Vostok 1 Flight landing procedures for Jekkas Vostok1 addon for Orbiter.

TOP SECRET
Eyes only

To use this tutorial you will need to use the scenario provided with this tutorial 'Vostok 1 – On orbit'.
Also recommended is that you study the Vostok 1 flight analasys on Sven Grahns webpage.

Http://www.svengrahn.pp.se/histind/vostok1/vostok1x.htm

There you will find graphs with times and much information that will greatly enhance the experience of this flight.

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Flight simulation procedures:

1. Start the 'Vostok 1 – On orbit' scenario provided with this tutorial. You will find Vostok 1 over the eastern reigons of the motherland, heading into night over the pacific ocean. The time is ca 06.30. Gagarin is just passing out of range of Shemaya station wich concludes the first TV transmission from space.

2. Coast into night and as the time comes close to 07.10 go to external <u>target-relative</u> view. Note the two antennas on each side of the rocket engine, now heading retrograde. Pan your target-relative view so that the two antennas perfectly alignes with eachother. The one closest to you is covering the other. This way you make sure you are looking at the spacecraft exactly from a straight side angle.

3. Now carefully pitch up, so that the antennas point directly at the center of the sun. And Kill Rotation. This is to simulate the Sun-Seeking Attitude controll system of the Vostock 1.

4. Continue coasting across the Atlantic ocean. As you get approach the african west coast make sure you bring up Map MFD and Surface MFD. Target Smelovka on the Map.

5. When distance to Smelovka reads 8900k verify that your Pitch angle on Surface MFD reads -28 degr. If not you did not do so well on step 2 and 3. Trim your pitch if you have to and at distance 8900k from Smelovka Ignite the Vostock 1 retro thruster.

6. Burn untill 40% of your fuel remains. (Equal to burn 60% of your fuel or burn for 30 sek.) Then kill thrust.

7. Pitch over to about +60 degrees and kill rot. Jetison the service module. Alternatively you can wait untill the time is 07.35, then use thrusters to simulate a tumbeling spacecraft and then jetison the service module. As you know Vostok 1 had a late and rather bad separation from its service module.

8. Now all you have to do is wait untill about altitude is about 8-7 km to deploy main parashute and blow the hatch. You will be within 15 kilometers of Smelovka. (and very close to Volga!) Good luck Komerade!

A not so funny way to simulate
Sun-Seeking Attitude control system

1. Use 'Target-Relative' view pan around so that the two antennas at the end of Vostok 1 are aligned, and **Not** as below
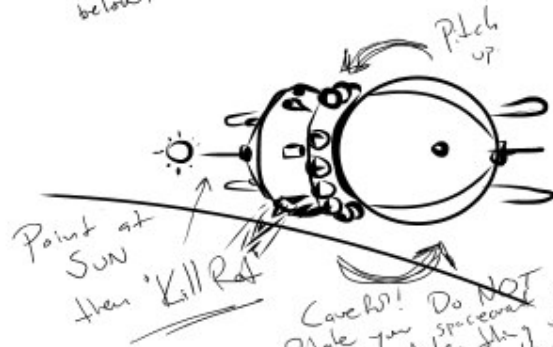

Not

2. Here the Target-Relative view cam is perfect! the two antennas are perfectly aligned!

DA. →

3. Now pitch up slightly Point the antennas at the sun, like below.

Pitch up

Point at SUN then 'Kill Rot'

CarefUl! Do NOT Rotate your spacecraft or this whole thing was for nothing.