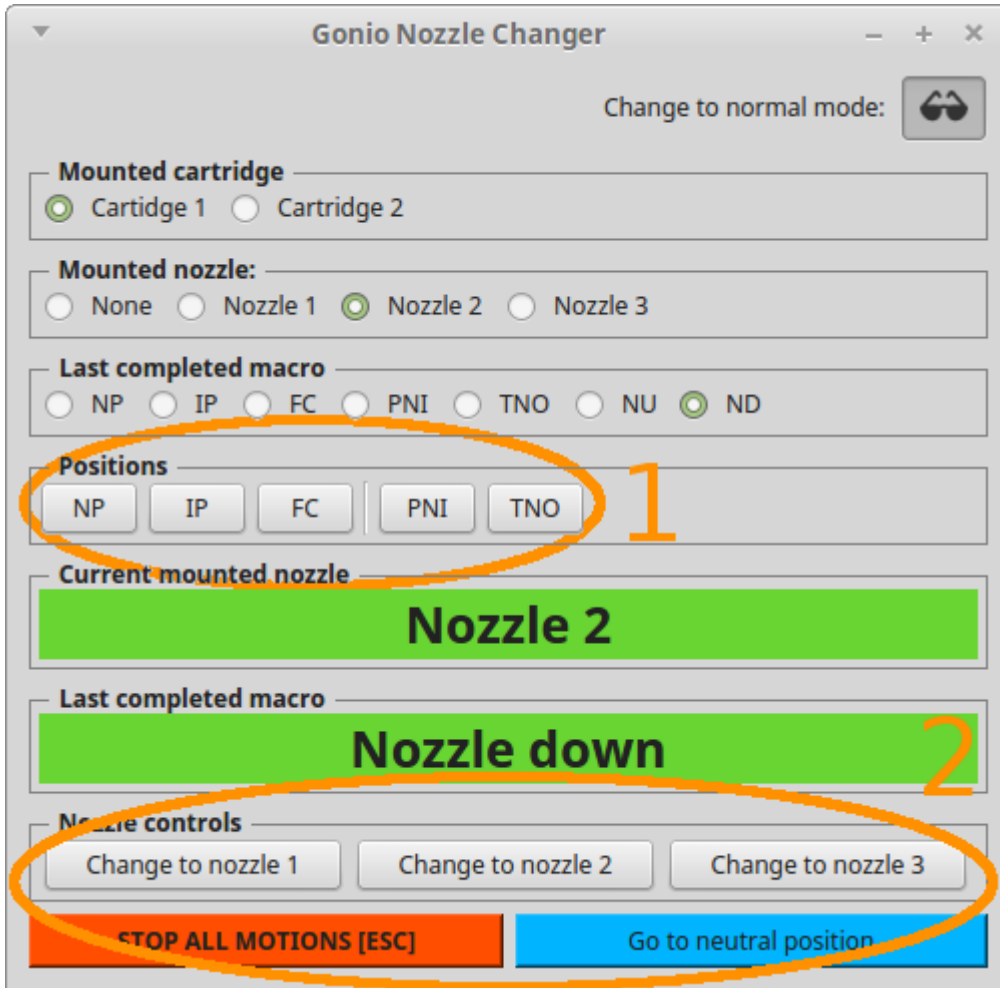


Nozzle exchange



Mounted cartridge:

Don't change this value. We are using only one cartridge now.

Mounted nozzle:

Tells software what nozzle is currently on Smaragon claws. Change this value only after visual check in the chamber!

Last completed macro:

Tells software what was last successful position. Change only when you were using macros from macro window (**you don't want to do it**) and want to match Smaragon to the same position.

Positions (orange group 1):

Use these buttons only if you run into some problems. For example if you hit something, stop execution in middle of macro, or any other error state. **Safe way to handle any error is to drive back to neutral position (NP). Using position buttons does not change cartridge position at all !!**

Nozzle controls (orange group 2):

Use these buttons if everything is working as expected. These buttons triggers series of macros including cartridge handling and exchange logic. **Always stay in Normal mode when things are working 🤖.**

Always hit escape button or Stop all motions when you are unsure what is going on.

How nozzle exchange works (change to nozzle X):

- starting from Neutral Position without mounted nozzle (NP):
 - go in front of cartridge (FC)
 - move cartridge to desired nozzle position

- take nozzle out (TNO)
- go to NP
- got to interaction point (IP)
- **starting with nozzle in IP**
 - move nozzle up (NU)
 - go to NP
 - go to FC
 - move cartridge to empty nozzle space
 - put nozzle in (PNI)
 - go to FC
 - move cartridge to new nozzle position
 - TNO
 - go to NP
 - go to IP
- **Go to neutral position (end with no nozzle on claws)**
 - go to NP if nozzle is mounted
 - go to FC
 - move cartridge to empty nozzle space
 - put nozzle in (PNI)
 - go to NP