## Assembly checks

* tripod is secure, level and facing North.
* mount is securely attached to the tripod
* clean lenses and filters
* filters fitted in correct slots
* light pollution filter in place
* guide camera is secure
* guide scope secure
* imaging 'scope secure
* imaging camera secure
* filter wheel is secure
* balance the rig
* align finder scope if fitted.

## Cabling - label all cables when assembling

* Guide camera connected
* Imaging camera connected
* power to mount
* Focus controller for guide scope connected USB
* power to guide camera
* Focus controller for imaging scope connected to USB
* power to imaging camera
* rebalance the rig

## Power- label all cables when assembling

* Guide camera connected
* Imaging camera connected
* focus controller for guide scope connected
* focus controller for imaging scope connected to USB
* power to guide camera
* power to imaging camera if required
* turn each item on one at a time
* confirm date, time and time zone relative to GMT
* check current location on the mount is correct

## Computer hardware

* Power on the computer and check that OS is upto date
* do NOT start to update any applications, ASCOM drivers etc. at this stage. You do that during the day
* check power saving will not shut down your PC
* check OS driver for image camera driver is loaded
* check OS driver for guide image camera driver is loaded
* 'scope control driver loaded; use to slew in DEC and RA then return to home/park position

## Computer software

* check OS updates are not scheduled to occur during your imaging session
* plate solving software is working
* plate solving software has correct observing location, date and time
* plate solving software parameters include the correct imaging 'scope and/or camera details
* plate solving software reference files cover the correct range of files of view
* rack guidescope in an out using focus software; this is a good time to check focus of the guide scope.
* rack imaging scope in an out using focus software; again, a good time to check focus is about correct.
* guiding software has correct location
* guiding software has correct time
* stellarium software has correct location
* stellarium has correct time and GMT offset.

## Implementations stages.

* Power packs put on charge for a final top up  (I am assuming you can charge these whilst they are in use)
* Perform polar alignment for your mount.
* repeat above stage to refine this.
* set the home position for your mount
* Using image capture software focus tool - ensure you have reasonable focus
* Using guiding software focus tool - ensure you have reasonable focus (most app prefer slight off focus).
* perform 2 star alignment for your mount - this will give you a decent map for your goto using 'scope hand controller (I actually plate solve the target stars to get my alignments nice and tight)
* perform 3 star alignment if you plan longer exposures (to correct cone error)
* check routing of all of your cables
* select a target using your stellarium application - and use your plate resolution application to refine your slew to that target. **Watch your cables as this point.**
* refine image focus again
* optional: recheck balance - changing focus on the 'scopes can shift balance slightly.

## Start session

nope, not yet

* dust covers/lens caps - you will have removed these in earlier stages, and probably put them back on. Remove the imaging/guide cameras/'scope lens covers.
* focus masks should be removed and stored
* double check for cable snagging
* polarscope/Starsense/polemaster covers can be put back in place
* check your planned targets and total duration for that target to ensure you are not going past meridian; not all applications will do the meridian flip for you.

## Start session

yep, you are ready to go.

Before you settle down,

* set an alarm to awaken you at major points the session, meridian flips, filter changes if manual, estimated time to 60% of battery capacity.
* an alert if temperature changes dramatically - 5C perhaps.