

Mars Manned Mission

A conceptual Design

A concept based in the ISS Architecture

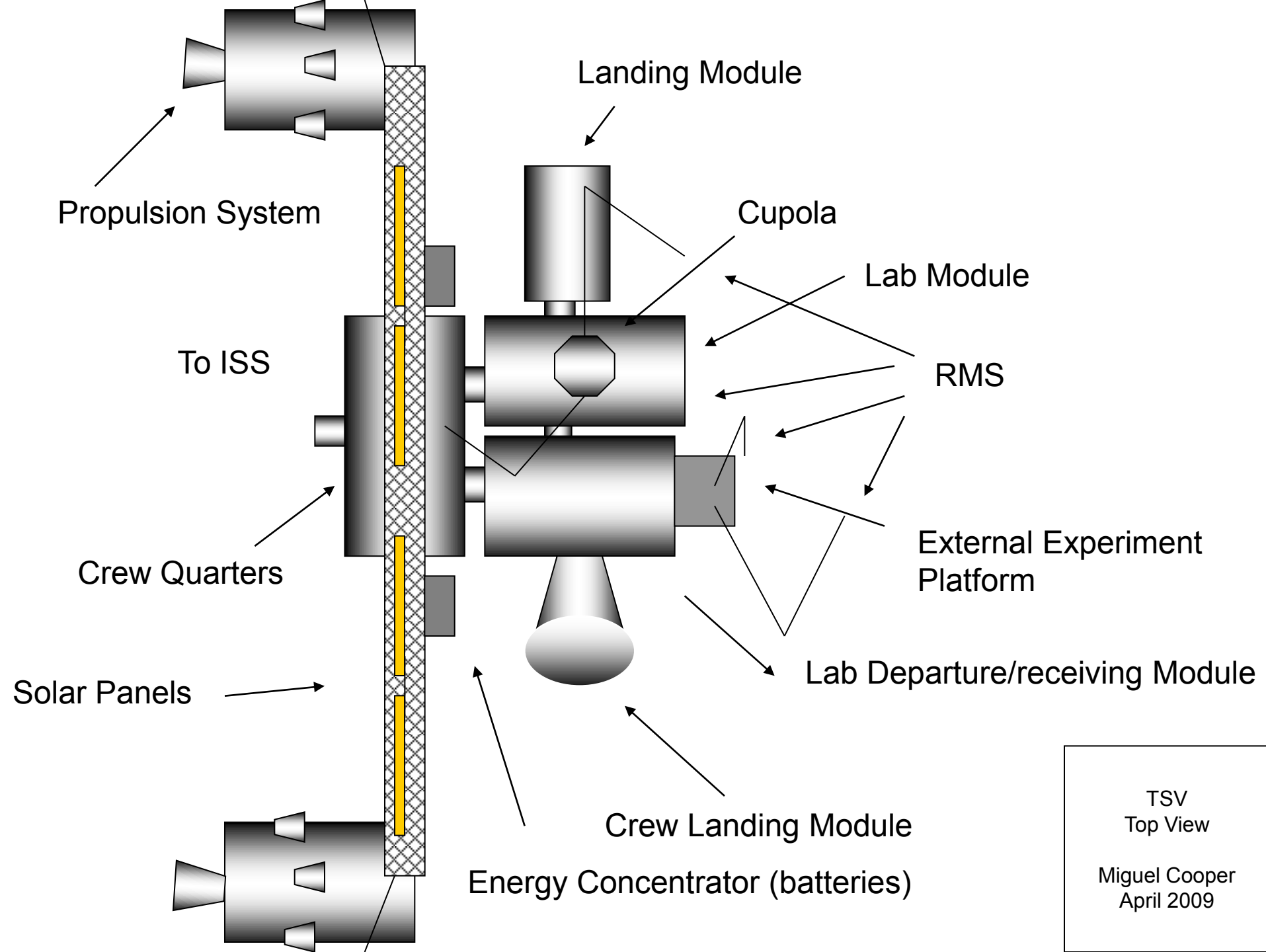
Version 1

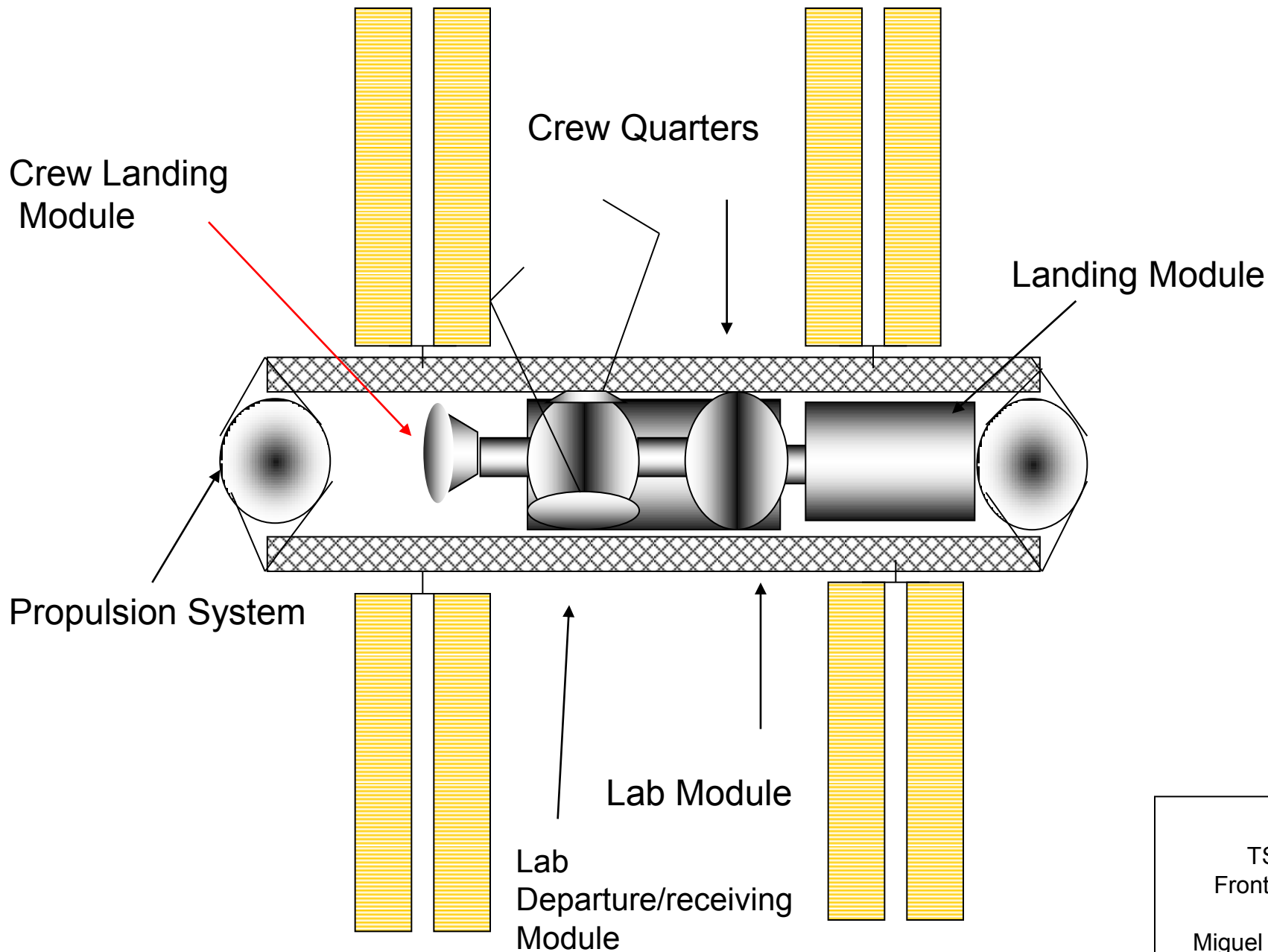
April 2009

Miguel Cooper

Space_cooper@hotmail.com

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TSV
Front View

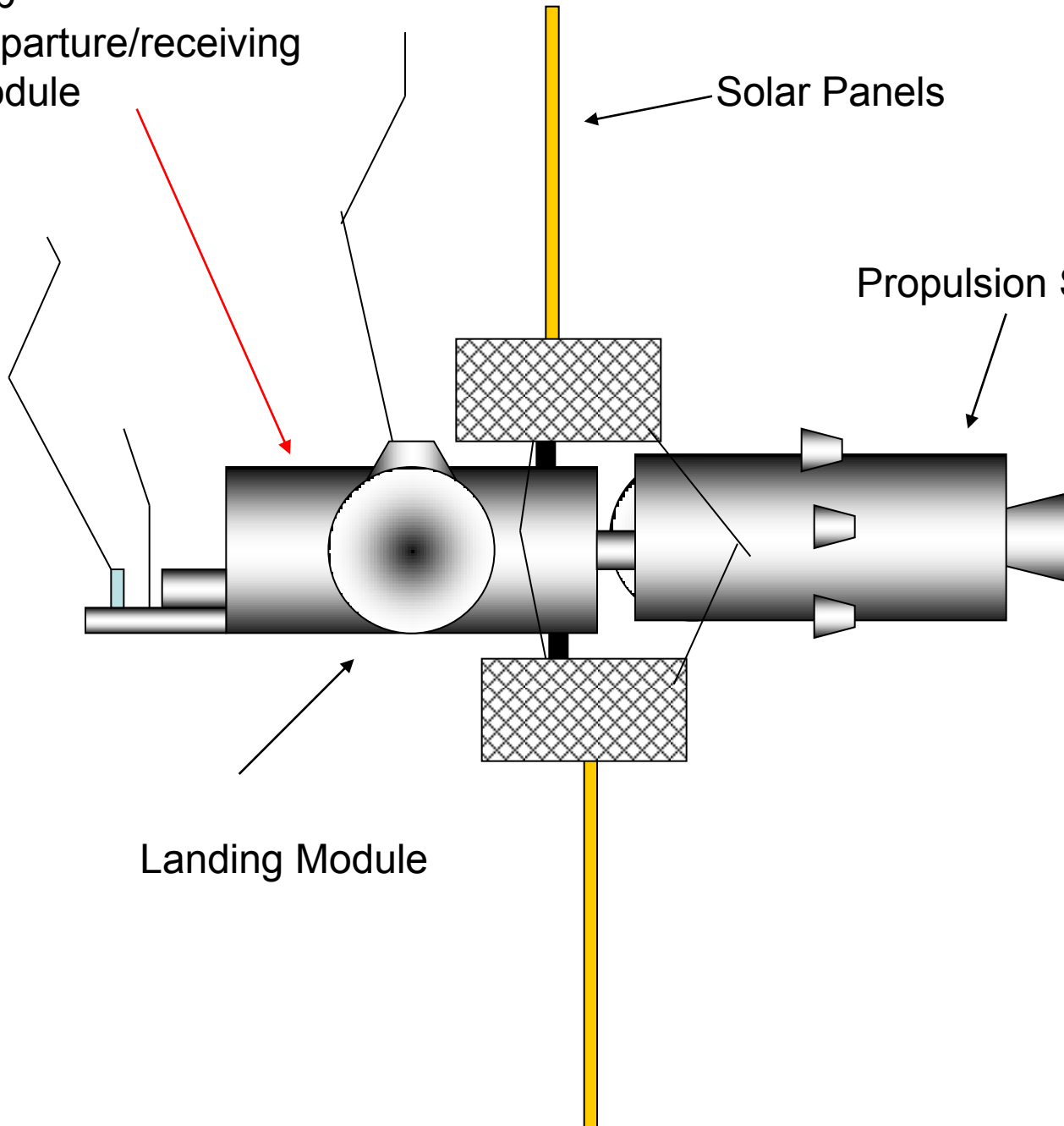
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Lab
Departure/receiving
Module

