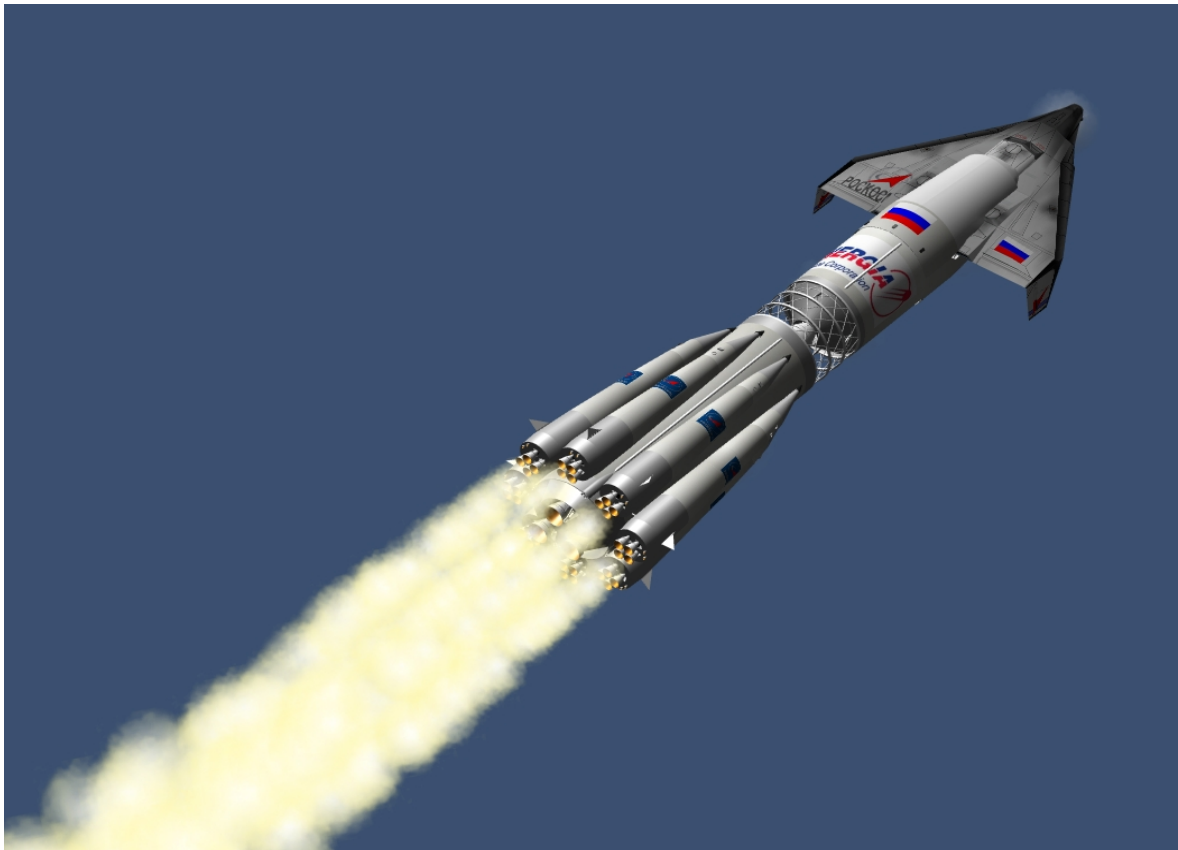


# **DG-Launcher - *Russian Federation***

**For Orbiter 2010**

***Extension for Velcro Rockets add-on (by Sputnik)***



***v 1.0, 03-08-2010 release***

***Required add-ons :***

- Velcro Rockets (by Sputnik)***
- DeltaGlider IV-2 (by DanSteph)***
- UGCO (by DanSteph)***

by Nick\_Molson

## **I - Specifications**

### **I.b - Liquid Rocket Boosters (BlockA, x8)**

Length : 18 meters

Diameter : 2.95 meters

Empty Mass : 4,235 kilograms (x8 = 33,880 kg)

Gross Mass : 46,235 kilograms (x8 = 369,880 kg)

Propellant Mass : 42,000 kg (x8 = 336,000 kg)

Engines : 1x RD-117 (1 turbopump, 4 chambers).

Thrust : 1,021,097

Fuel : Kerosene (RP1)

Oxydizer : Liquid Oxygen (LOX)

### **I.a - Booster Core (BlockB)**

Length : 25 meters

Diameter : 6 meters

Empty Mass : 38,705 kg

Gross Mass : 518,705 kg

Propellant Mass : 480,000 kg

Engines : 3x NK-33

Thrust (100%) : 5,450,520 kN

Fuel : Kerosene (RP1)

Oxydizer : Liquid Oxygen (LOX)

Isp (vac.) : 331 sec.

### **I.a - Orbit Insertion Stage (BlockV)**

Length : 10 meters

Diameter : 6 meters

Empty Mass : 11,396 kg

Gross Mass : 131,396 kg

Propellant Mass : 120,000 kg

Engines : 1x NK-43  
Thrust (100%) : 1,755,000 kN  
Fuel : Kerosene (RP1)  
Oxydizer : Liquid Oxygen (LOX)  
Isp (vac.) : 346 sec.

### I.c - Launch Configuration & Max. Payload

Numbers are given for a launch from Baïkonur, to a 51.6° equatorial inclination orbit (ISS).

<u>Launch Configuration</u>	<u>Max. Payload</u>
DG-Launcher standard	27,500 kg

*Cargo versions will be available in the future. Please contact our customer support for more information.*

## **II - Instructions**

### II.a - Quickstart

Select one of the three "North America" scenarii located in the *Velcro\DG-Launcher\* directory.

Select the Core Booster (F3).

You can press "U" to enter a new Launch Azimuth.

Press "O". After MECO, press "J" to separate the DeltaGlider from the BlockV. Then wait for the apoapsis, and fire prograde your main engines to circularize your orbit.

## II.b - Ascent Timeline

T-10 : Countdown  
T-4 : BlockB ignition  
T0 : Block A ignition. Liftoff !  
T+87 : Mach 1  
T+95 : MaxQ (23.9 kPa)  
T+135 : BlockA separation  
T+200 : Fairing jettison  
T+315 : BlockB burnout & separation  
T+320 : BlockV ignition  
T+549 : MECO

## II.c - Abort procedures

**During Ascent** : Select the Core Booster, **press "O"** then press "J" several times to separate the DeltaGlider. Dive to gain speed, then glide back to the base.

**After MECO** : Your orbit is low and will decay quickly. You should be able to make it to a spaceport without firing the engines.

*Don't forget to read the Velcro Rockets & DGIV documentation !*