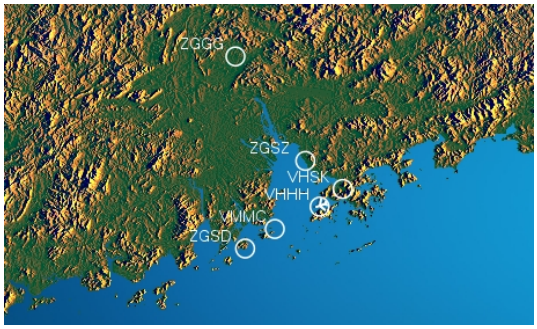
Summarised list of actions when creating a new Situation file

It has been suggested that many people would like a version of the summarised list in Part 2 of "Getting to know PSX" that is easier to print out (which I take to mean — without the dubious benefit of my additional comments). So here it is. ☺

In PSX:

1	Collect together all you need for the trip (charts, QRH, Hardy's manual, Operational Flight Plan (OFP), Take-off and Landing Report (TLR), etc.), and check that your `.route` file is available in the Aerowinx\Routes directory.
2	Start PSX, as well as any ancillary programs you may need (AdaptPSX, TrafficPSX, PSXearth, etc.)
3	In the PSX Instructor Station select Situation | Load.
4	Load a situation appropriate for the state of the aircraft as you want to find it. [1]
5	Model | Load — load your desired model, and, if needed, view the details on the next three tabs to refresh your memory concerning the configuration. [2]
6	Situation | Time and set the daytime and season sliders (or press the "Copy real world UTC" button).
7	Situation | Position and move the map centre, and the aircraft, to your desired starting point.  You may also wish to set the Map's terrain type and initial zoom level, especially if you are going to take a peep at your progress on the moving map as the flight progresses.
8	Situation | Service: a) set the external supplies, and the doors, appropriately — i.e. to suit the starting point of your scenario. b) for long cold (e.g. trans-polar) trips, set the fuel type appropriately c) type the RELEASE fuel figure from the release page of your OFP into the "Total fuel qty" box d) type the ZERO FUEL WEIGHT figure from the release page of your OFP into the "Zero fuel weight" box (Check that the kg/lb units are aligned in both cases, naturally).
9	Situation |Weather | Planet (this is assuming that you are opting for the weather in your OFP) [3]: ensure that the "Set zones" checkbox (lower left) has (for the moment) **no** tick in it.
10	Situation | Human | Pilot: ensure that the "Makes call-outs", "Performs silent tasks", and "Sets S/C alt if VNAV PTH engaged" checkboxes are configured as you would like them to be.
11	Situation | Human | Dispatcher: find your route file in the list and make sure that when it is selected the "Requires route uplink" box remains clear (which it will do, if you appended an underscore to the route name as suggested above). Alternatively, if you wish to practice requesting the route from the cockpit and subsequently downloading it, check the box to remove the underscore.

[1] Typically, one of the following: Basic 000 (Cold and dark cockpit.situ), Basic 001 (On ground and IRS aligned.situ), Basic 002 (On ground and doors closing.situ), Basic 003 (On ground and cleared for engine start.situ), or perhaps if you're already on the runway (!!) Basic 004 (Cleared for take-off.situ).

[2] Originally, I had this activity further down the list, but Hardy pointed out that it needs to be done prior to entering the weight values, so it now occurs here.

[3] (Obviously, the opposite applies if you want to ignore the weather in your OFP and use today's weather).

12	Review the remaining Situation | Human sub-tabs to ensure they are all configured appropriately.
13	Set up the various tabs on the Situation | Malfunctions tabs to generate the frequency and severity of malfunctions that you feel you can handle. ☺
14	Analysis | Airport: click on the "Show nearest airport" button and review the information presented, note *inter alia* the TA, frequency information, and runway information.
15	Layout | Load: load your preferred 9pack, if not already in use.
16	Preferences | Basics: check all settings, but especially that the "Allow METAR files download from Internet" box is checked (if you need it).