Solar Panels

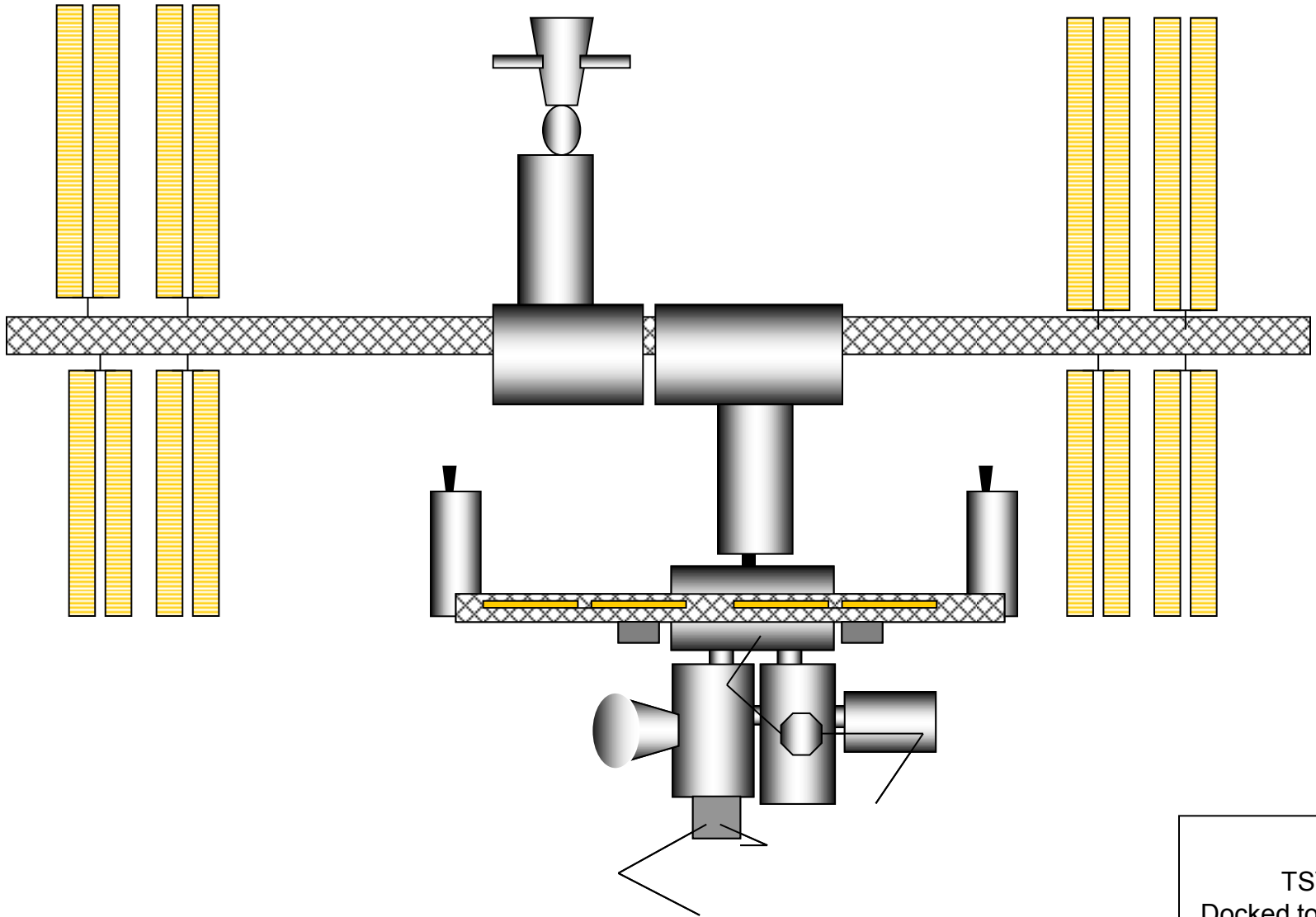
Propulsion System

Landing Module



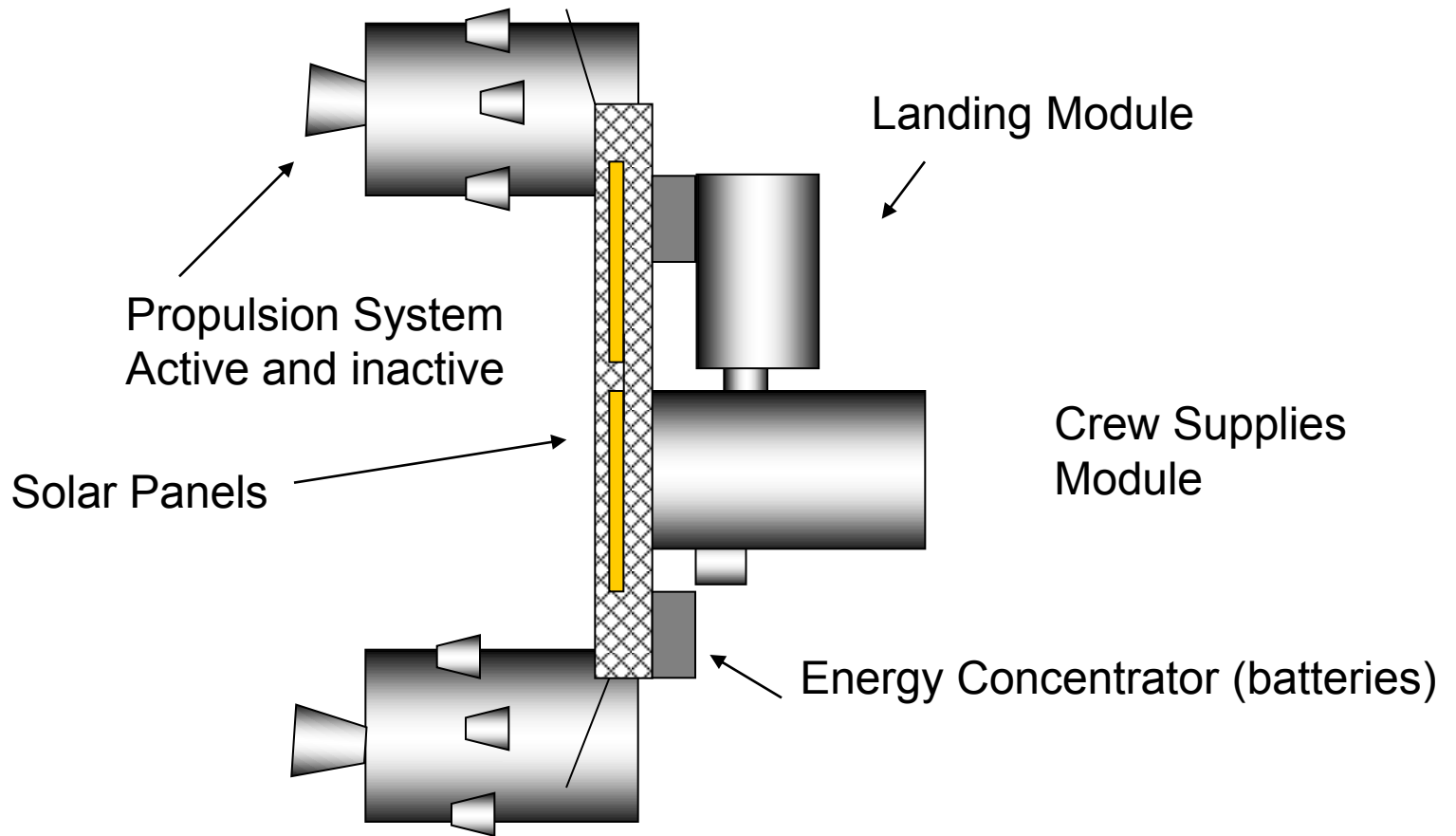
TSV
Lateral View

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TSV
Docked to the ISS

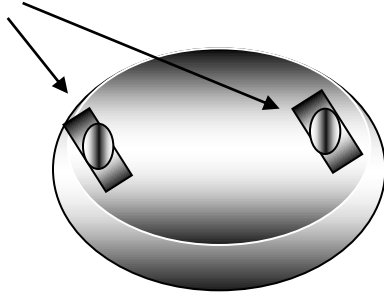
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TSV
Unmanned
TSV

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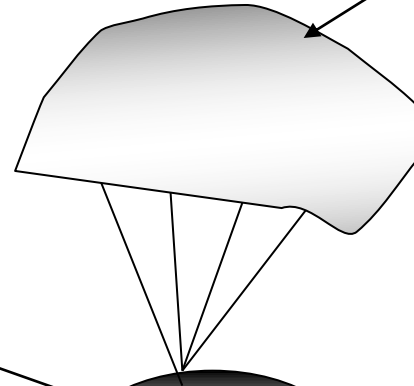
Deorbit Engines



Environment Evaluation
Probe

Heat Shield

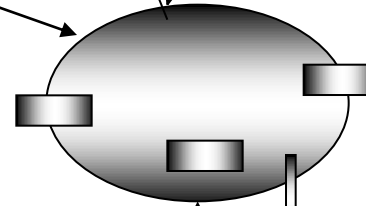
Parachute



Antenna

Temperature

Wind Speed metering

