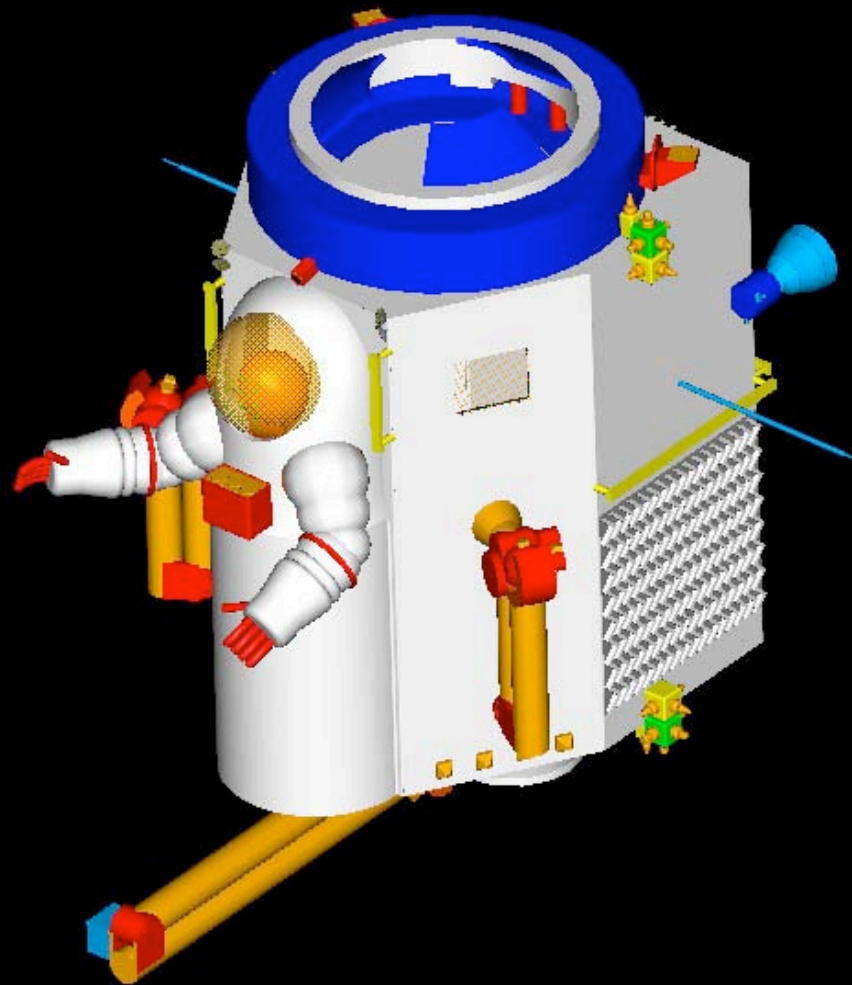


# Project **SCOUT**



# Project **SCOUT**



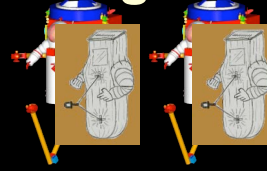
# Project SCOUT

## Configuration 1:



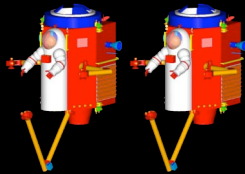
- One Pod
- No Escape

## Configuration 5:



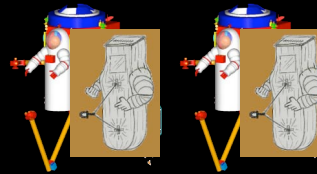
- Two Pods
- Bailout Systems

## Configuration 2:



- Two Pods
- No Escape

## Configuration 6:



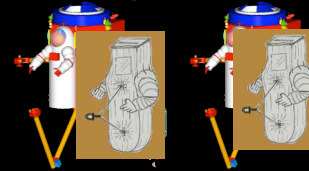
- Two Pods
- Propulsion Bailout Systems

## Configuration 3:



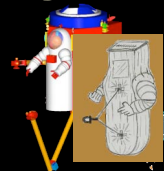
- One Pod
- Bailout System

## Configuration 7:



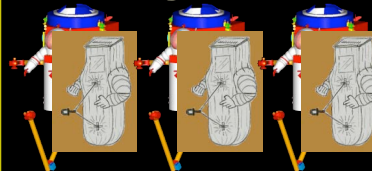
- Two Pods
- Propulsion / Bailout Systems

