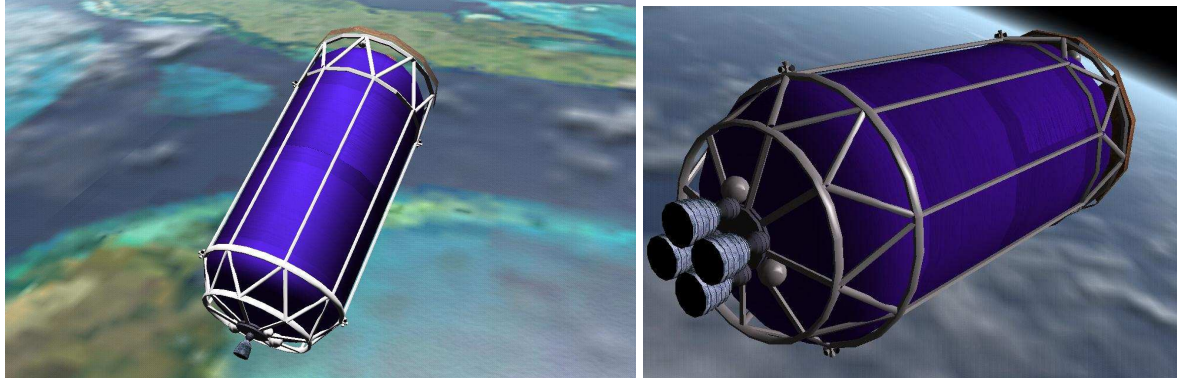# Jumbo Tanker v 1.0, Jumbo Tanker QuadJet (QJ) v 1.0
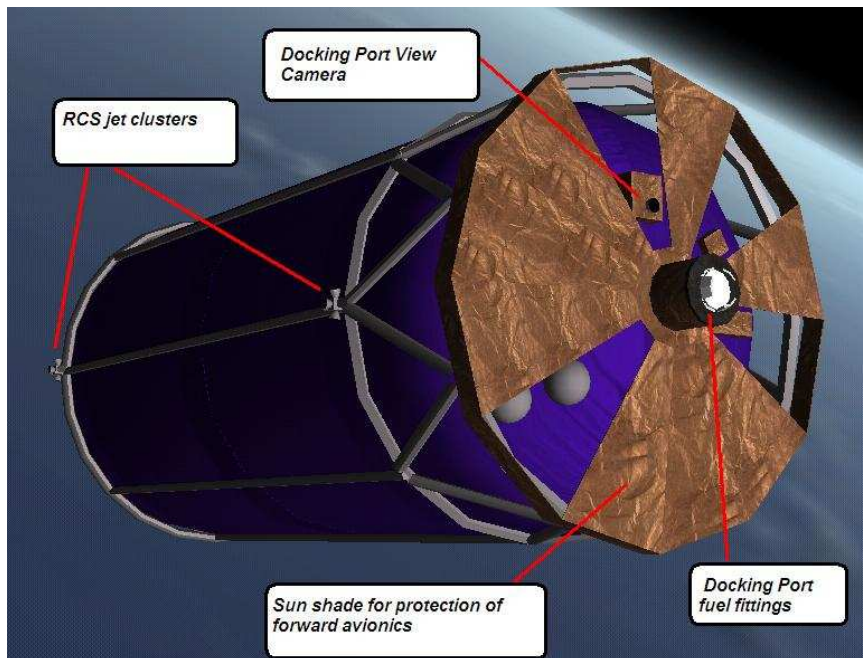June 2009   Andy44

The Jumbo Tanker is an unmanned spacecraft designed to carry propellant into Low Earth Orbit (LEO) and deliver it to a rendezvous target, be it a station, a ship, or just a particular parking orbit.

The Jumbo Tanker QJ is a modified Jumbo Tanker with a larger, four-jet power plant which trades off propellant capacity for the higher thrust needed for trans-lunar injection. Its mission is to deliver mass quantities of propellant to lunar orbit.

These vehicles are launched atop a Nova-class rocket, and use their own engines and reaction control system to maneuver into the proper orbit and to dock.

There is one docking port on the centerline of the nose.

The pilot (you) flies it remotely using the camera installed on one of the avionics boxes protruding through the gold foil sunshade on the bow. This means that when docking, your point of view will not be on the centerline, but rather just above and to starboard of the docking port. If you tilt your view down and to the

left, you will be able to see your docking port. This gives you some perspective as to how far it is from the docking target and how fast you are approaching. Use of the Dock MFD is strongly encouraged.