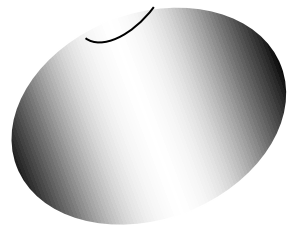


Descending speed

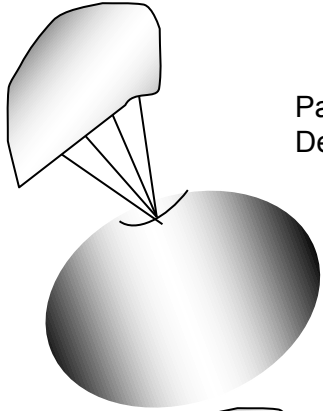
Particle density

TSV
Unmanned
environment
evaluation
Probe

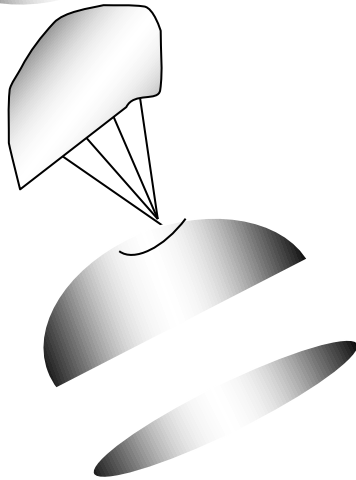
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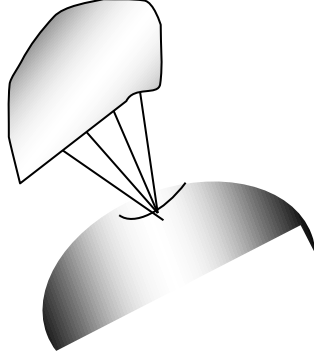
Atmospheric Entry



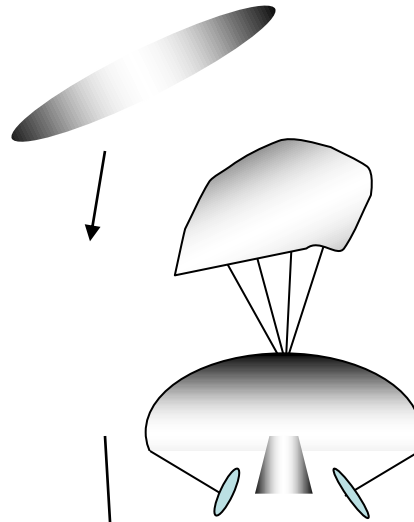
Parachute Deploy



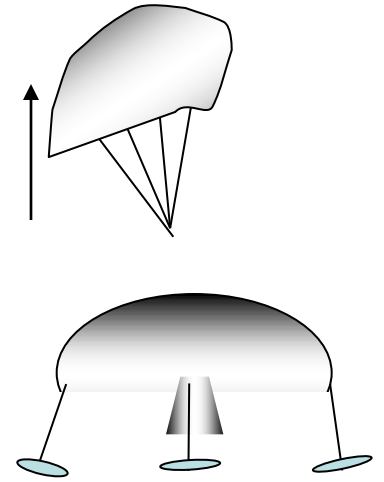
Heat Shield Separation



Heat Shield Separation (2)
Increase distance



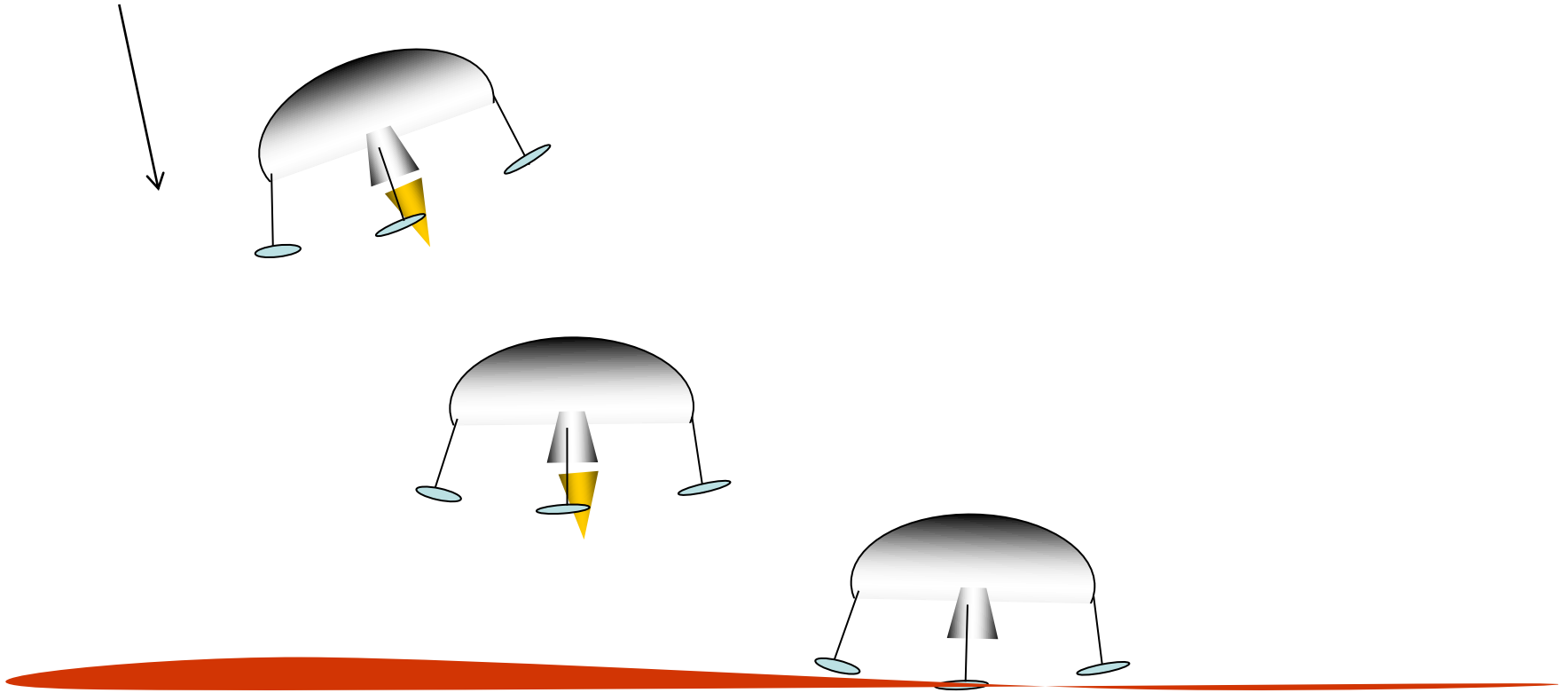
Container Separation
And container parachute
deploy