## Configuration 4:



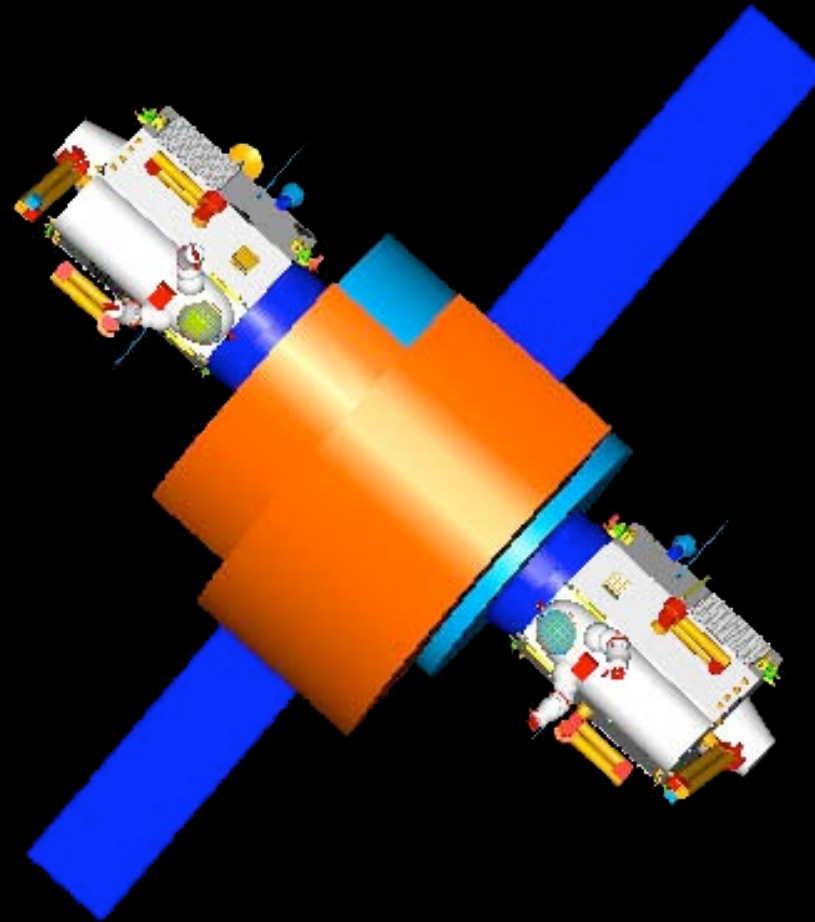
- One Pod
- Propulsion Bailout System

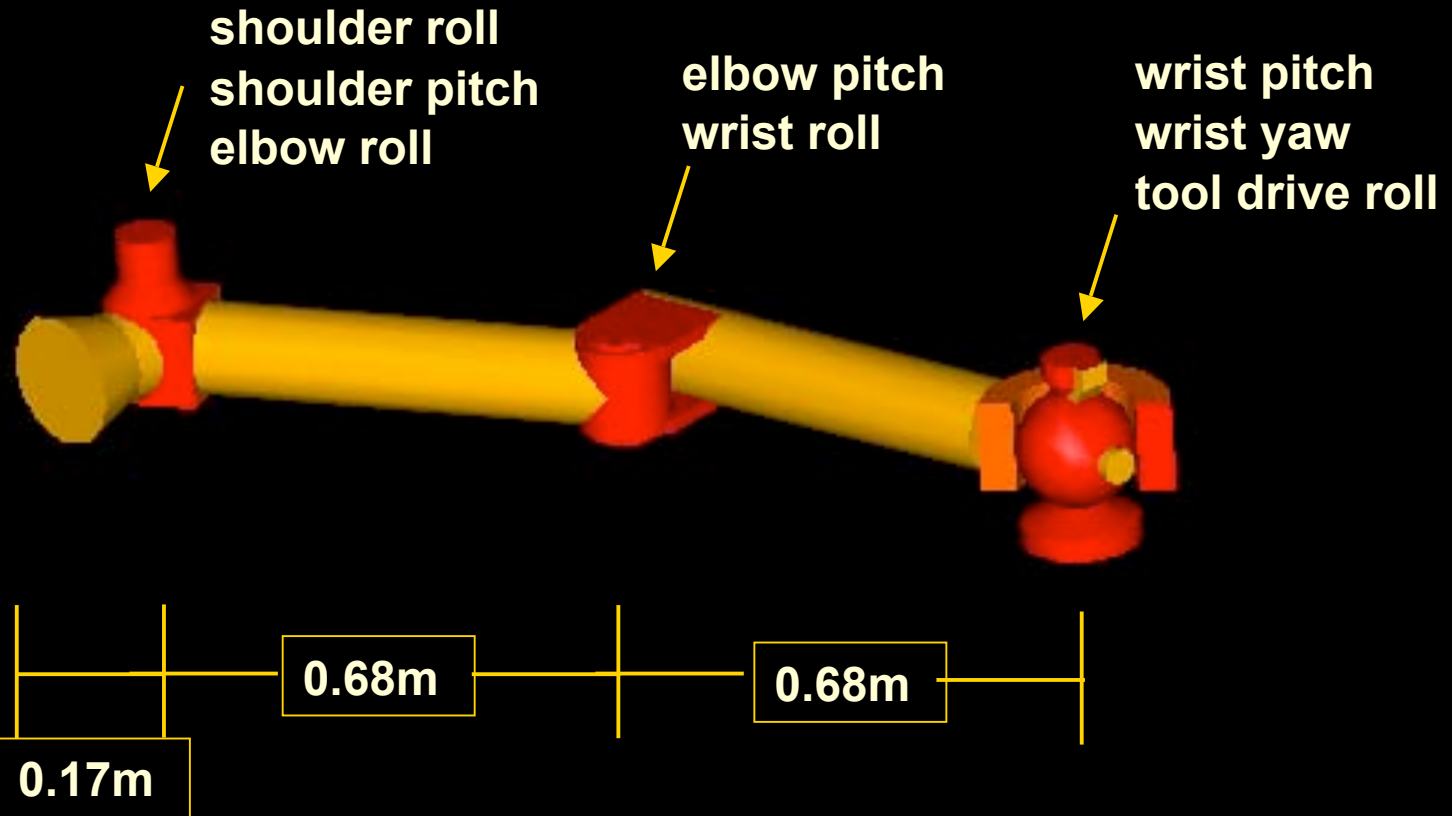
## Configuration 8:

