

# Challenge KSC7 - Dresliveroo

Submitted by Only Light Matters

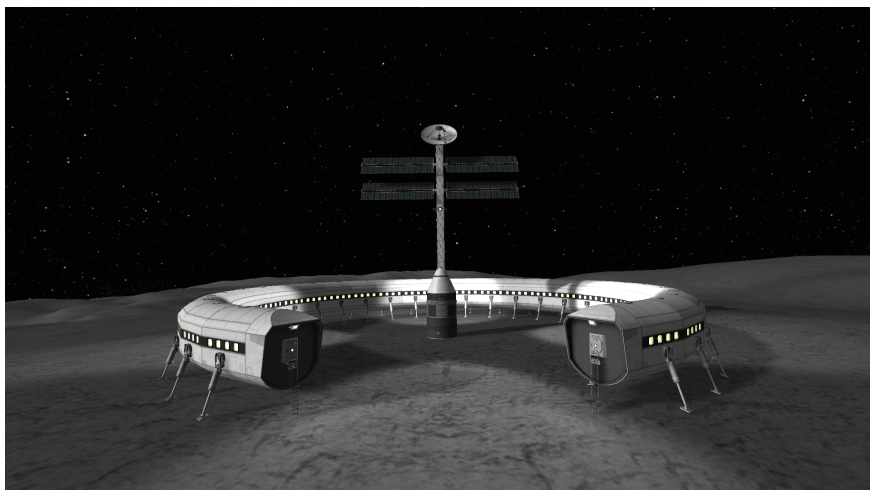


## Preamble

After the *Bigger* challenge where the heaviest possible payload had to be put into orbit, the **Dresliveroo** challenge is to send a payload to the planet **Dres**, more exactly within the limits of a base specially installed there.



The payload is imposed, it's up to you to build the ship that will move it. The mission starts once the ship is in waiting orbit around Kerbin, it ends when the payload is separated from its ship at the delivery site and the kerbals are safely in the base.



For this edition, your ingenuity will count as much, or even a little more than the usual criteria of mass and the lowest costs.

# 1. The mission

## Before leaving

The payload is imposed. It is a container from **Umbra Space Industries** filled with **8 full FL-T200** tanks to simulate a large mass.



You are free to design the ship you want, with as many floors as you want. The ship must be manned and carry a Pilot and an Engineer.

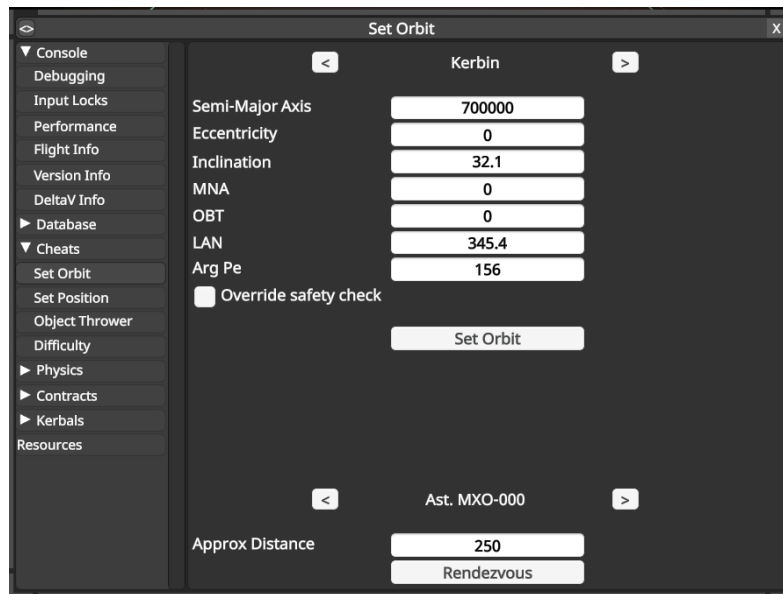
## Departure

You will put your ship in Kerbin parking orbit with the cheat menu, at an altitude of 100km obligatorily (SMA = 700000 m). You leave when you want. Nevertheless, the house recommends the following configuration:

- Semi Major Axis : 700000 m **MANDATORY**
- Eccentricity: 0 **MANDATORY**
- Inclination: 32.1°
- Longitude of the Ascending Node: 345.4°

- Argument of periapsis: 156.0°

These concepts sound Chinese to you? Don't panic, all you need to do is enter these values into the cheat menu, following the instructions shown in the screenshot below.