Parachute Separation
Landing Pads Extended

TSV
Crew supplies
container
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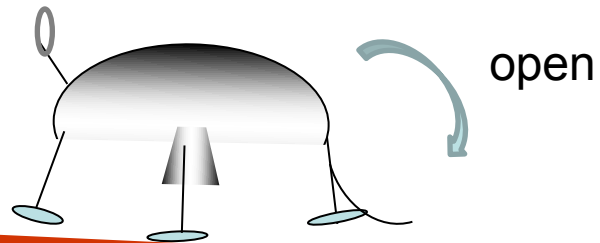
Final Phase of landing



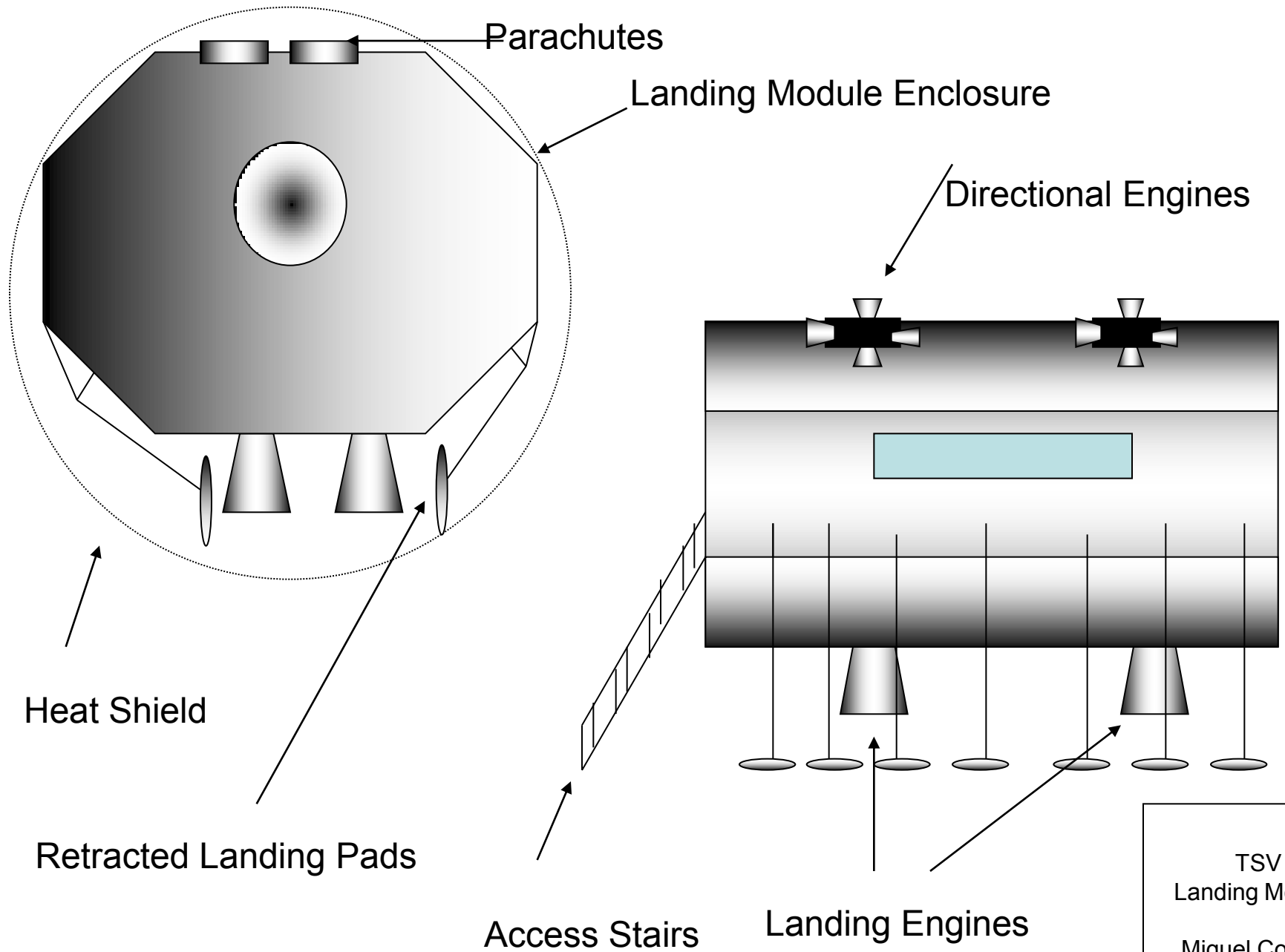
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Crew supplies
container
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Crew Supplies Container On the Surface

Once on the Surface the
Container extends its antenna
To be localized by the crew
And the hatch is opened to get
The Package of supplies.

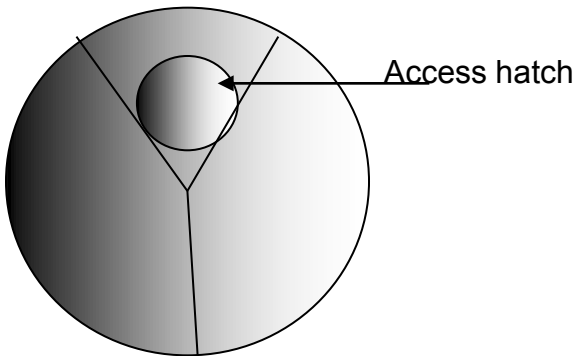


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Crew supplies
container
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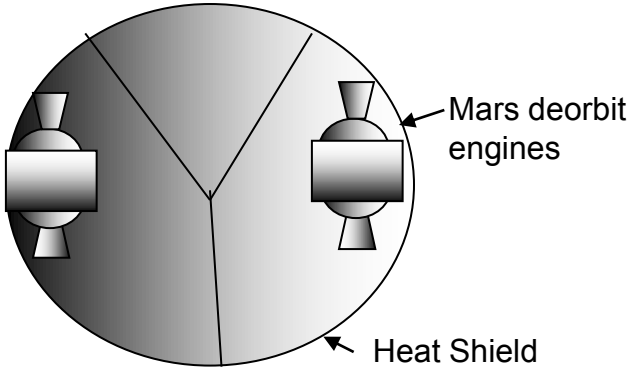


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Landing Module

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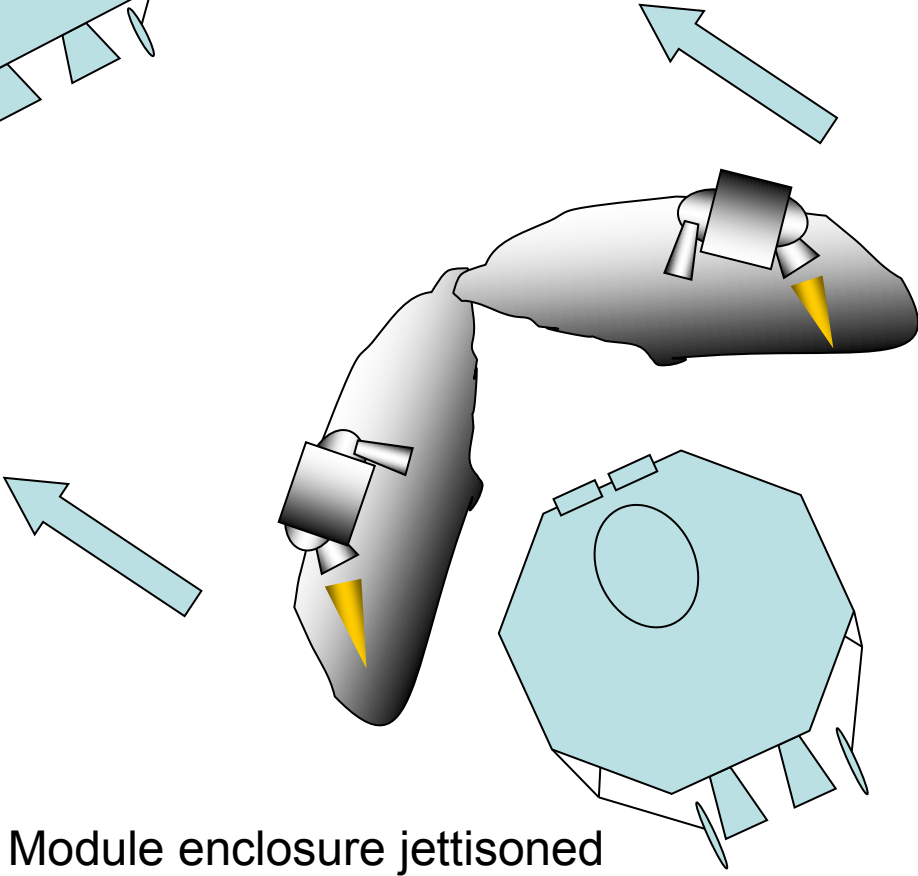
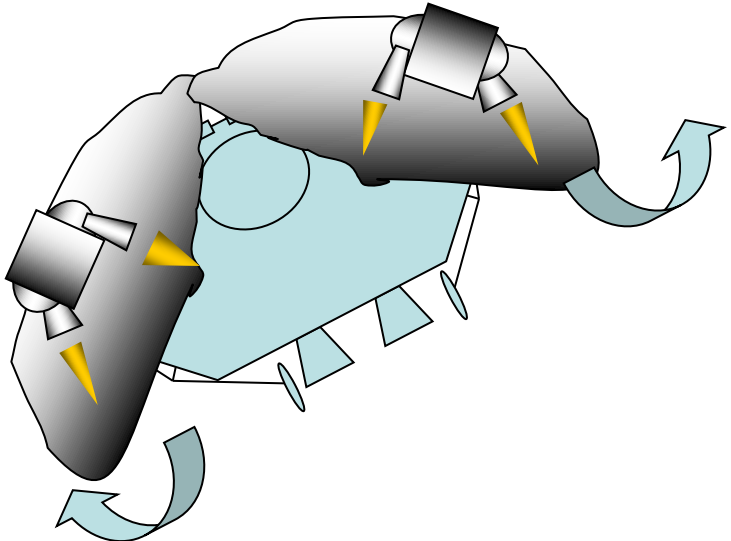