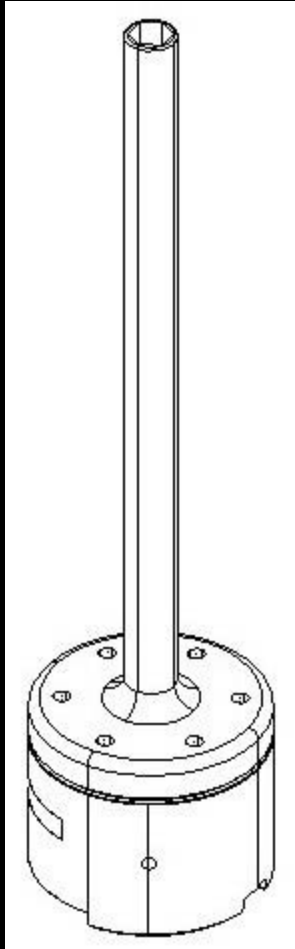


- Three Pods
- Bailout Systems

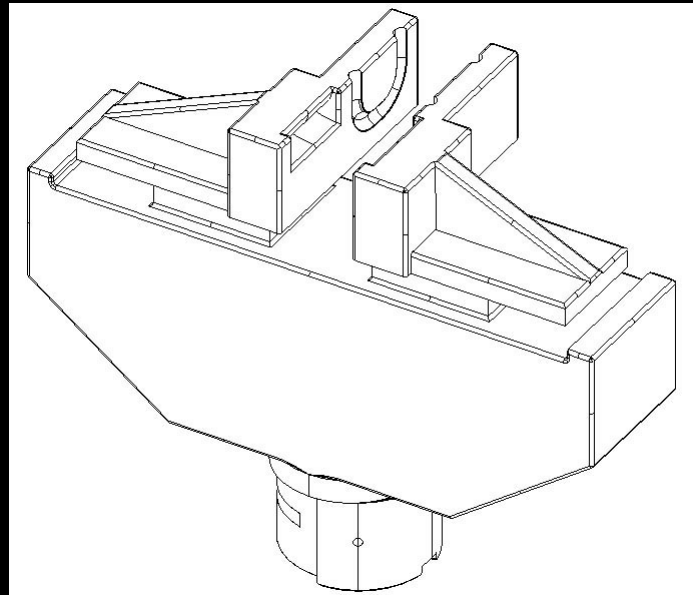
# Project **SCOUT**



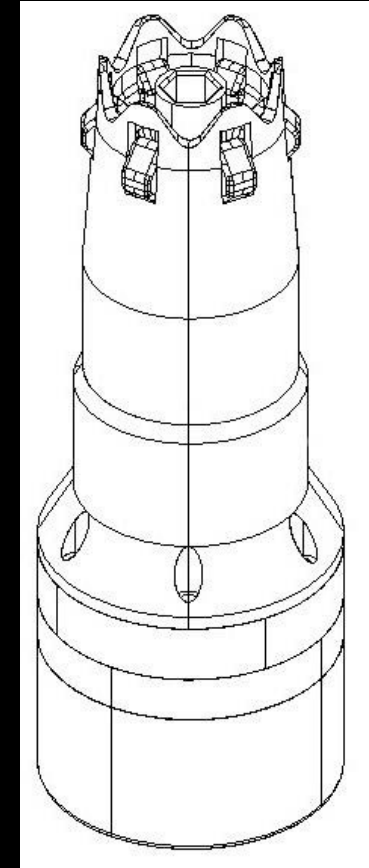




**Bare Bolt Drive**



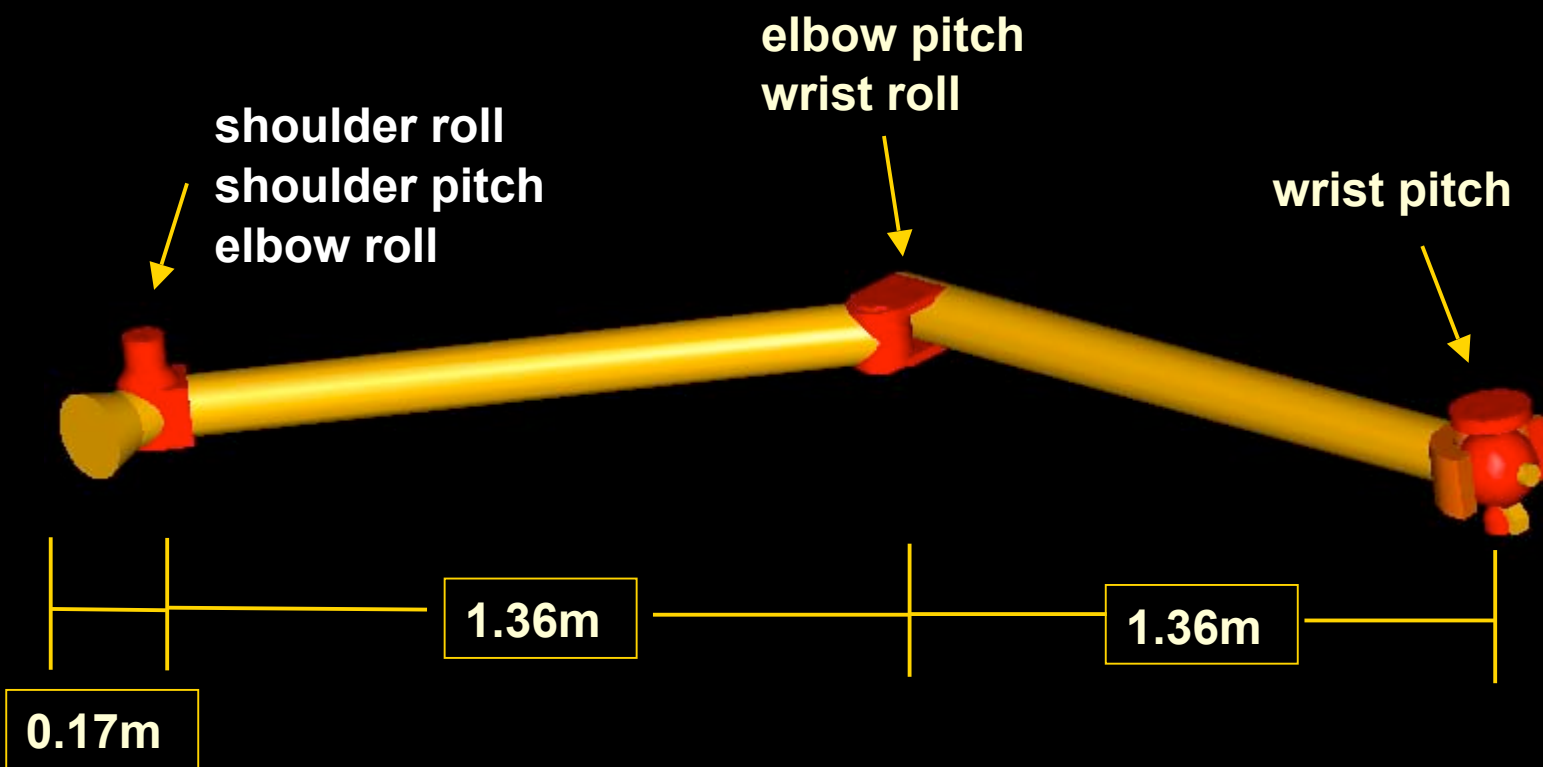
