TODO: Continue to Develop the Lower-Level Diagrams and Establish Navigation Links between the related diagrams

Install Nozzle

Manage nozzle

<<Include>>

Manage Printer Configuration

<<Include>>

<<Extend>>

Automatic Safety Shut-Down

<<Include>>

Emergency Stop Button Pressed

Remove Nozzle

<<Include>>

<<Include>>

<<Extend>>

<<Include>>

Detect Heater Failure

Clean Nozzle

<<Include>>

<<Include>>

Calibrate Printer

<<Include>>

Manage Pre-Sets

<<Include>>

Automatic Interventions NOT Safety-Related

<<Include>>

<<Extend>>

<<Extend>>

Manage Axes

<<Include>>

Detect Too Cold to Extrude

Detect Filament Runout

Manage Heaters

<<Extend>>

<<Include>>

Manage Bed Mesh

<<Extend>>

<<Include>>

<<Include>>

<<Include>>

Prepare to Print

<<Include>>

<<Extend>>

<<Extend>>

Manage Filament

Manage Axes

One perspective on Calibrating Z Offset is that this process establishes exactly where is the Z=0 Soft Endstop, which supports the "Manage Axes" workflow.

<<Extend>>

Another perspective is that it forms one part of the "Calibrate Printer" workflow

Calibrate Z Offset

<<Include>>

Calibrate Printer

<<Include>>

<<Include>>

Start Calibrate Z Probe

TestZ

ACCEPT

<<Include>>

Klipper and KlipperScreen both provide controls for this function. It has to be performed at the printer & should be supported by this interface.

<<Include>>

<<Include>>

<<Include>>

ABORT

Set Z Movement Value

Command Z movement

Ideally, all of these controls should be on one dedicated "Calibrate Z Offset" screen, together with any other (TBD) controls needed to perform the calibration.

One might navigate *to* this screen from more than one higher-level menu, based on Workflow.

TBD Screen(s)

Prepare to Print

Manage Filament

<<Include>>

<<Extend>>

Manage Filament Runout

<<Include>>

<<Include>>

Unload Filament

Load Filament

<<Include>>

<<Include>>

<<Include>>

<<Include>>

Retract Filament

Manage Nozzle Temperature

Extrude Filament

<<Extend>>

<<Extend>>

<<Extend>>

<<Extend>>

Set Feed Amount

Set FeedRate

Extruder Screen

Manage Axes

Home Axis
(Just X or Y)

<<Include>>

Park Head

<<Include>>

<<Include>> <<Include>>

<<Include>>

"Safe-Home"
X,Y + Z

<<Include>>

Move Axis
(X,Y,Z)

Disable
Steppers

<<Include>>

Go To User-Defined
"Position 1"

Go To User-Defined
"Position 2"

<<Include>>

<<Include>>

<<Include>>

Set Move
speed

Set Move
Acceleration

<<Include>>

Set Move
distance

Define
Position

<<Include>>

{MAX VEL}

{MAX ACCEL}

{EndStops, E-Steps}

Positions 1 & 2 are currently
defined in macros.cfg file. Might be
useful to allow user to "program" a
position by navigating the head to a
position in X,Y,Z and "save" that
position as a preset to override a
programmed default.

Impose
constraints

<<Include>>

Set Hardware
constraints

<<Include>>

"Constraints" = limit switches, acceleration
limits, Motor currents (UART), etc..

e.g.: CF6.1 UI supports UART settings for
Drivers on BTT board.

Set Firmware
Constraints

Calibrate
Printer

<<Include>>

Axes
Scree
n

NOTE: Hard to connect Axes screen Actor
to this diagram, without creating "clutter"

Available controls are highlighted in this
colour of background, instead.
-

Prepare to Print

<<Include>>

Manage Bed Mesh

Klipper auto-loads the applicable Bed Mesh Profile, according to the Start_Print macro settings.

<<Extend>>

<<Extend>>

Manage Bed Temperature

<<Include>>

Select Bed Mesh Profile, by name

<<Extend>>

Calibrate Bed Mesh

<<Include>>

Manage Nozzle Temperature

If MACROS could be run from the UI, the user could choose which profile to load, or save at run-time.

<<Include>>

Run G29 (ABL)

<<Include>>

DWIN display graphics capability may not support this well enough to draw a 3D graph, but could present 2D mesh, similar to CF6.1 "View Mesh"?

<<Include>>

View Height Profiles

Manage Filament

<<Extend>>

Manage Filament Runout

<<Include>>

<<Include>>

<<Include>>

Pause Print On RunOut (M600)

Monitor RunOut Sensor

Manage RunOut Sensor

<<Include>>

<<Include>>

Activate RunOut Sensor

De-Activate RunOut Sensor

TBD Screen(s)