For those who would like to delve deeper into these concepts, I recommend reading this page : <https://en.wikipedia.org/wiki/Orbit>.

From this orbit here are the indications to plan an escape burn from Kerbin and plan a direct injection to Dres.

- Date and time of departure: year 1, day 358 at 0h 45mn 13s
- $\Delta V$  of the maneuver: 1932.7m/s
- Flight duration: 584 days
- Arrival around Dres: Year 3 Day 90
- Theoretical indicative capture DV: 1584.8m/s

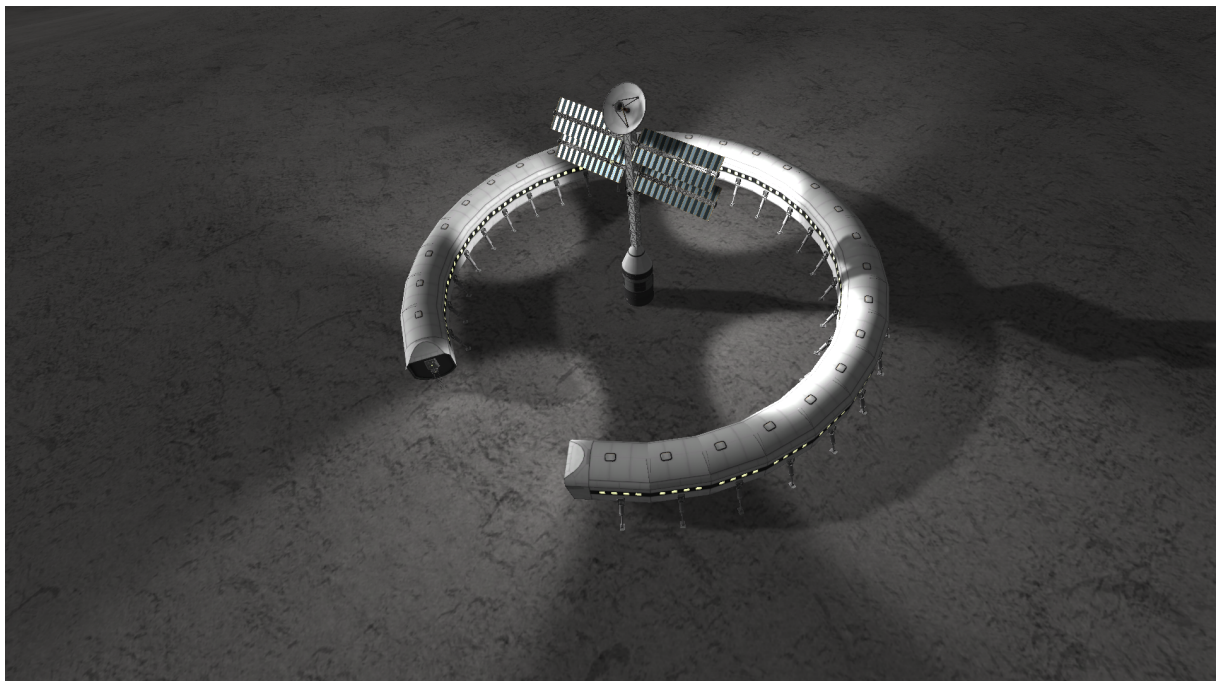
In order to perform the injection to Dres, place a maneuver node anywhere in the orbit with a prograde  $\Delta V$  of 1932.7m/s and drag the node along the orbit until the argument of the periapsis (visible at the bottom left of the screen) is equal to 156°. At this point, an encounter with Dres should be assured. Refine the maneuver if this is not the case.