**Parallel Jaw Mechanism**



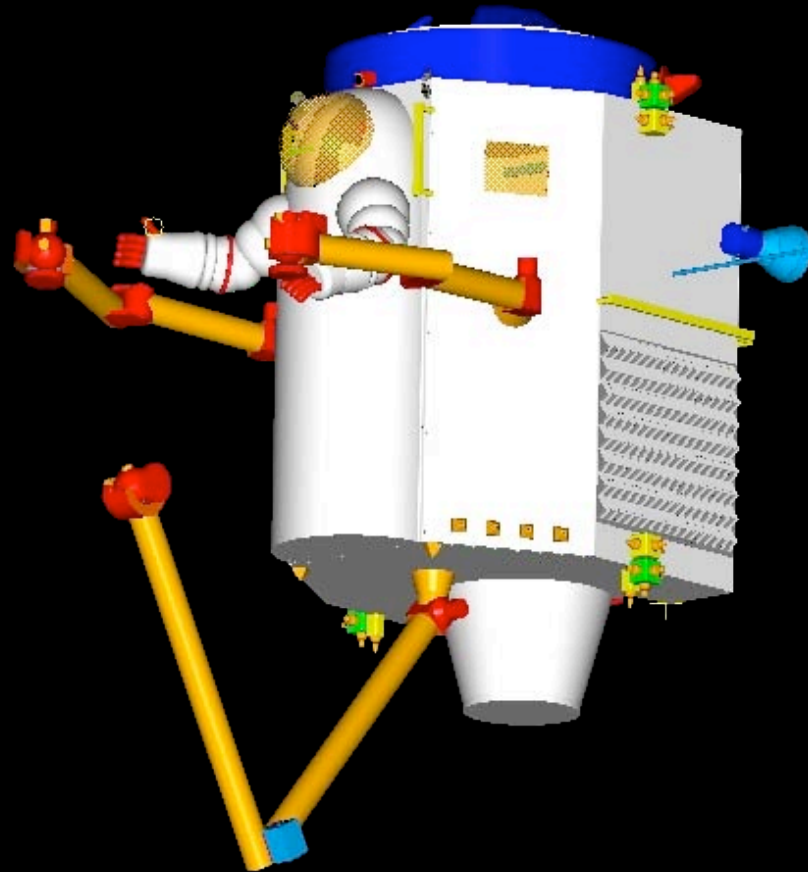
**Microconical**

<http://rtsx.ssl.umd.edu>



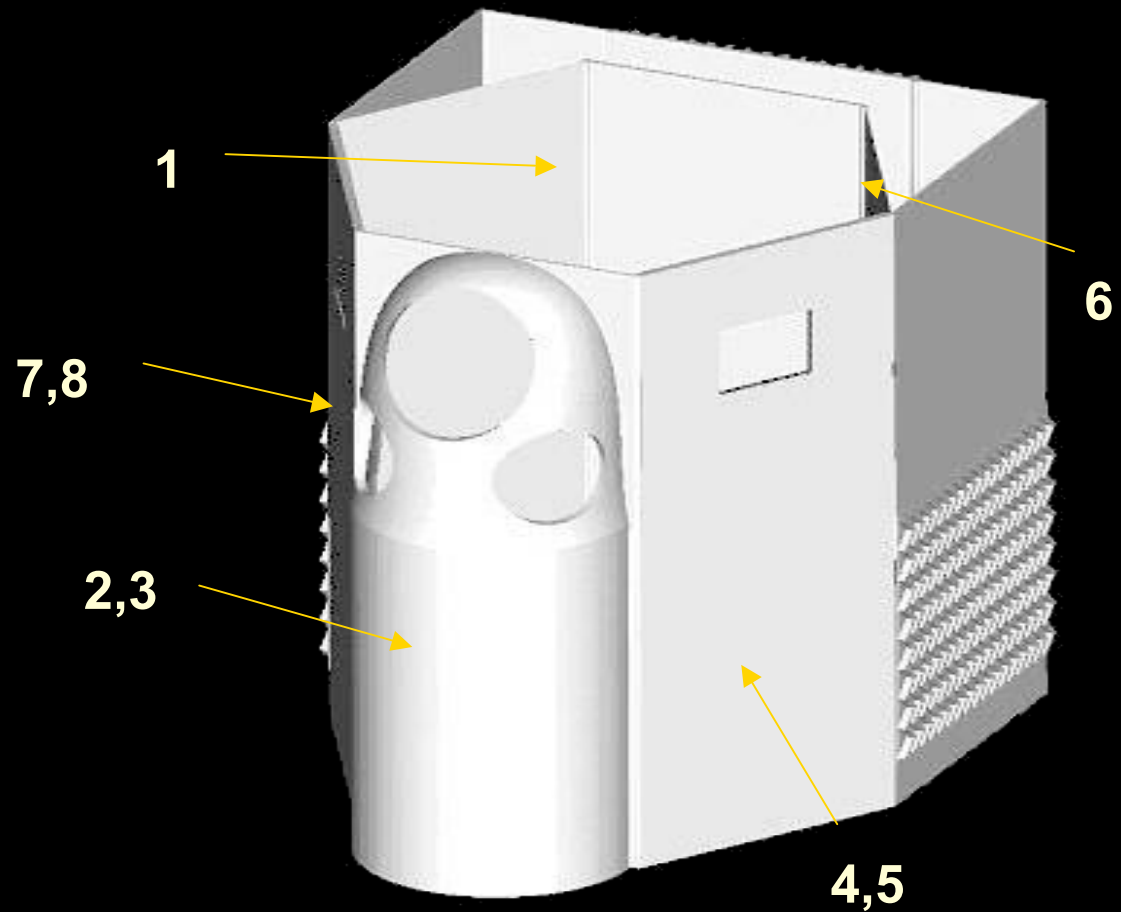


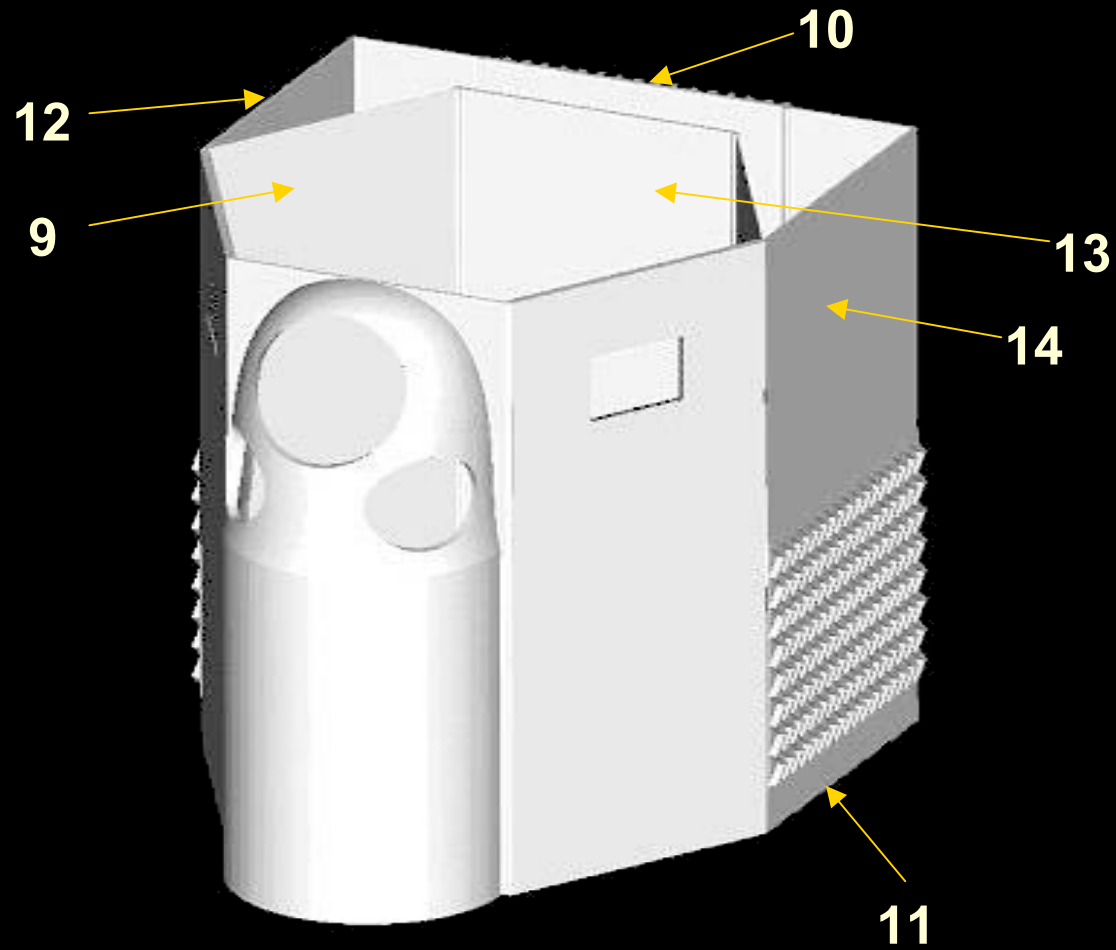
# Project **SCOUT**

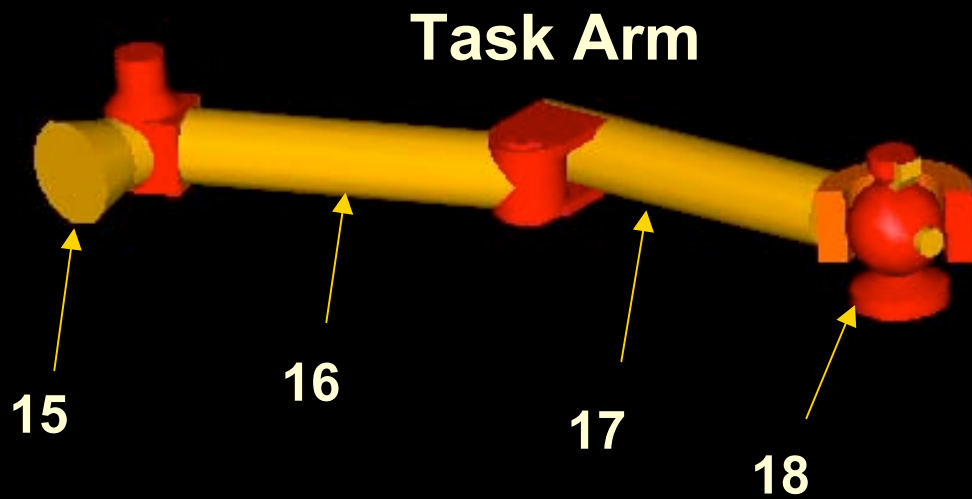
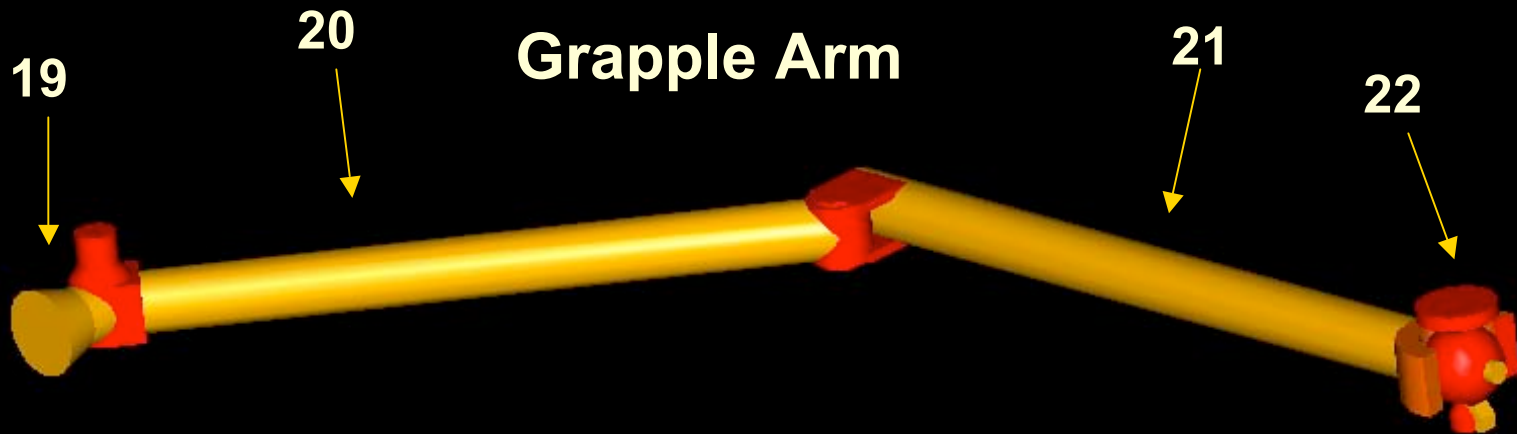