Front View

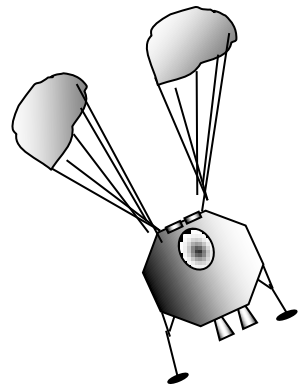


Back View

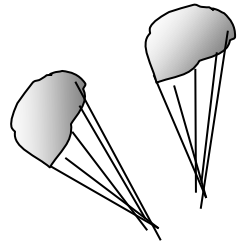
Landing Module Enclosure opening



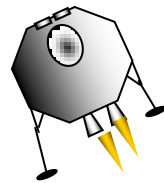
Landing Module enclosure jettisoned



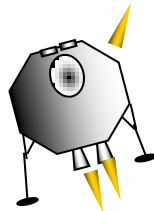
Parachute deploy



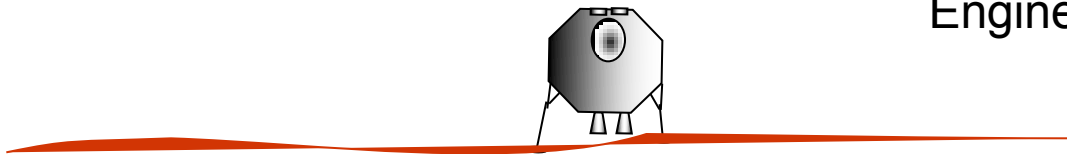
Parachute jettisoned
Landing engine start



Descending corrections
With lateral engines



Engines Stop



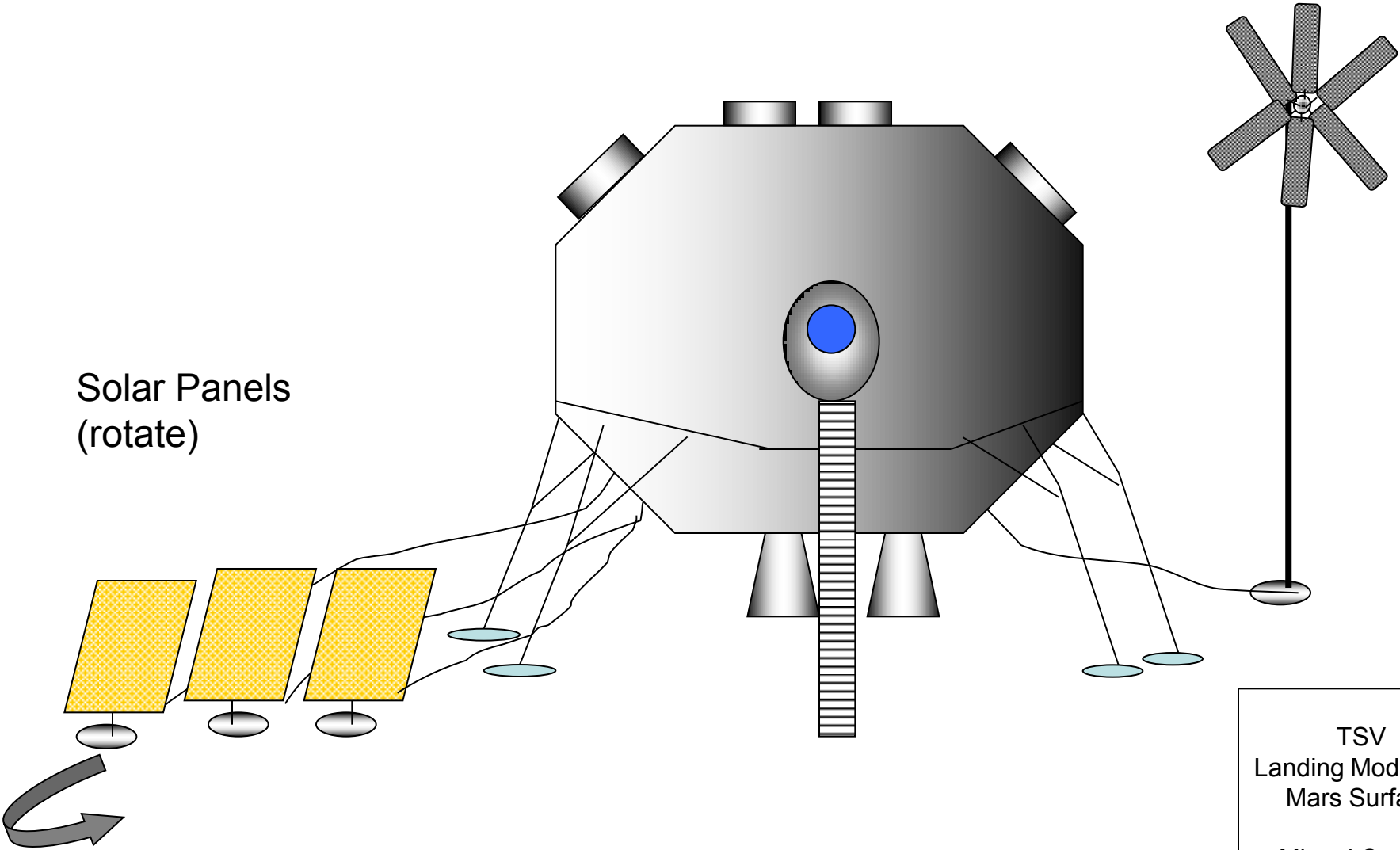
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Landing Module
Landing Sequence

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Landing Module

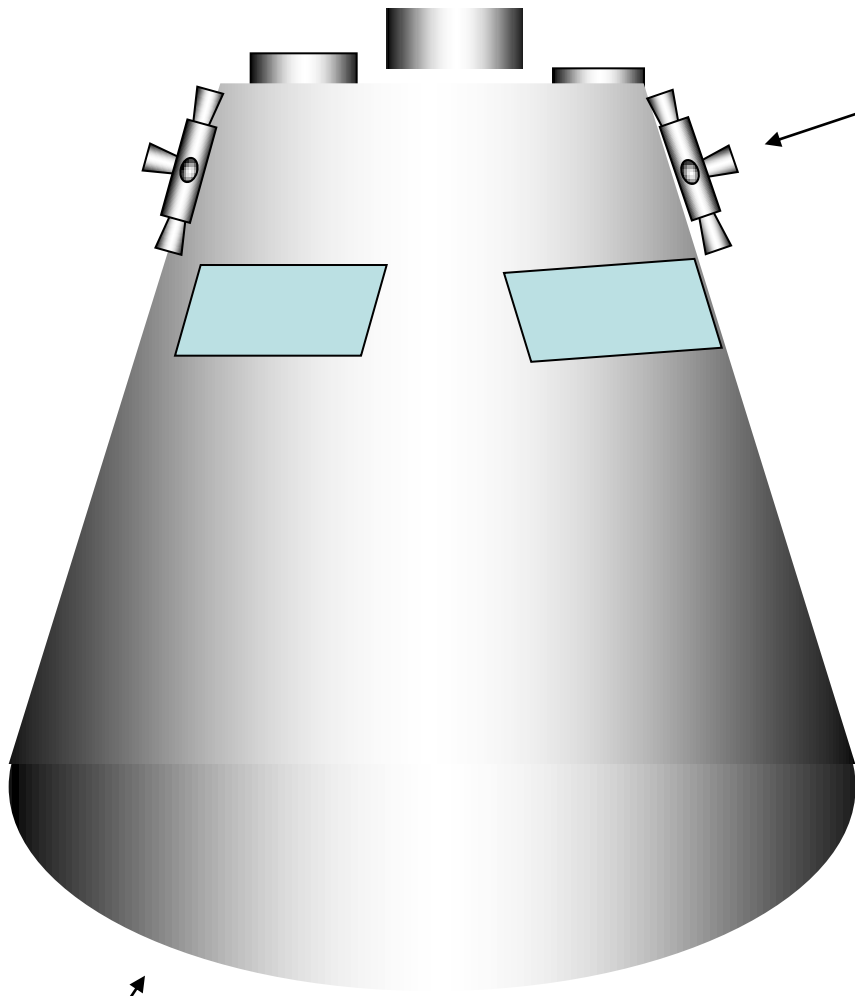
Wind mill

Solar Panels
(rotate)