Some Orbinaughts may not like the offset cockpit view; if that is the case you can edit the Jumbo_Tanker.ini file and change the following line

```
VISIBLE=1
CAMERA=( 0.4748342,2.198526,13.70197)
```
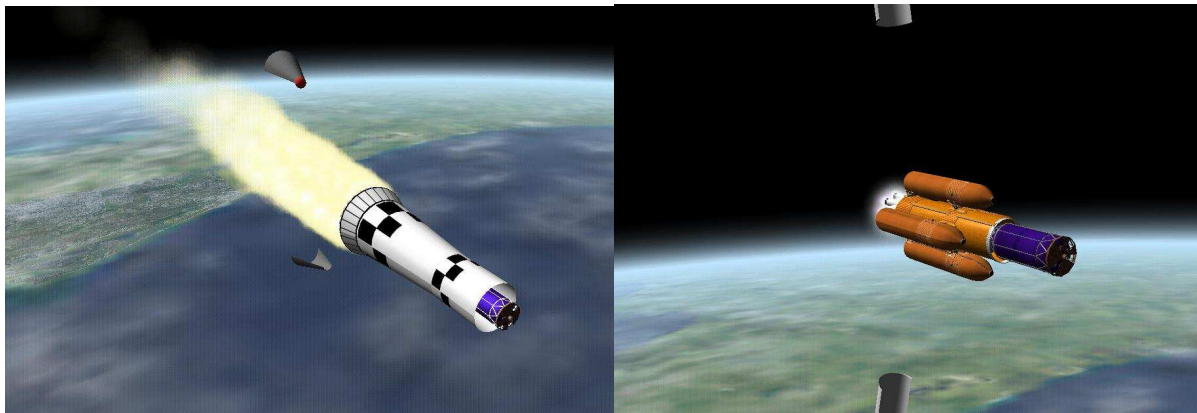
to this:

```
VISIBLE=1
CAMERA=( 0,0,13.70197)
```

and adjust the Z parameter upward to make sure your view is not obstructed by the center of the docking assembly. This will place you on the centerline.

I encourage you to use the default location, though, you may like it. Watching the docking clamps approach each other from one side gives a sort of NASA TV-feel.

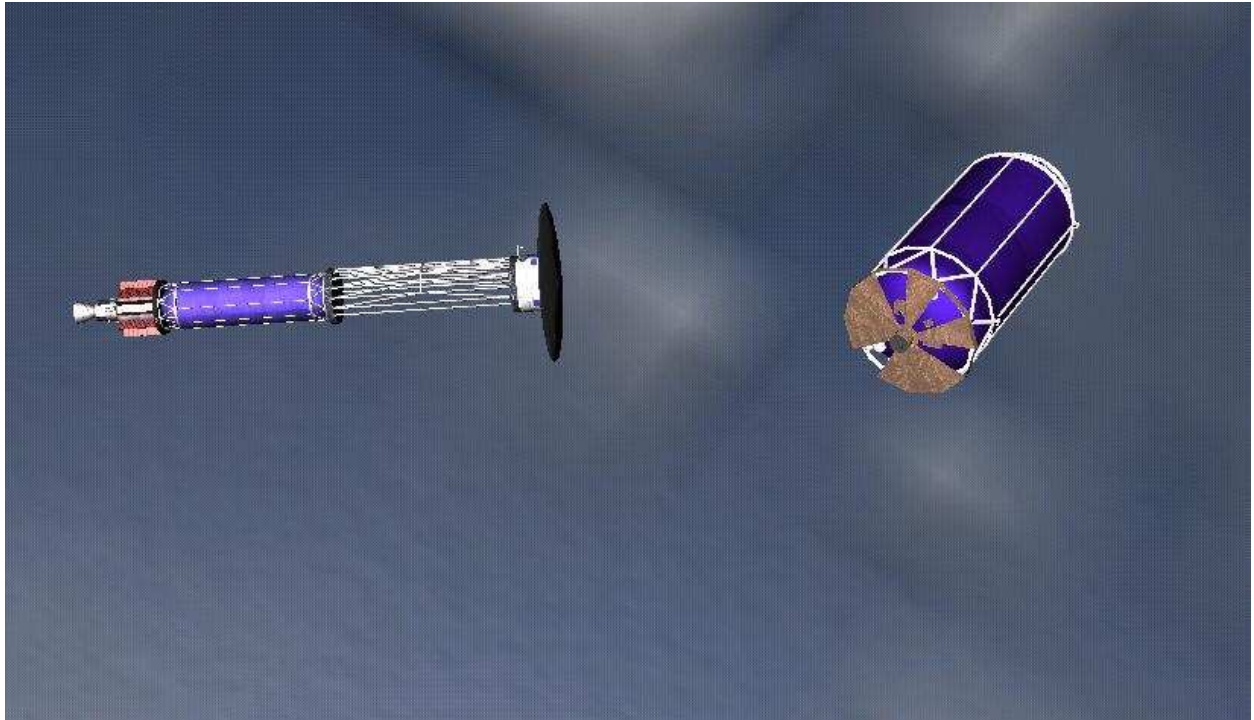There are no special key commands, all controls are standard.