You are totally entitled to, if needed, reconfigure your ship and make EVAs to achieve these operations. They must take place inside the SOI of Kerbin or that of Dres. During travel between Kerbin SOI and Dres SOI, Kerbals must be inside a Command Pod or Cabin part. It is not permitted to place them on an External Seat, ladder or other location during this phase of the mission.

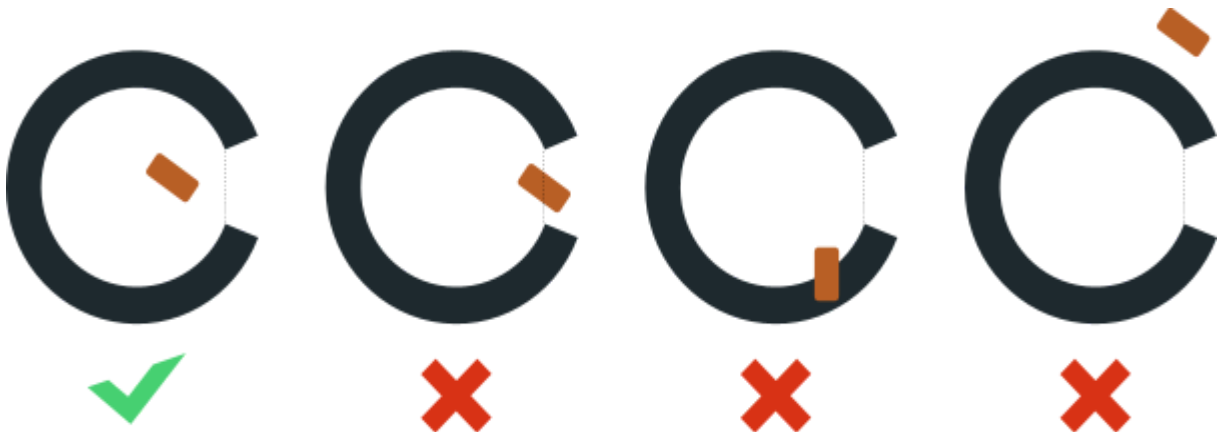


## The arrival

You must deliver your cargo **IN** the limits of the base **Dresolution**.



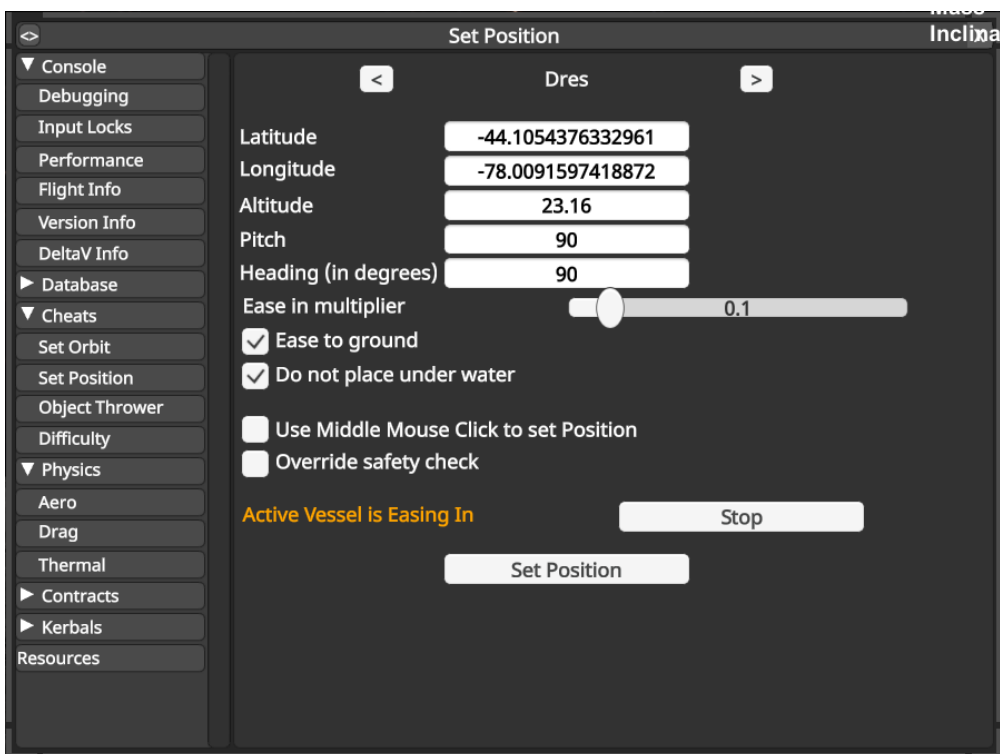
This payload must arrive safely, **intact**, **inside this ring** and **in contact with the ground**. It is possible to graft parts to the container.



