Launch Practice for Pilots

Use MIRROR.EXE (the mission control flight monitoring software).
Press “x” to turn telemetry mode off. This allows the software to be used to practice or test procedures without the need to have the engineering software running in the background.

Use the steps listed above, but omit all the steps from the engineering (right-hand) column.
After starting the software, use “{“ and “}” to adjust the HAB fuel load. This version of the software keeps working even when the fuel load drops to zero, but your weight will be unusually low and this will alter the acceleration of the spacecraft.

Cold Starting

1) open switch “z”
2) close switch “o” to connect bus 2 and bus 1 (HAB power bus)
   confirm switch “q” is closed
3) open switch “p” to isolate BUS 3
4) confirm switches “d” and “e” are open
5) retract RADs 1, 2, 3 (these cannot be used when in an atmosphere)
   confirm RADs 4 and 5 are set to coolant loops 2 and 1 respectively
6) press F11 three times to display coolant loop settings
   connect fuel cell to coolant loops 1 and 2 (setting will show “B”)
   press F11 three times to display device temperatures without showing coolant loop settings
7) activate fuel cell injector
8) close switch “n” to connect fuel cell to BUS 1 and 2
9) activate the secondary pump for coolant loops 1 and 2 (press “*” once for each)
   do not activate the primary pumps, these draw too much power for the fuel cell
10) close switch “d” to start charging the reactor confinement field capacitor
11) monitor fuel cell temperature
    when the fuel cell temperature reaches 110 %, open switch “o” to allow fuel cell to cool
    do not turn off the fuel cell (switch “n”) or the coolant pumps will shut down
12) when fuel cell has cooled to around 60%, close switch “o” to resume charging
13) open switch “d” when capacitor has completed charging (2000 amp seconds):
14) when fuel cell has cooled to 30 % press “x” to start heating the reactor
15) when reactor has warmed to 29%, press “o” to isolate bus 2 and allow the fuel cell to cool
16) when fuel cell has cooled to 30%, press “o: to reconnect bus 2 to bus 1
17) when reactor temperature rises to 30 %, reactor confinement capacitor will start to discharge
18) monitor fuel cell temperature:
    - when fuel cell temperature reaches 110 %, open switch “o” to allow fuel cell to cool
    - close switch “o” when fuel cell cools to around 90%,
      waiting too long allows reactor to cool too much
19) when reactor temperature reaches 80% and shows green
    - start reactor injectors
    - close switch “z”
    - press F11 and press “z” three times to connect reactor to coolant loops 1 and 2 (shows “B”)
    - close switch “d” to stop discharging the reactor confinement capacitor
    - start the primary coolant pumps for loops 1 and 2
20) monitor temperatures for fuel cell, reactor, and coolant loops 1 and 2
    proceed with subsequent operations when these temperatures stabilize

NEW FILENAMES

flight software (used for actual mission activities) (used to be orbit5t.exe)	flight.exe	needs engineering running in background
practice flight software also used to monitor flight in MC (used to be orbit5tm.exe)	mirror.exe	does not need engineering
engineering software	engSThab.exe	
telemetry software	telem.exe	used to be orbit5st.exe
orbit track display	display.exe	used to be orbit5sd.exe