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Landing Module on
Mars Surface

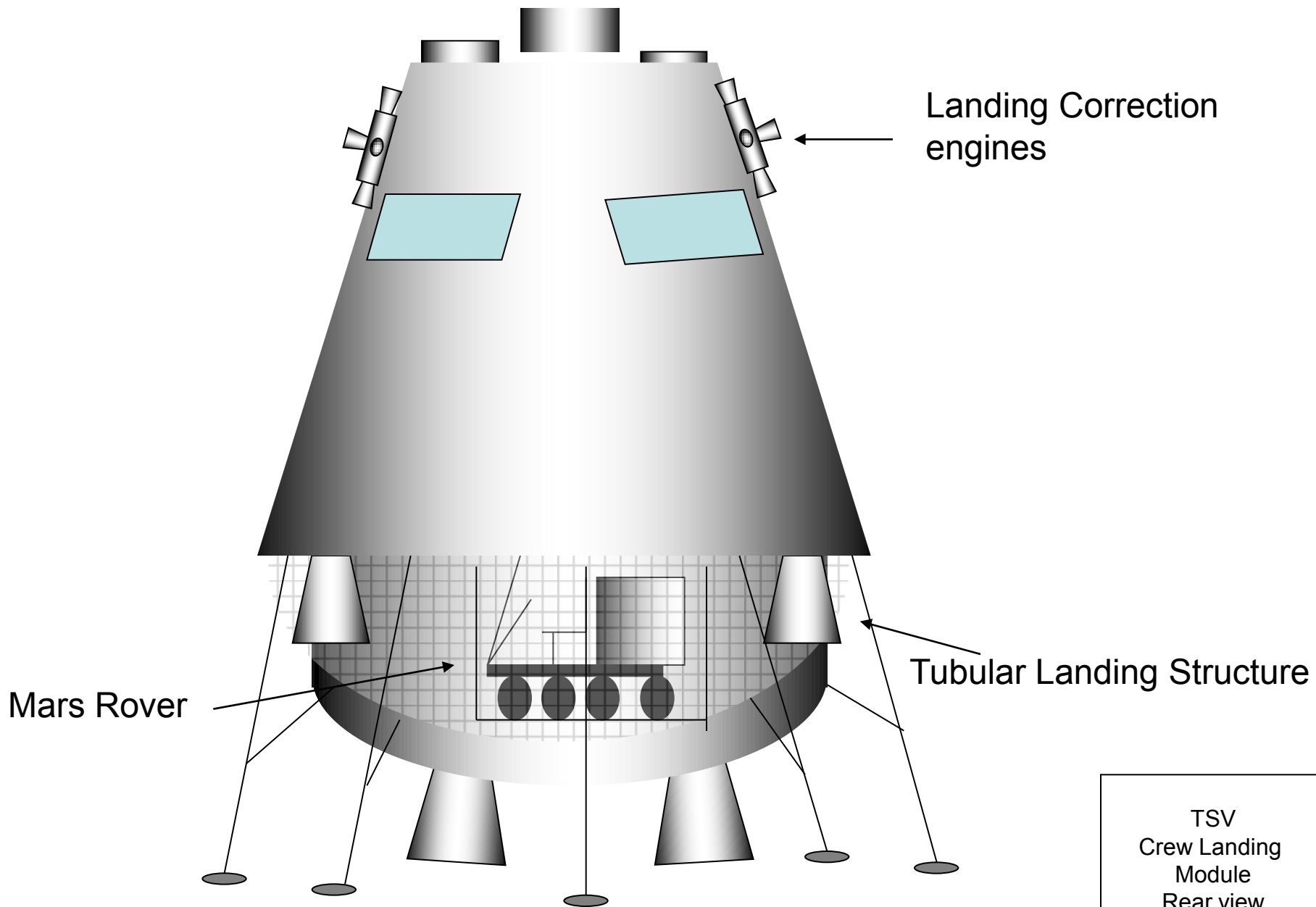
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Landing Correction engines

Heat shield

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Crew Landing
Module
With heat shield
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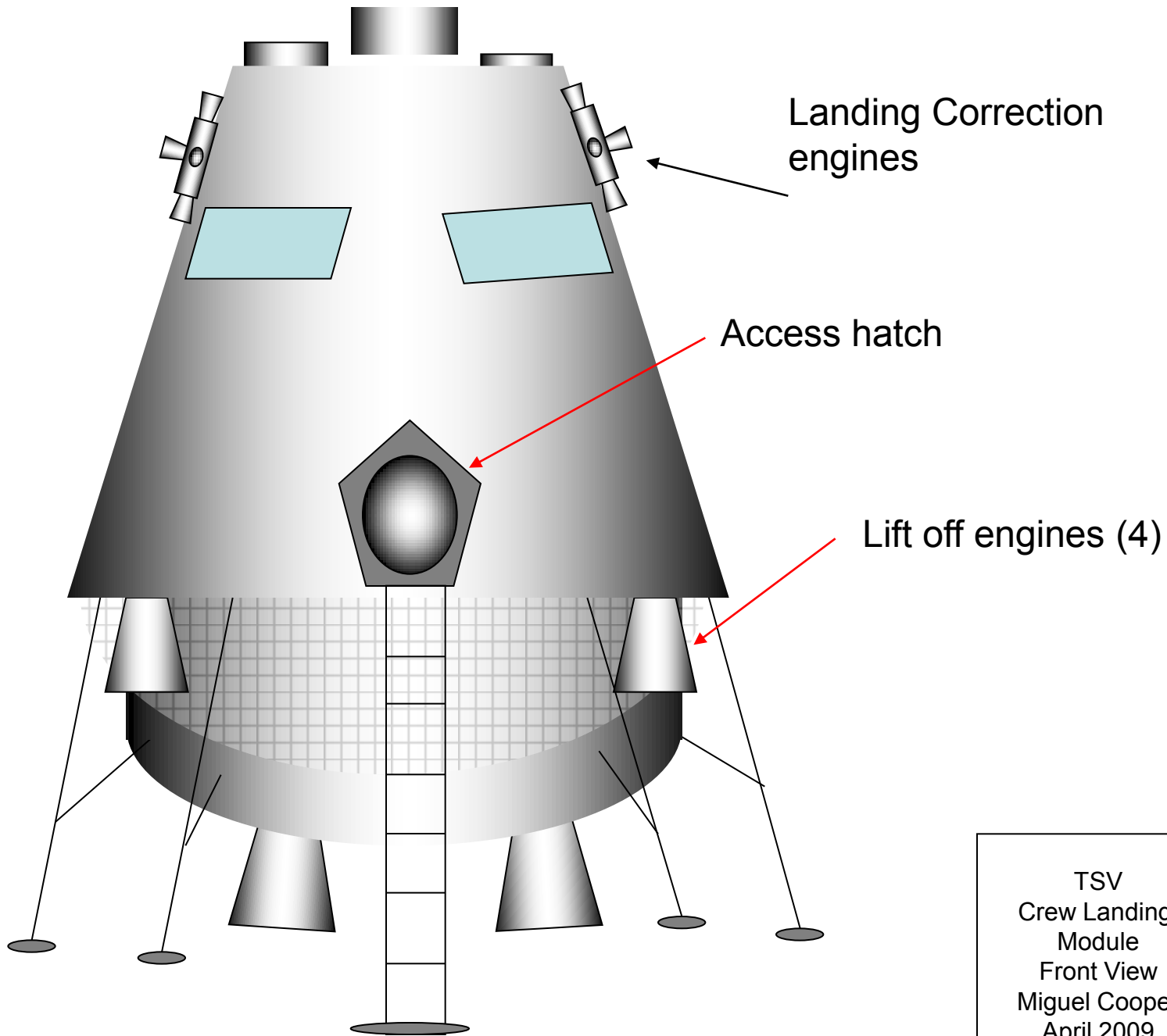