The container must be separated from the delivery ship and be considered by the game as a separate craft or piece of debris. The ship must theoretically be able to take off again without it (assuming that the tanks are sufficiently full, which is not an obligation).

Finally, your kerbals should have left the ship and be within the confines of the base, inside the ring.

The base is located at the following coordinates:



44° 06' 15" S  
78° 00' 33" W

## 2. Gameplay a mod pack de base

Due to the nature of the challenge, the **USI Core** mod is obviously required.

Also, and so that everyone is on an equal footing while benefiting from a little flexibility and choice of shares, **the ReStock+ mod is included** in the base gamedata, but **NOT** the DLCs whatever they are **Making History** or **Breaking Ground** because not everyone has them.

A ZIP file containing the mods **USI Core**, **ReStock+**, **KER**, **RCS Build Air**, **Hangar Extended** as well as **BetterTimeWarp Continued** are provided, with their dependencies. To help you unload the payload, **Infernal Robotics Next** and **Kerbal Attachment System** are also present in the zip. It's up to you to unzip it in your folder <KSP\_ROOT> in which you will have deleted the extensions folder if you have them, <KSP\_ROOT>/Gamedata/SquadExpansion.

The **Kronal Vessel Viewer** mod is also provided for lovers of good looking presentations embellished with beautiful visuals of their ships.

A **Dresliveroo** save file is supplied, it contains the **Dresolution** base deployed on Dres at the coordinates mentioned above.

Finally, the challenge is to be carried out on the latest version of the game, version 1.12.5.

## 3. Authorized and banned mods

All purely graphical mods are allowed. We quote:

- Eve, Scatterer, including versions [Patreon of Blackrack](#),
- PlanetShine,
- Distant Object Enhancement,
- Real Plume, Waterfall,
- TUFx,
- 4kSP\_Expanded.

**Parallax is prohibited**, like any mod that transforms the ground and may interfere with elevation or interfere with the station already deployed on Dres.

All mods summarized in the table in the chapter **Terms of participation/Mod Pack** are allowed. For others, they are *first* prohibited but you can consult the jury to have confirmation that such or such mod is authorized or not.

## 4. Terms of participation

### Deposit application

Participants should send an email to [ksc7@kerbalspacechallenge.fr](mailto:ksc7@kerbalspacechallenge.fr) in which the following are expected:

- Your nickname that the contest organization can use publicly,
- The email address must be a valid contact email address,
- A Zip file containing your craft, save files and screenshots,
- A file presenting your ship and its mission. If too large, a link to downloadable content is accepted.
- You can set up the following structure in a zip to attach to your email:
  - /Screenshots
  - /Saves
  - /Craft
  - /Portfolio
- Portfolio is where you describe your mission. Feel free to write a few words and add as many additional screenshots as you want.

Participants will be required to provide screenshots and backup files at certain key stages:

Stages of the journey	Savefile	Capture screen
LKO parking orbit, before the first maneuver	Yes	Yes
Kerbin SOI Escape Trajectory	Yes	No
Arrival trajectory in the Dres SOI	Yes	No
Option: Dres Low Orbit	Yes	No
Payload separated from his ship in the arrival area + Pilot and Engineer safe within the confines of the base	Yes	Yes

Nevertheless you can provide more than what is required to enhance the quality of your submission.