Spacecraft3.dll is required for this add-on to work and is included. You may use the NOVA-class launch vehicle of your choice, of course, but the ones chosen for the included launch scenarios are the Nova-SSTO and AndyMc's Jupiter V. The other scenario requires the Lunar Transfer Vessel; however you can always edit the scenario file to remove or replace the LTV with the vessel of your choice. For pumping fuel between the Tanker and other vessels you will want the Fuel Management MFD or similar.

For launching, I recommend you use Enjo's Launch MFD, especially with the challenging Jupiter V launch vehicle. While the gigantic and optimistic Nova-SSTO (above left) seems to have more than enough power to lift the Jumbo Tankers into LEO, the Jupiter V is at the limits of its capacity with this payload. Best advice is to aim for a lower altitude than usual, around 150 km circular. If you do it right, you should have just enough propellant left over to de-orbit the upper stage after the Jumbo Tanker separates. After separation, the Jumbo Tanker can adjust its orbit from there on and continue the mission.

NOTE: In order to launch this add-on using the Jupiter V, which is a Multistage2.dll-based launch vehicle, it was necessary to define the Jumbo Tankers as pure Spacecraft3 add-ons and stop using config files. This means that some of your old scenarios may not load, or may load with duplicate docking ports. If they don't load, make sure the line in the scenario file reads "Jumbo_Tanker:Spacecraft/Spacecraft3" or "Jumbo_Tanker_QJ:Spacecraft/Spacecraft3"

Thanks to Vinka, Dr. Martin Schweiger, and all the Orbiterheads out there whose add-ons make this add-on worth downloading, and to all who are reading this for showing interest. Top off your tanks and enjoy!

Jumbo Tanker / Jumbo Tanker QJ Specifications:

Manufacturer: Oil Creek Astronautix
Length: 31.2 m
Diameter (fuselage): 12.1 m

Dry Mass (Jumbo Tanker): 25,000 kg
Dry Mass (Jumbo Tanker QJ): 40,000 kg
Max Propellant Mass (Jumbo Tanker): 705,000 kg
Max Propellant Mass (Jumbo Tanker QJ): 690,000 kg

Main Propulsion(Jumbo Tanker): Restartable Liquid Chemical Rocket, 1 jet nozzle
      Main Thrust: 2,000,000 N (449,617.9 lbf)
      Specific Impulse: 470 s
      Exhaust Velocity: 4609.1 m/s

Main Propulsion(Jumbo Tanker QJ): Restartable Liquid Chemical Rocket, 4 jet nozzles
      Main Thrust: 10,800,000 N (2,427,936.6 lbf)
      Specific Impulse: 470 s
      Exhaust Velocity: 4609.1 m/s

Reaction Control System: 20 jets, 4 clusters

Useful Links

Spacecraft3.dll is hosted on Vinka's site:
http://users.swing.be/vinka/

Fuel Managment MFD, formerly found on Avsim, may be hard to find, but worth it. Orbit Hangar contains other types of fuel pumping MFDs, as well.

The Lunar Transfer Vessel last seen here:
http://www.orbithangar.com/searchid.php?ID=3078

AndyMc's Jupiter V super-heavy booster:
http://orbithangar.com/searchid.php?ID=3672

The Nova-SSTO last seen on Sourceforge:
http://sourceforge.net/project/showfiles.php?group_id=58685&package_id=124522

For bug reports, criticism, or even (gasp!) praise please use the Orbiter Forums:
http://www.orbitersim.com/Forum/default.aspx