



cleansat

BB 20
Solid Rocket Motor for deorbit
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1. The activity has not started yet

2. The Building Block for implementation of Solid Rocket Motors in the S/C design for CleanSat purposes will cover the following sub-systems:

- Propellant which does not produce particles larger than 1mm (TBC)
- Insulation materials which do not produce particles larger than 1mm (TBC)
- Ignition system which does not produce parts/particles larger than 1mm (TBC)
- Thrust Vectoring Control capability to allow for controlled re-entry
- Motor case (pressure and radiation protection of the propellant)
- Nozzle (low erosion)

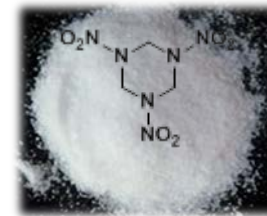


Solid Rocket Motor for deorbit

- Applicability range
 - Applicable to all classes of satellites and target orbits in LEO
 - From 10kg - several tonnes
- A main challenge of the whole concept is the interpretation of the standards with regards to the creation of combustion particles from a solid motor burn. Pyrotechnics are defined to be allowed to produce particles <1 mm, no specific definition is provided for a solid rocket motor burn, but it is mentioned in some of the standard(s) that interpretation is needed

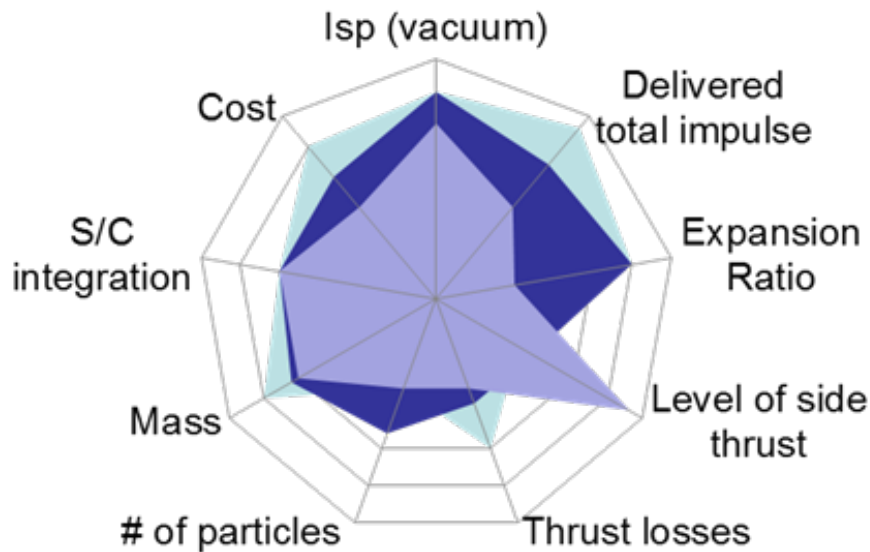


Particle free
solid propellants



Main challenges

- Find the right compromise between performance and satisfaction of the requirements within the limits provided by the system:



- SRM Design 1
- SRM Design 2
- SRM Design 3



NORSAT-1

Nano-deorbit