## Mod Pack

The provided mod pack (Zip) will be used by the jury, it contains the following components:

<b>Making up</b>	<b>Version</b>
USI Core	v112.0.1
ReStock	1.4.3
ReStock+	1.4.3
Infernal Robotics Next	3.1.11
Kerbal Attachment System	1.12
Hangar Extender	3.6.2.2
Kerbal Engineering Redux	1.1.9.0
Kronal Vessel Viewer Continued	0.1.1
RCS Build Aid	1.0.6
Kerbal Joint Reinforcement - Next	4.2.24
BetterTimeWarpContinued	2.3.13
Kronal Vessel Viewer Continued	0.1.1
KSP Community Fixes	1.28.0
USI Tools	v112.0.1
Toolbar Continued	0.1.9.9
Click Through Blocker	2.1.10.21
Community Resource Pack	112.0.1
Firespitter Core	7.17
Harmony 2	2.2.1.0
Module Manager	4.2.2

The archive can be downloaded here:

[https://drive.google.com/file/d/1gMICz\\_IJJ-UtXonlx6z\\_4UhbMevvyHRS/view?usp=share\\_link](https://drive.google.com/file/d/1gMICz_IJJ-UtXonlx6z_4UhbMevvyHRS/view?usp=share_link)

## 5. Evaluation

Your participation will be evaluated on the version of KSP 1.12.5 and the mod pack specified below. You will be disqualified if:

- if your backup files fail to load;
- if your starting orbit is not compliant (SMA = 700 km, Eccentricity 0);
- if the container is not inside the base ring or if it has been destroyed;
- if your pilot and your engineer have not reached the inside of the base ring;
- if you use game hacks like the Kraken Drive;
- if your ship explodes because the Kraken doesn't like it.

### EVALUATION CRITERIA AND AWARDED POINTS

Rank	Lowest Mass (1)	Lowest Cost (2)	Best Creativity (3)	Most Beautiful Ship (4)
1st	20	20	21	21
2nd	15	15	16	16
3rd	11	11	12	12
4th	7	7	8	8
5th	4	4	5	5
6th	1	1	2	2
7th+	0	0	0	0

**(1) The mass of your ship** in LKO standby orbit. In practice, the jury will load your craft into the VAB to consult its mass and verify that this mass is the same as that of the ship in orbit, provided in the first save file to be provided.

**(2) The cost of your ship** in LKO standby orbit. In practice, the jury will load your craft into the VAB to consult its price.

**(3)** The jury will rank **the best designed, the most “smart” vessels.**

**(4) The jury will make a classification of the most beautiful crafts submitted.**

A ranking combining all these criteria will be established and the one with the most points will win. In case of a tie, well, there will be a tie.

The jury is made up of 3 members who are

- Only Light Matters, organizer of the challenge and president of the jury,
- Harpercix,
- Emilienj\_95.

You can contact the jury to ask them questions in the **KSC discord server** <https://discord.gg/33XaFRdCEY> or on Twitter directly from the president himself <https://twitter.com/OnlyLightMatter>.

Have a nice challenge!

## 6. Reminder of all constraints

1. You must deposit an imposed payload (2.5m USI container filled with 8 full FL-T200 tanks) within the perimeter of a base located on Dres.
2. You put your ship into orbit according to the guidelines set through the cheat menu. The orbit must be circular and its radius must be 700 km.
3. The ship must be inhabited by a Pilot and an Engineer.
4. During travel within solar SOI, Kerbals must be inside a Command Pod or Cabin type room.
5. Delivery consists of separating the payload from the ship. The container must be within the confines of the ring that forms the base.
6. The ship must be able to take off again without the container, at the filling of the tanks.
7. When landed on Dres, the kerbals must leave the ship and also reach the limits of the base.
8. You must play in 1.12.5 without DLC, respect authorized and prohibited mods.
9. It is obviously forbidden to move or rotate the Dresolation station