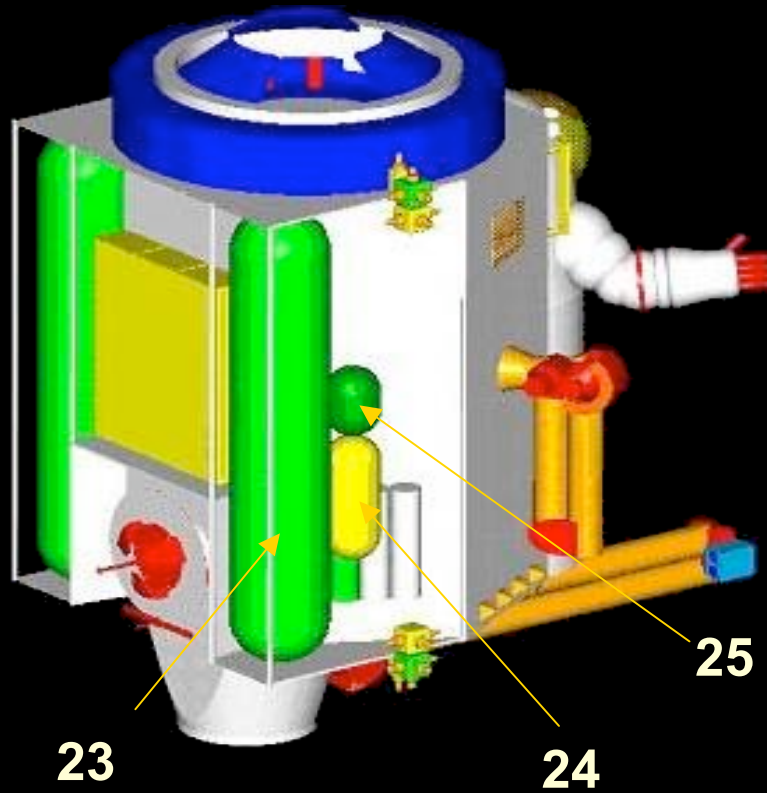
# Project **SCOUT**





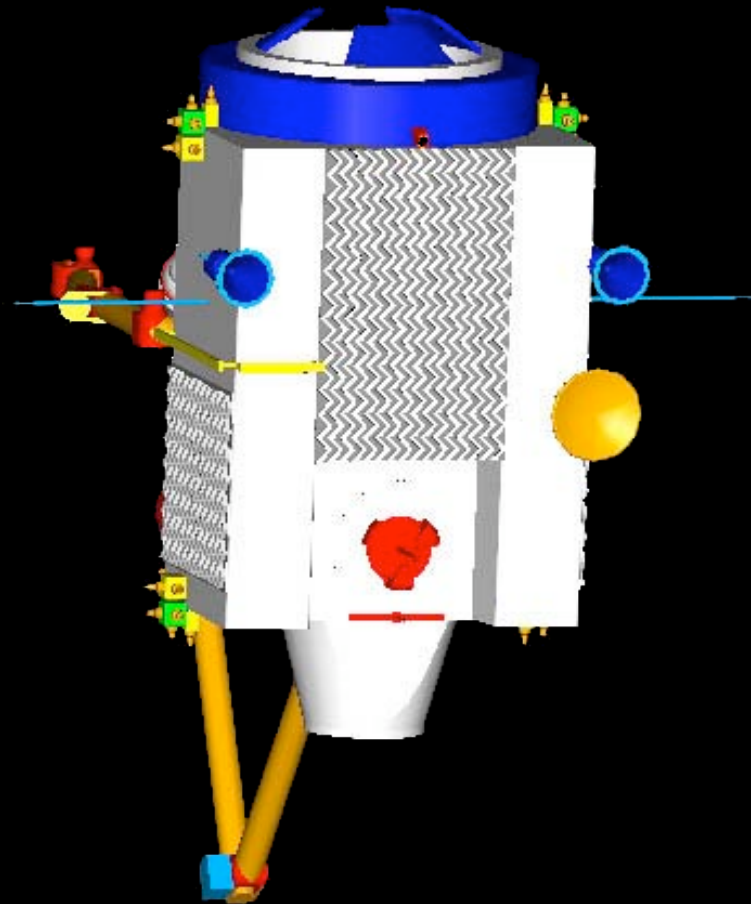


# Project **SCOUT**

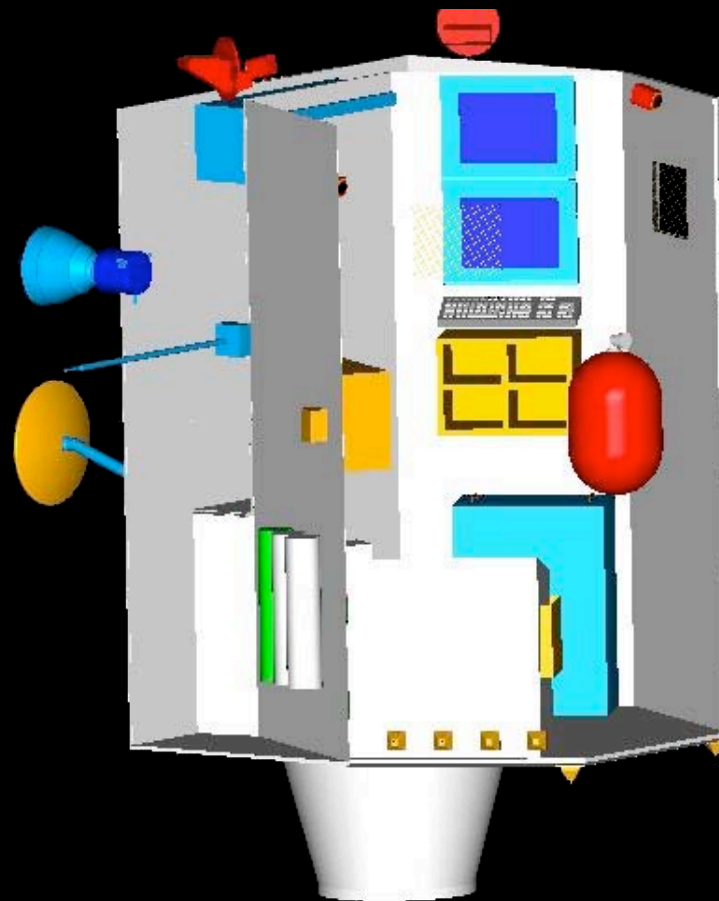


26, 27, 28  
Not Shown

# Project **SCOUT**



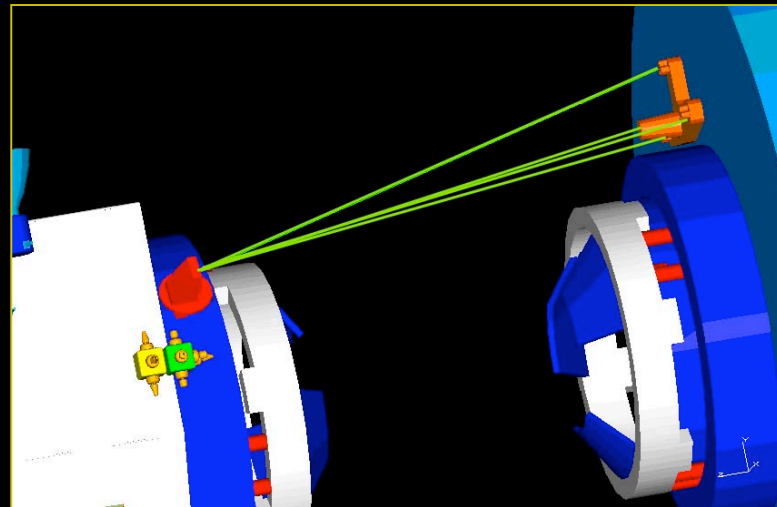
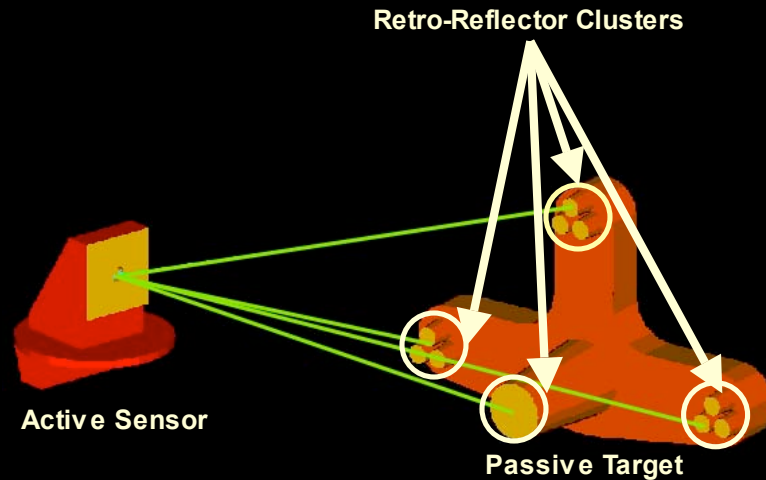
# Project SCOUT