In the cockpit:

17	Note and action any EICAS messages; also check and clear any in the CDU scratchpad.
18	Press the INIT REF button, then LSK 6L, then LSK 1L to get to the IDENT page.
19	Click LSK 3R and then LSK 2R: this will clear the previous information from the FMC [4]. Use the CLR button to clear any messages which appear in the scratchpad following this process.
20	If needed, switch the FD switch off and on again to clear MCP settings.
21	If the IRSs are already aligned, you can press the RTE key to go directly to the RTE 1 page and then skip directly to step 22. Otherwise — a) Press LSK 6R to get to the position initialization page b) Type your current airport ICAO code into the scratchpad c) Press LSK 2L to upselect it to the REF AIRPORT line d) Then press LSK 6R to get to the RTE 1 page.
22	Type the ICAO code for your departure airport into the scratchpad, and press LSK 1L to upselect it to ORIGIN. (Ignore the RUNWAY prompt which appears — this is not the place to enter it).
23	Type the ICAO code for your destination airport into the scratchpad, and press LSK 1R to upselect it to DESTination.
24	Type the flight number (from your OFP) into the scratchpad, and upselect it to LSK 2R.
25	Type the name of your saved route into the scratchpad, not forgetting the two-digit numeric suffix (but not including any appended underscore), and upload it to the Company Route prompt at LSK 3R.
26	Click the LEGS button and verify that your route has loaded properly.
27	If no SID is present, click the DEP ARR button and then LSK 1L to view the SIDs for your departure airport. Click the right LSK adjacent to your departure runway (at large airports you may need to use the NEXT PAGE button to see them all): it will then appear as <SEL>ected, and the list of SIDs will be trimmed to include only those valid for that runway.
28	Click the left LSK adjacent to your chosen SID (again, use the NEXT PAGE button, if required).
29	If there are applicable TRANSitions, select the correct one in the same way. (TRANS NONE means exactly that, so move straight on to step 30).
30	If your trip is short enough for you to be able to make an educated guess at the runway and STAR that will be in use when you arrive, you could enter it now, by pressing DEP ARR and LSK 2R, and then using the same technique. But you will have plenty of time to do this in the cruise as you get near to your TOD, so why not wait until then?
31	Press the LEGS button and scan through your route (using NEXT PAGE to see it all). You may find it necessary to heal any DISCOntinuities present, or perhaps simply make a note of them and defer doing so until the next step. Whilst looking through, also note any speed and altitude constraints that appear in large letters on the right and check them against the current charts, amending them if necessary, or inserting or deleting any that have changed.
32	Switch to a PSX layout where you can see these three items all on the same flightdeck frame: • the Navigation Display (ND) • the EFIS panel to the left of the Mode Control Panel (MCP) • the Captain's CDU

[4] If the "Select valid FMC nav database" wasn't checked, the virtual engineer won't automatically reselect the current database for you, so you will have to revert to the previous situation yourself.

