifth line from the top.
4. **Wait until 30 mins from when Physics was declared to proceed with insertion of Roman Pots.**
5. **For each of the next steps the singles rates should stay below 300-350kHz range. If they are higher and you need to move further call expert.**
6. Move the Roman Pots in three steps and observe the rates making sure that they do not increase rapidly:
 - **Go to 35 (-35) mm, type in the numbers and hit the Insert Button. Check the LVDT reading after Roman Pots reach their position, it should be within 0.2 mm of the requested position.**
 - **Go to 32 (-32) mm.**
 - **Go to 25 and -25 (mm) for all Roman Pots.**
7. When ready ask the shift leader stop the current run and to include pp in the next run.

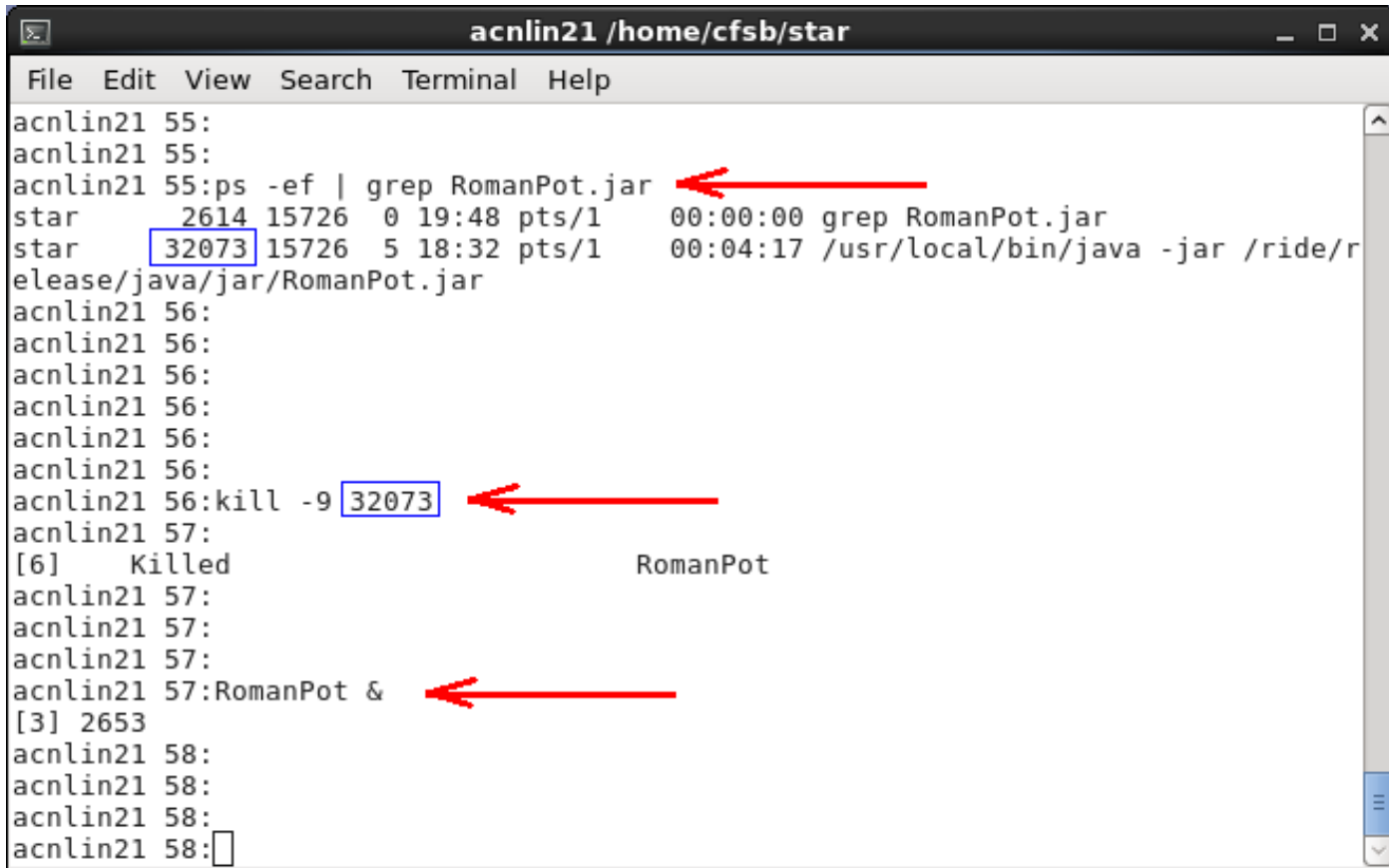
Stop movement by clicking **STOP** button if you see sustained rate spike.

If for any reason you need to take Roman Pots to the Home position click the **Home** button

Call Wlodek Guryn 561 504 9817 if you have questions

Killing and Restating Roman Pot Process

Execute the following commands



```
acnlin21 /home/cfsb/star
File Edit View Search Terminal Help
acnlin21 55:
acnlin21 55:
acnlin21 55:ps -ef | grep RomanPot.jar
star      2614 15726  0 19:48 pts/1    00:00:00 grep RomanPot.jar
star      32073 15726  5 18:32 pts/1    00:04:17 /usr/local/bin/java -jar /ride/r
elease/java/jar/RomanPot.jar
acnlin21 56:
acnlin21 56:
acnlin21 56:
acnlin21 56:
acnlin21 56:
acnlin21 56:
acnlin21 56:kill -9 32073
acnlin21 57:
[6]      Killed                RomanPot
acnlin21 57:
acnlin21 57:
acnlin21 57:
acnlin21 57:RomanPot &
[3] 2653
acnlin21 58:
acnlin21 58:
acnlin21 58:
acnlin21 58:□
```

The terminal window shows the following sequence of events:

- The user runs `ps -ef | grep RomanPot.jar` to find the process ID 32073.
- The user runs `kill -9 32073` to terminate the process.
- The terminal displays `[6] Killed RomanPot`.
- The user runs `RomanPot &` to restart the process in the background.
- The terminal displays `[3] 2653`.

Sample plot of singles rate changes during Roman Pot insertion