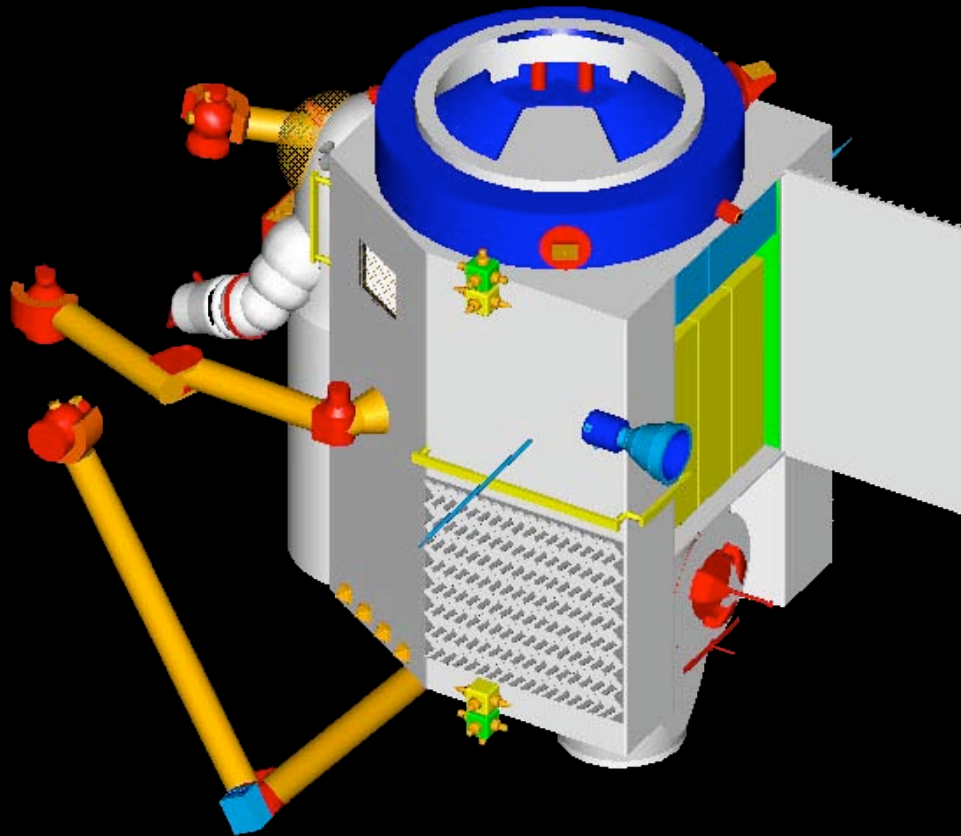


## Operation:

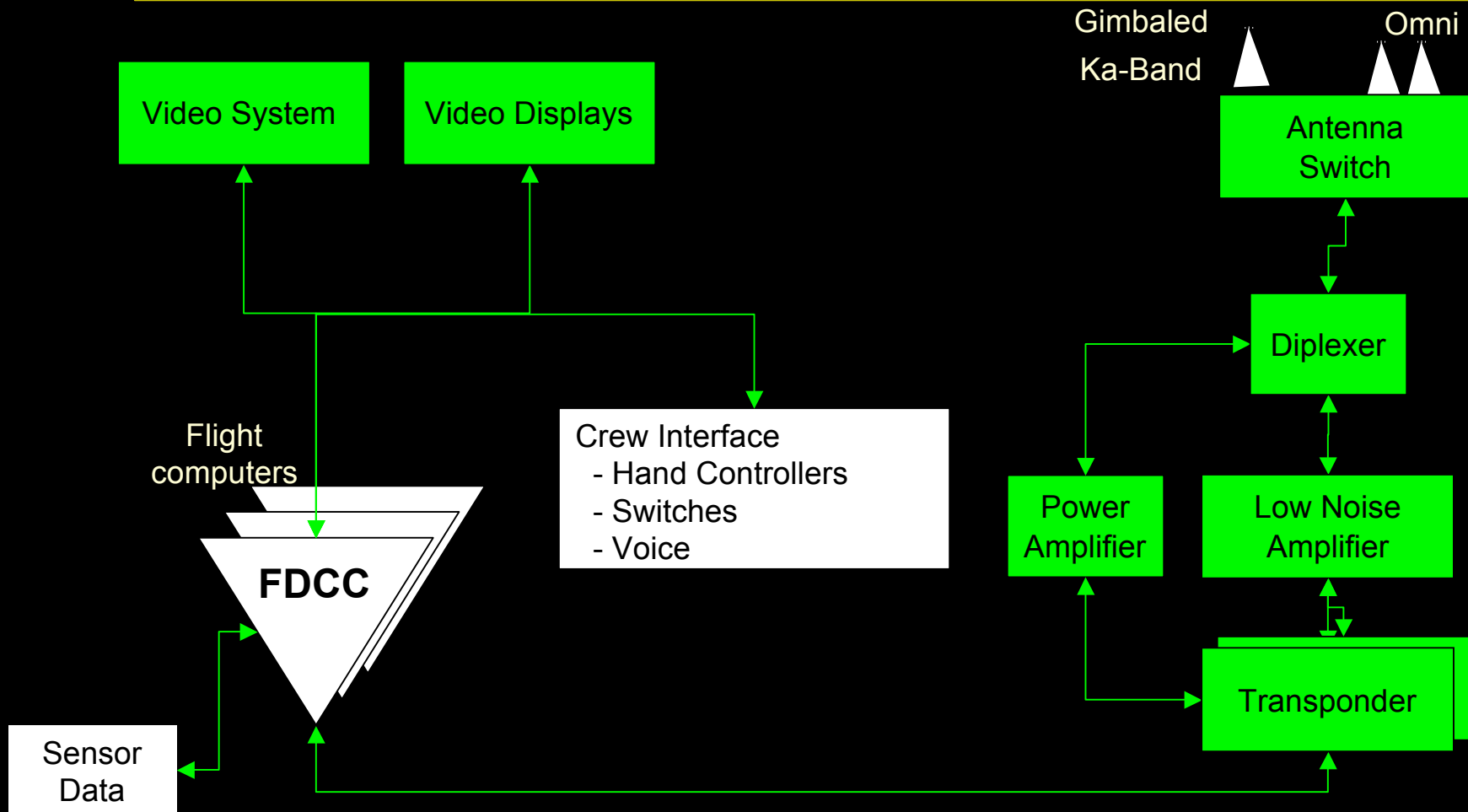
- Laser diodes illuminate retro-reflectors mounted on the target
- CMOS camera detects reflected beams from target
- DSP translates video information and converts it into relative position and attitude measurements
- SBC sends information to Guidance, Navigation, and Control (GN&C) system



