Checklist SMART-HALO

date:	flight:	Operator:

1 Pre-Flight

1. ☐ Turn on RPDB 28 V

2. ☐ Switch Power on at ASP04

3. ☐ Press 4 breakers on ASP04 labeled "PC", "Amplifier", "Inclinometer", and "IMU"

4. ☐ Switch on ASP06 (ASP07 stays off during HALO-$(\mathcal{AC})^3$)

5. ☐ From the Operator Notebook connect to ASP04 (192.168.1.204) via AnyDesk (pwd:SMART123!), TeamViewer (pwd: Passwort) or use Remote Desktop (user: ASP04, pwd: Passwort)

6. ☐ Double click "SPARM-DRIVE-SINGLE-AXIS.vi" and drive tilting table so that left and right limit are roughly the same distance from zero (+- 10,000 counts)

7. ☐ Double click "SPARM-Stabilization.vi"

8. ☐ Wait until "Searching Homes" is finished

9. ☐ Check if Stabilization is running

10. ☐ Start "NAVCommand" on Desktop; aircraft must not move!!!

11. ☐ If Align flag is red, click "Start Align"

12. ☐ Use AnyDesk (pwd:SMART123!) or TeamViewer (pwd: Passwort) from the Operator Notebook to access ASP06 (192.168.1.205) (and ASP07 (192.168.1.203)). Check if everything is running; especially for known warming-up problems during first 15 min

13. ☐ Check if data files are written ("data - Verknüpfung" on Desktop)
Short before door will be closed and operators have to buckle up

14. ☐ Press "Start Data Logging" in NavCommand on ASP04

2 In-Flight

1. ☐ Every 30 min check if systems are running via AnyDesk or TeamViewer ⇒ if not (hardware error, spectrometer error) ⇒ Trouble Shooting

2. ☐ Check that shutters are opening / closing in ASP06 (there are noticeable dips in the time series every time the shutter closes, depending on the dark measurement configuration) (HALO-$(AC)^3$: at the start of every minute file)

3. ☐ Check if spectrometers are saturated (Counts over 32,000) ⇒ if yes, set integration time to lower value (optimal: 100, 200, **300**, 500 or 800ms) (avoid if possible)

3 Trouble Shooting

ASP06/07:

- If shutters are not working (no dips in signal)

  - First try to knock on the housing close to the shutter (at ASP07 next to J3, at ASP06 next to J3 and J5)
  - In case this is not working ⇒ try to restart the computer by pressing the big red "Shutdown" buttons or normal Windows reboot if the buttons do not work

- If ASP06 or ASP07 do not respond

  - Restart AnyDesk/TeamViewer
  - Try to restart the computer (Windows reboot or Shutdown Button and switch off and on)
  - If windows does not react anymore ⇒ switch the power off and on again with the lever

- IF ASP06/07 do not detect the Spectrometer USB (after start up or switch to Mission Power)

  - Stop measurement and close LabView
  - Open the Windows Device Manager
  - Under USB-Devices select the erroneous InterfaceCard and uninstall it
  - restart the PC

ASP04: Do not turn off during flight!

4 After Landing

1. ☐ Connect to ASP06 (192.168.1.205)

2. ☐ Press the big red "Shutdown" buttons or shutdown PC normally if that fails

3. ☐ Connect to ASP04

4. ☐ Press "Stop Data Logging" in NAVCommand, Press "Exit"

5. ☐ Stop "HARP-STABILIZATION.vi" by pressing "STOP HARP STABLIZA-TION" and close program

6. ☐ Shut down ASP04

7. ☐ Wait 2 min, then pull 4 fuses on ASP04 labelled "PC", "Amplifier", "Inclinometer", and "IMU"

8. ☐ Switch Power off at ASP04, ASP06

9. ☐ Turn off RPDB 28 V

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