33	Turn the left-hand of the two lower knobs on the EFIS panel from MAP to PLaN, and reset the range knob to the right to 20 nm. Click the LEGS key again to return to the top of the list of waypoints.
34	Click the STEP > prompt at LSK 6R to step through your route whilst also watching the ND as you do so. Look for any unexpected deviations to your path as shown on the ND, or unusually large distances between waypoints on the CDU: investigate and make any required changes.
35	When you're absolutely sure that this is the route you want the aircraft to follow, return the EFIS selector knob back to MAP, and the range knob to whatever you like to use for take-off — perhaps 10nm.
36	Press the LEGS key again to return to the start of your route, and then press LSK 6R to Activate it, and the EXECute key to confirm. (You will notice that the line on the ND now becomes magenta in colour, and the headings on the Route and Legs pages now read **ACT**ive RTE 1).
37	Press INIT REF and then LSK 6L for the index page: now select PERFormance (LSK 3L).
38	Enter into the scratchpad your cost index [5] and upselect it to LSK 5L.
39	Enter into the scratchpad your initial cruise altitude (shown on your PFPX OFP immediately below Cost Index as "INITial ALT", since during a long cruise as you become lighter you may be able to step climb) and upselect it to LSK 1R.
40	Check the calculated Reserve figure from your OFP, convert as to tonnes as required (my 4,909 kg thus becomes 4.9), enter it into the scratchpad and upselect it to LSK 4L. [6]
41	Whilst on that page, sanity-check the displayed Gross Weight, Fuel, and ZFW figures).
42	Press the VNAV key and then enter the Transition Altitude (from the latest charts, or failing that from the PSX Analysis | Airport page) into the scratchpad, and then upselect it to LSK 3R.
43	Press the INIT REF key followed by LSK 6L and LSK 4L to reach the THRUST LIMits page. We're now firmly in TOPCAT territory, so consult your TLR for the figures to use.
44	Depending on the options you selected for TOPCAT, it should have given you the figures for a reduced thrust and/or an assumed temperature take-off. I usually opt for an assumed temperature take-off to be kind to my engines, so I typed TOPCAT's suggested temperature into the scratchpad and upselected it to LSK 1L.
45	Press LSK 6R to get to the TAKEOFF page.
46	Check the take-off flap setting at LSK 1L with the one planned by TOPCAT, and if necessary type the setting to be used into the scratchpad and upselect it to 1L. Also check the all-engine flap retraction acceleration height (following the slash) and amend if required.
47	Similarly, check (and if necessary, amend) the engine out acceleration height at LSK 2L.
48	At LSK 3L check (and if necessary, amend) the altitude or flap setting at which the thrust limit will be reduced from take-off to climb. [7]
49	At LSK 5L check (and if necessary, amend) the runway condition, which defaults to dry. If wet, type W into the scratchpad and upselect it.
50	Confirm the FMC-calculated V-speeds by pressing LSKs 1R, 2R, and 3R.
51	If you included a Weight and Balance System in the options for your model of 744, then the CG computed by the system will be shown in small font adjacent to LSK 4R.
52	If you are starting your take-off run from a position significantly different from the landing threshold, enter the runway position shift value here — the number of hundreds of feet difference. (Relative to the landing threshold, you need to enter a positive number if a shorter runway is available, or a negative number if a longer runway is available). [8]

[5] If you followed my suggestion to enter the CI into the Cruise/Cost Index field in the Aircraft section of PFPX, then it will be shown on your PFPX OFP.

[6] Transition Level at the destination airport is often set by ATC depending on current atmospheric conditions, so we'll probably need to wait until we are close to our destination in order to learn from them what to use as our TL.

[7] Providing VNAV and AT are engaged, and the aircraft has accelerated to V_{REF}+80 kt.

[8] For example — if you are using the full runway length for a departure from KEWR rwy 04L, the displaced threshold (your take-off position) is 2500 ft from the landing threshold (you may also notice: TORA 11000 ft, LDA 8460 ft).

And don't forget all the other things, including —

53	View the stab trim settings (just to the left of the speedbrake lever) and use the trim controls to adjust the stab trim until the end of the white bar is in the centre of the green band.
54	On the MCP, set the value in the IAS/MACH window to your V_2 speed, and the ALT window to your first constraint.
55	Set the Captain's and F/O's CDUs to the most appropriate pages for take-off.

(etc....).

Having completed all of the above, this might be a suitable moment to **save the situation**, just so that all that work is safe. ☺ Whilst it is very hard to save too often, it is very easy to forget to save often enough, so be generous with your save actions!

Please note that I haven't included anything about checklist items in the above, since I assume that you will be following the appropriate flows and using the associated checklists built in to PSX — very much depending, of course, on the stage that your aircraft was in when you began (i.e. most likely, as inherited from whichever Basic situ you loaded, 000 – 004).