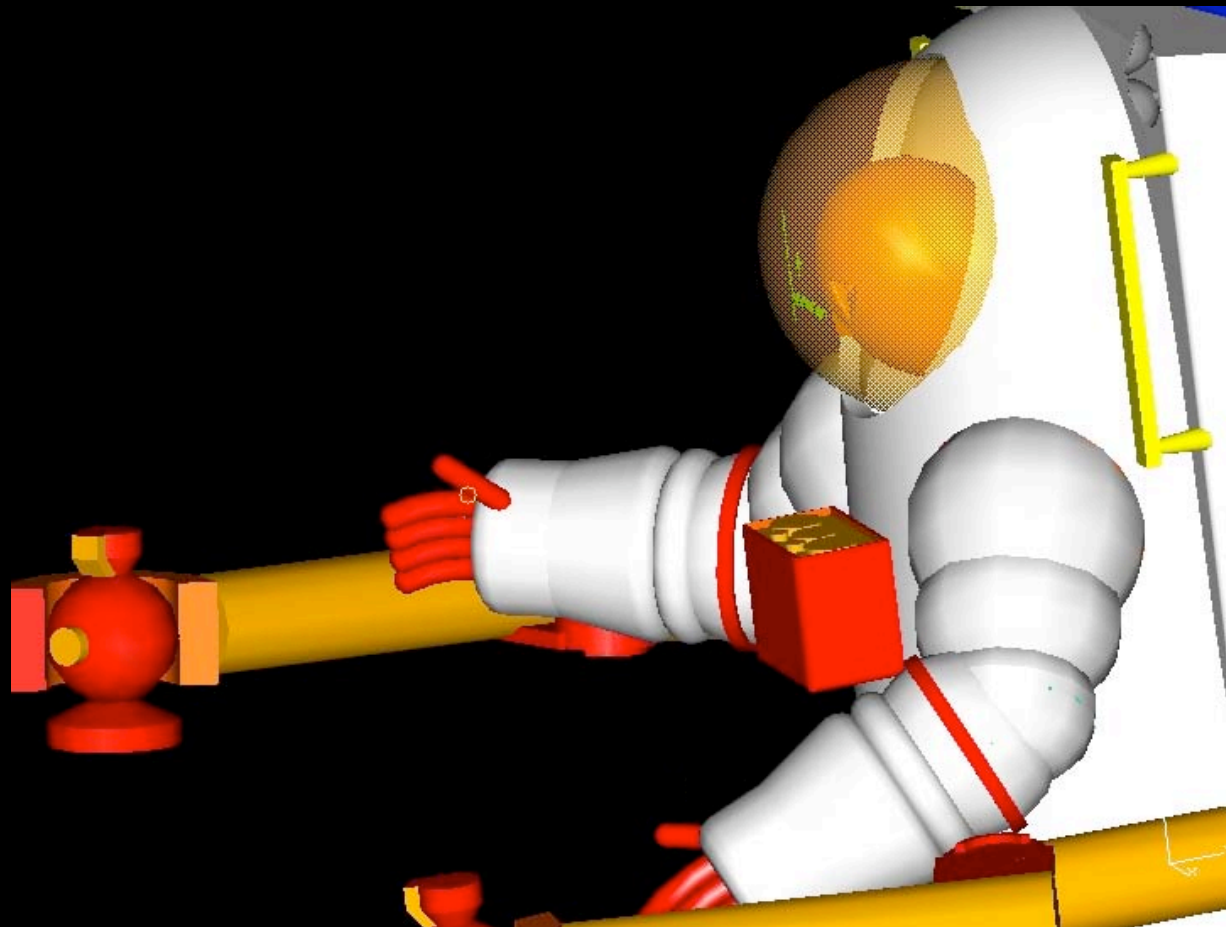
# Project **SCOUT**



# Project SCOUT

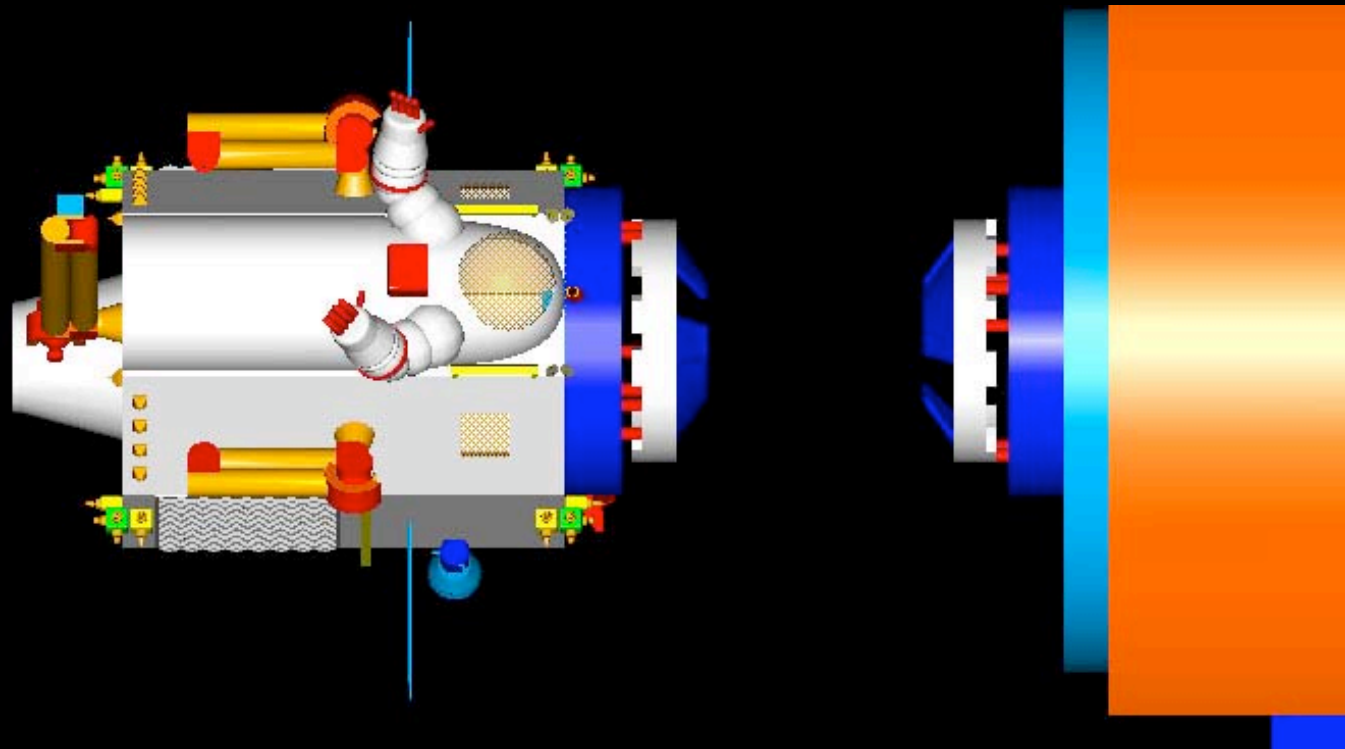


# Project **SCOUT**



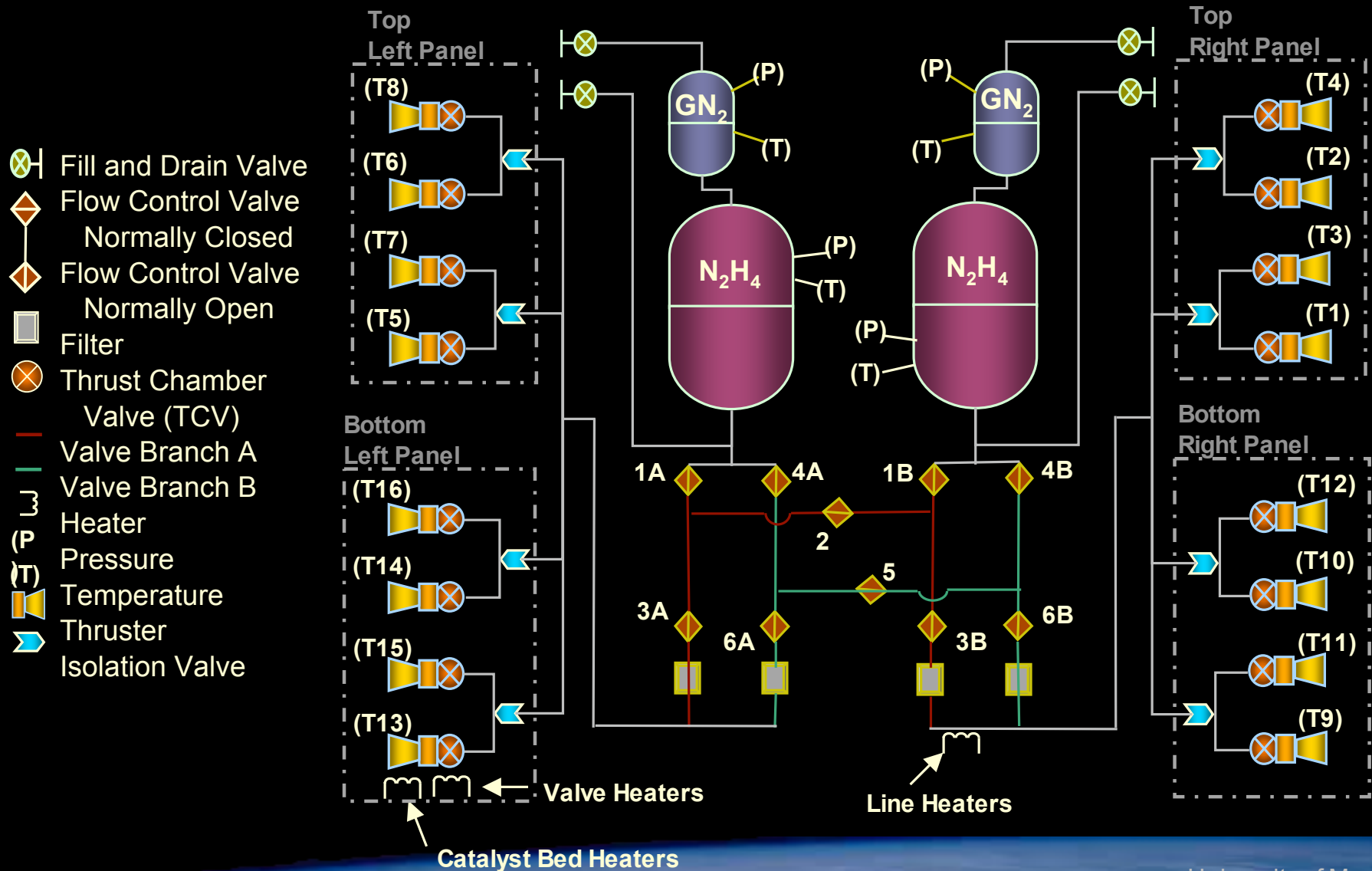
Component	Mass (kg)	Power (W)	Maturity
CompactPCI Box - 6U Chassis	15	N/A	Estimated
FDCC Single-Board Computers (3)	1.647	20.4	Measured
Solid State Recorder Card (2)	1.84	12	Measured
IEEE 1394 Data Bus Card (2)	1.84	10	Measured
Video Display Graphics Card (2)	2	10	Measured
Open CompactPCI Card Slot (5)	5	30	Estimated
Crew Interface Display - 15" (2)	14.6	52	Measured
Keyboard and Hand Controllers (2)	5.35	1	Estimated
Heads-Up-Display Electronics	2	5	Estimated
Crew Interface Switches	6.3	1	Estimated
Internal and External Cameras	1.5	9	Measured
Camera Gimbals	10	30	Measured
Power Distribution Unit (3)	30	15	Estimated
Wiring Harness	50	N/A	Calculated
<b>Total</b>	<b>191</b>	<b>295</b>	