Landing Correction engines

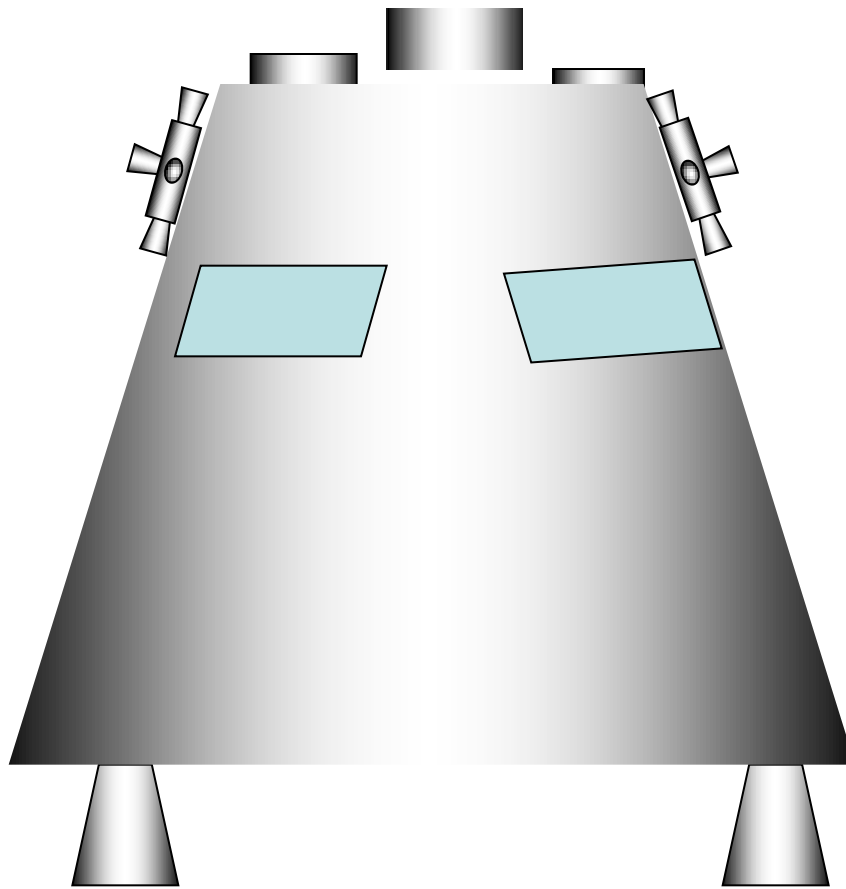
Mars Rover

Tubular Landing Structure

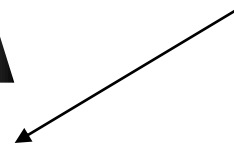
TSV
Crew Landing
Module
Rear view
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TSV
Crew Landing
Module
Front View
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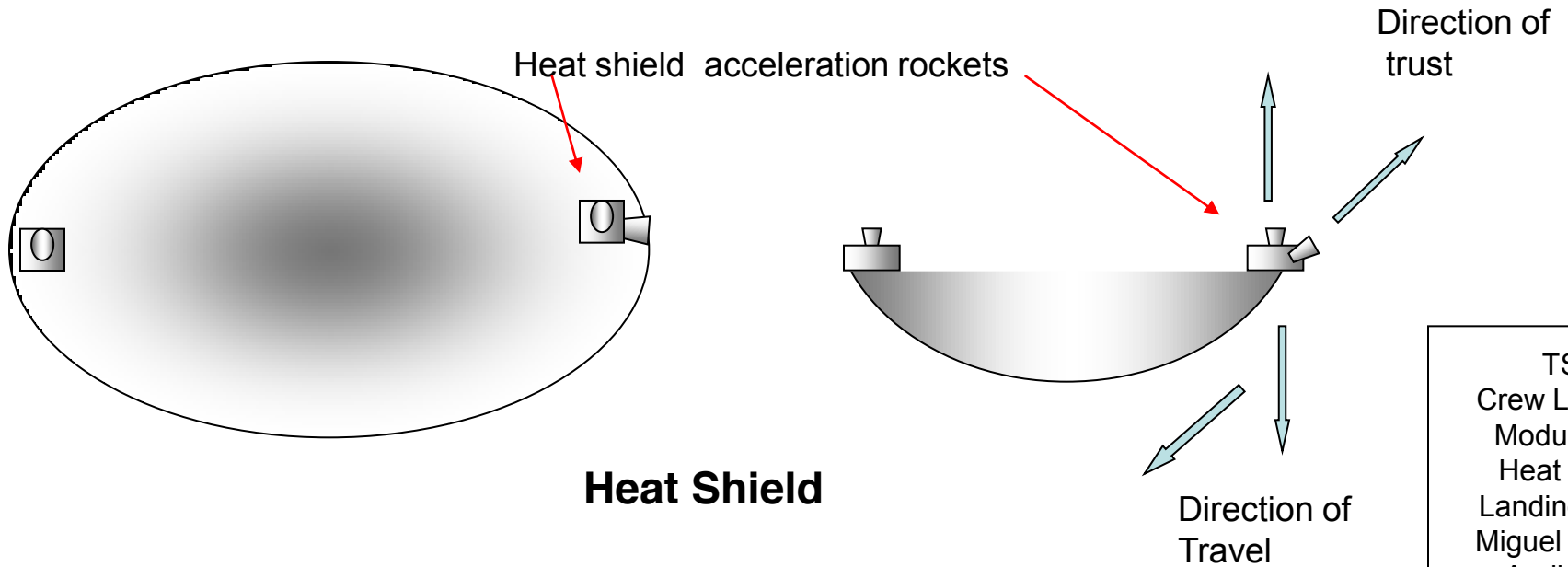
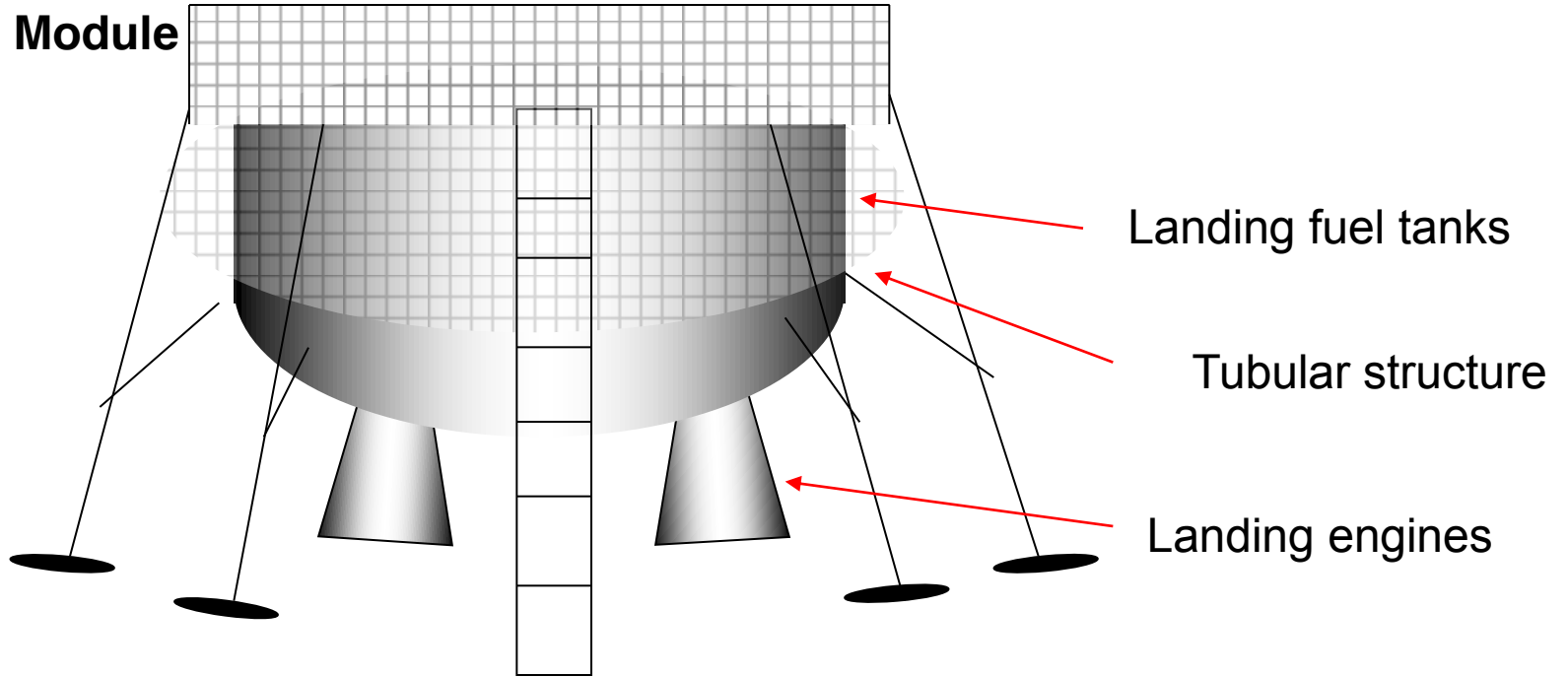


Lift off engines (4)



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Crew Landing
Module
Ascent stage
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Landing Module