# Project SCOUT





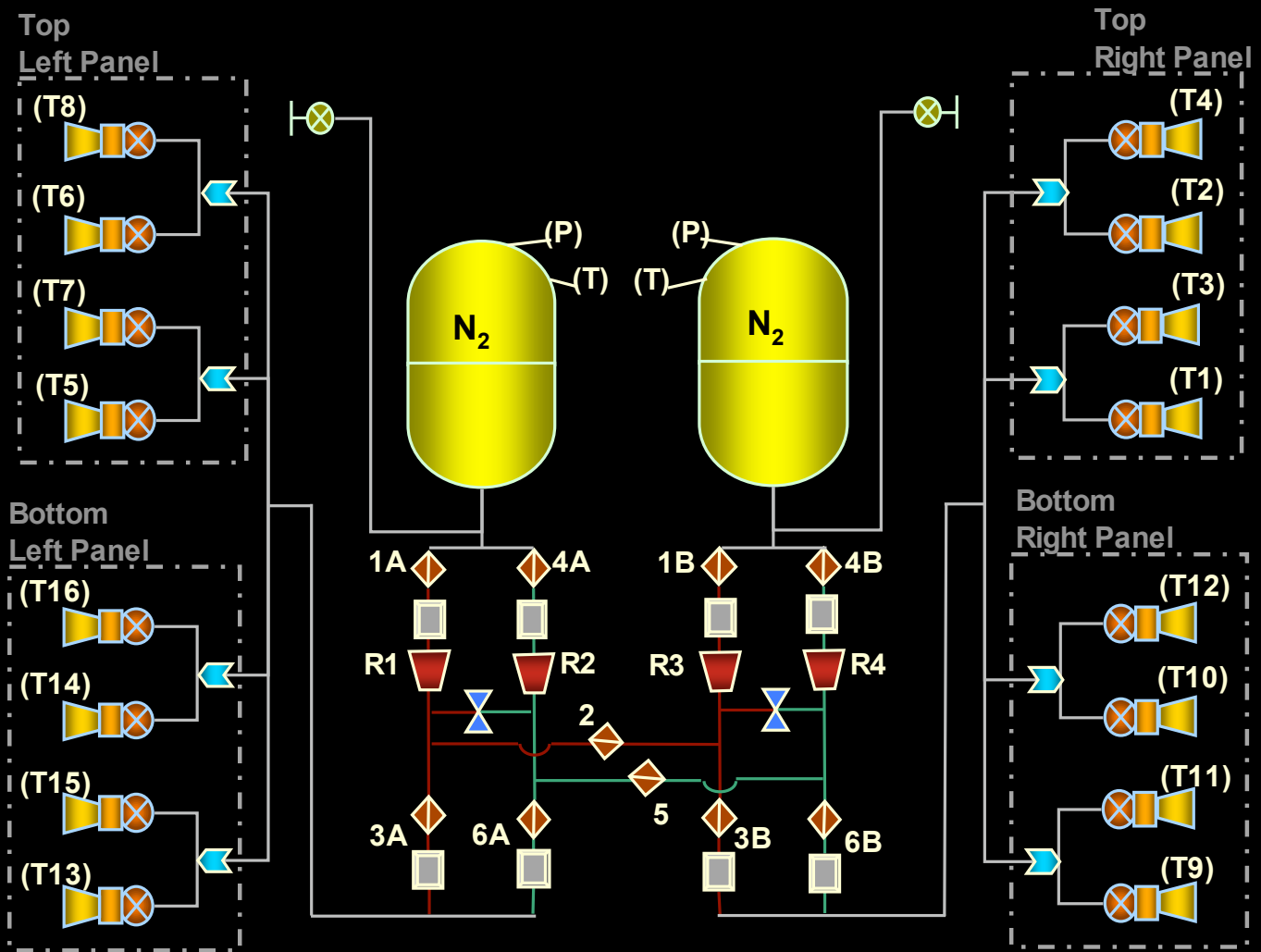
# Project SCOUT



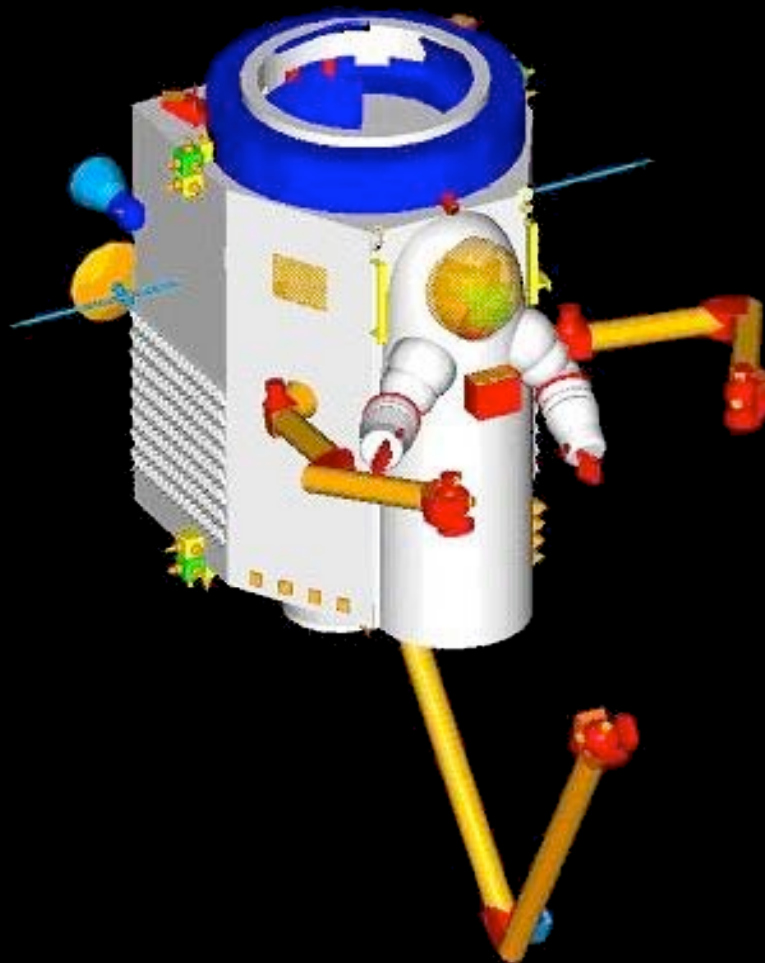
# Project SCOUT



- Fill and Drain Valve
- Flow Control Valve Normally Closed
- Flow Control Valve Normally Open
- Filter
- Thrust Chamber Valve (TCV)
- Valve Branch A
- Valve Branch B
- Heater
- Pressure
- Temperature
- Thruster
- Isolation Valve
- Pressure Regulator Relief Valve



# Project **SCOUT**





# Project **SCOUT**

Critical Design Review  
May 3, 2003