TSV
Crew Landing
Module and
Heat Shield
Landing stage
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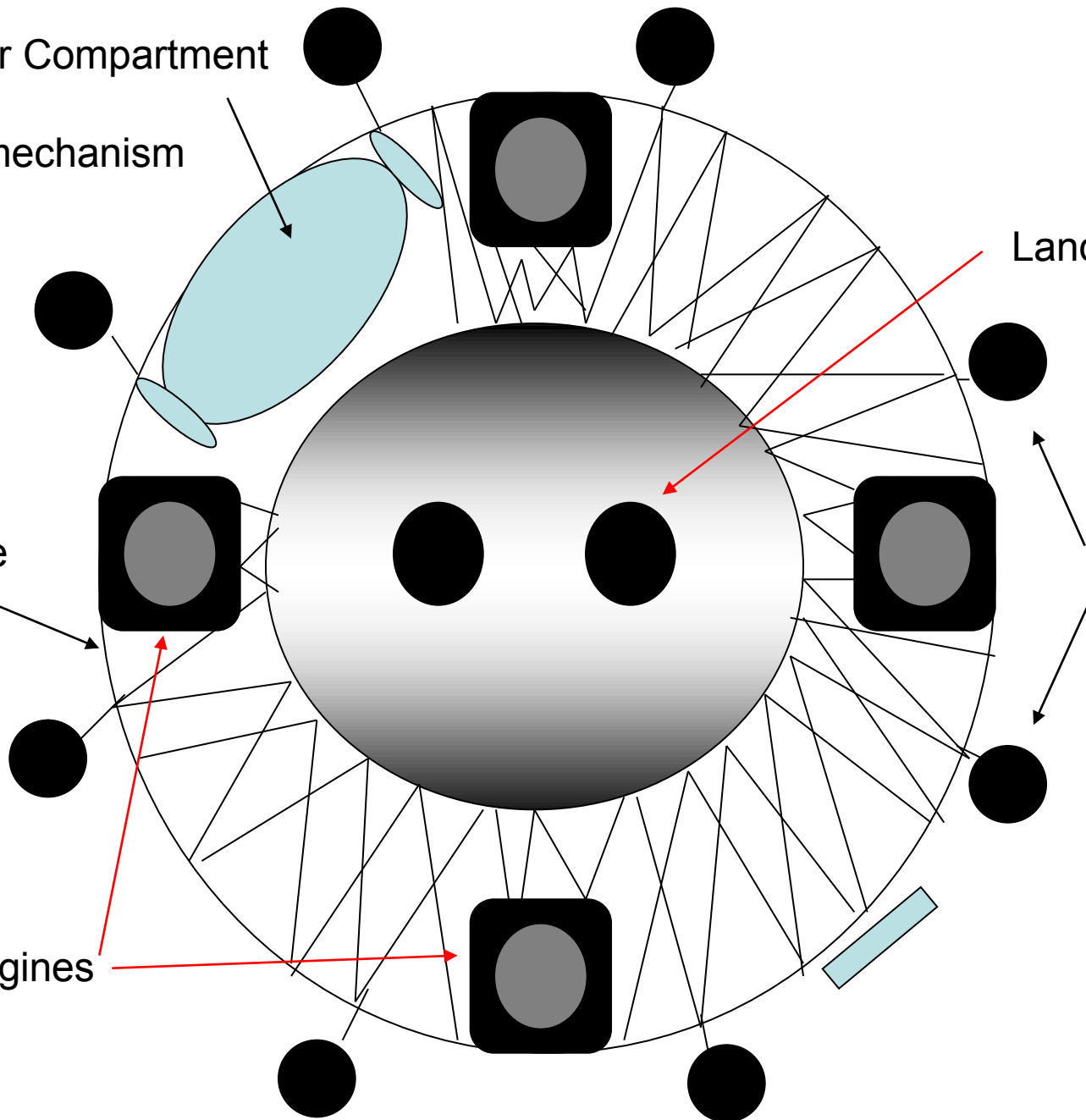
Mars Rover Compartment
And
Lowering mechanism

Tubular
Landing
Structure

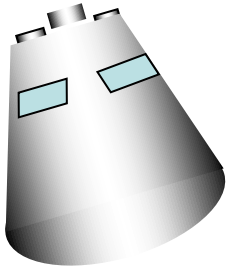
Liftoff engines

Landing Engines

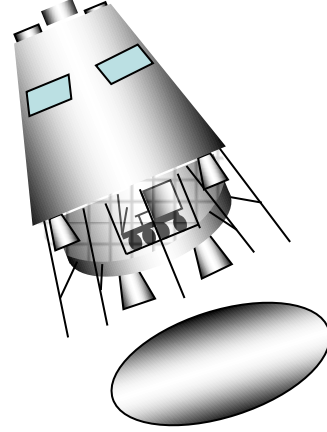
Landing Pads



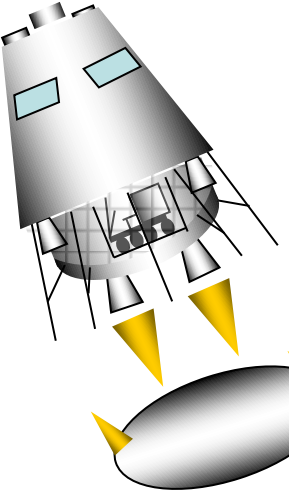
TSV
Crew Landing
Module
Landing stage
Bottom view
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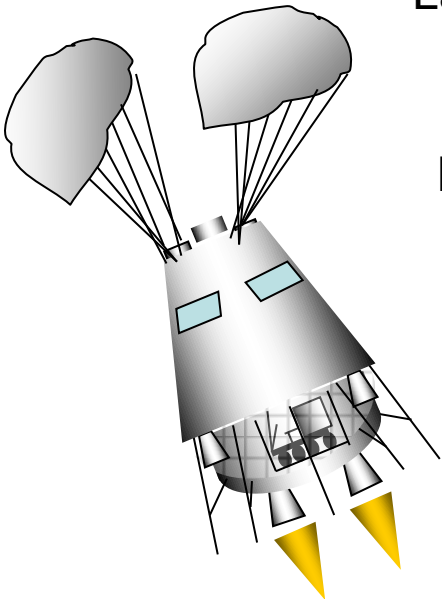
Atmosphere Entry



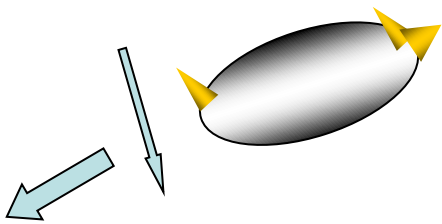
Heat Shield jettisoned



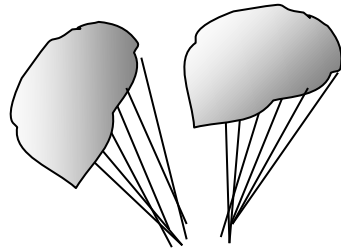
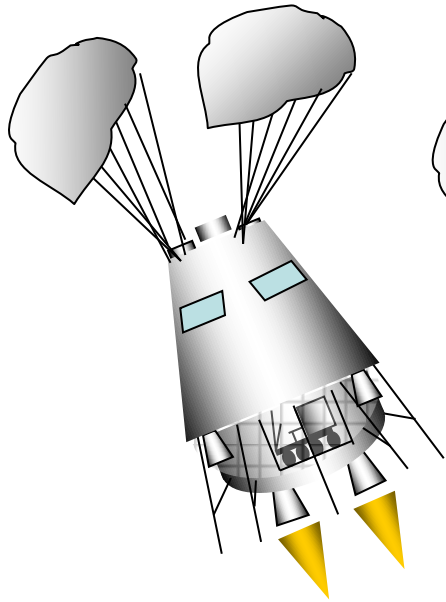
Landing Engines Start



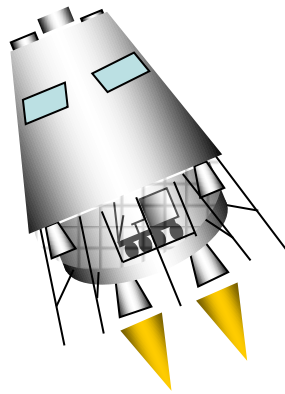
Parachutes deployment



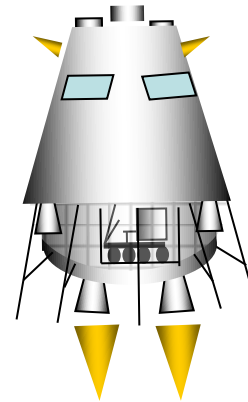
TSV
Crew Landing
Module
Landing Sequence
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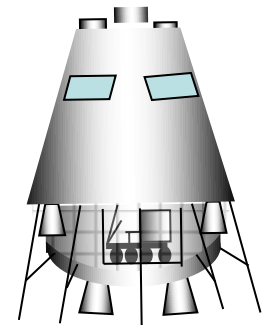
Parachutes jettisoned



Course Correction



Mars Landing



TSV
Crew Landing
Module,
landing module
and rover

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