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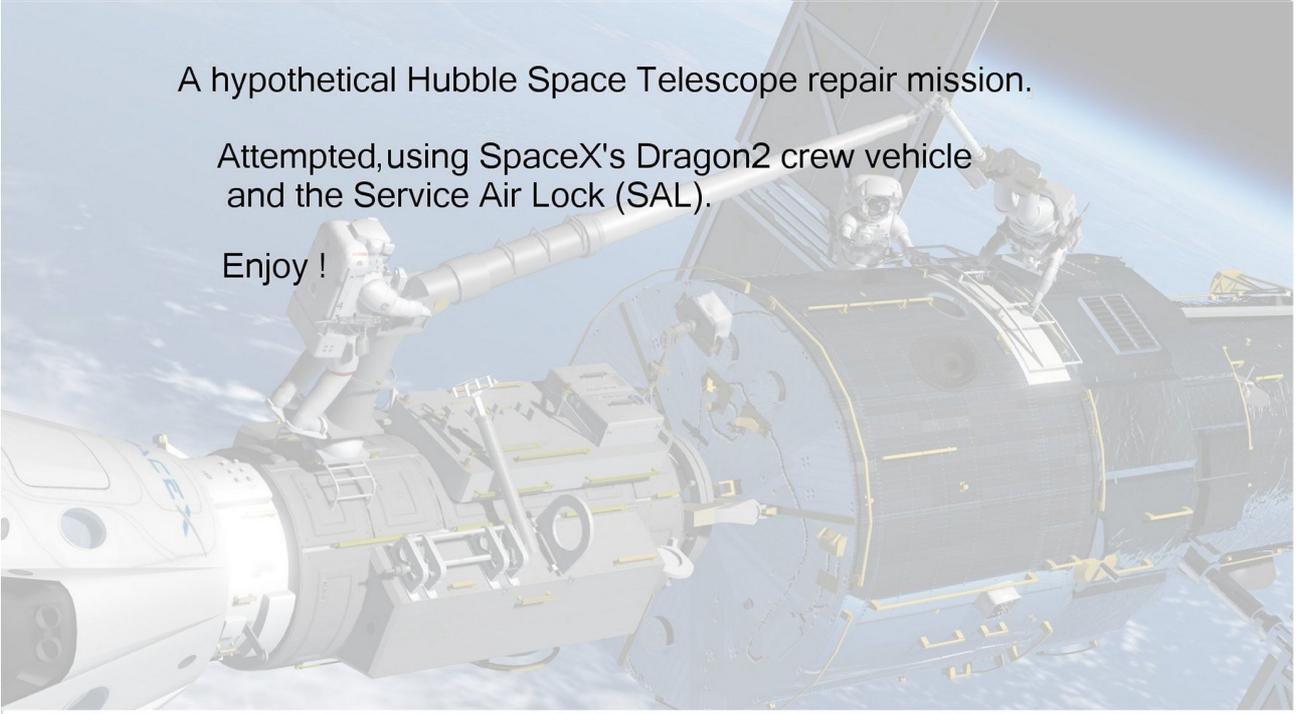
SPACEX  
HUBBLE REPAIR ?



A hypothetical Hubble Space Telescope repair mission.

Attempted, using SpaceX's Dragon2 crew vehicle  
and the Service Air Lock (SAL).

Enjoy !



You need the following add-ons to use the Scenarios contained in this Add-on.

Required add-ons:

Crew Dragon for Orbiter2016

<https://www.orbithangar.com/searchid.php?ID=7198>

Falcon9 for Orbiter2016

<https://www.orbithangar.com/searchid.php?ID=7091>

HST(EX) for Orbiter2016

<https://www.orbithangar.com/searchid.php?ID=7233>

LC39A SpaceX (optional launch pad)

<https://www.orbithangar.com/searchid.php?ID=7090>

SpaceCraft 4

<http://francophone.dansteph.com/?page=addon&id=202&language=english>

GenericVessel

<http://thespaceway.org/files/dw.php?id=18>

Credits :

Brian Jones,  
Coding and Technical support

Colin McGlothlin "Felix24",  
EVA guys and SAL Texturing

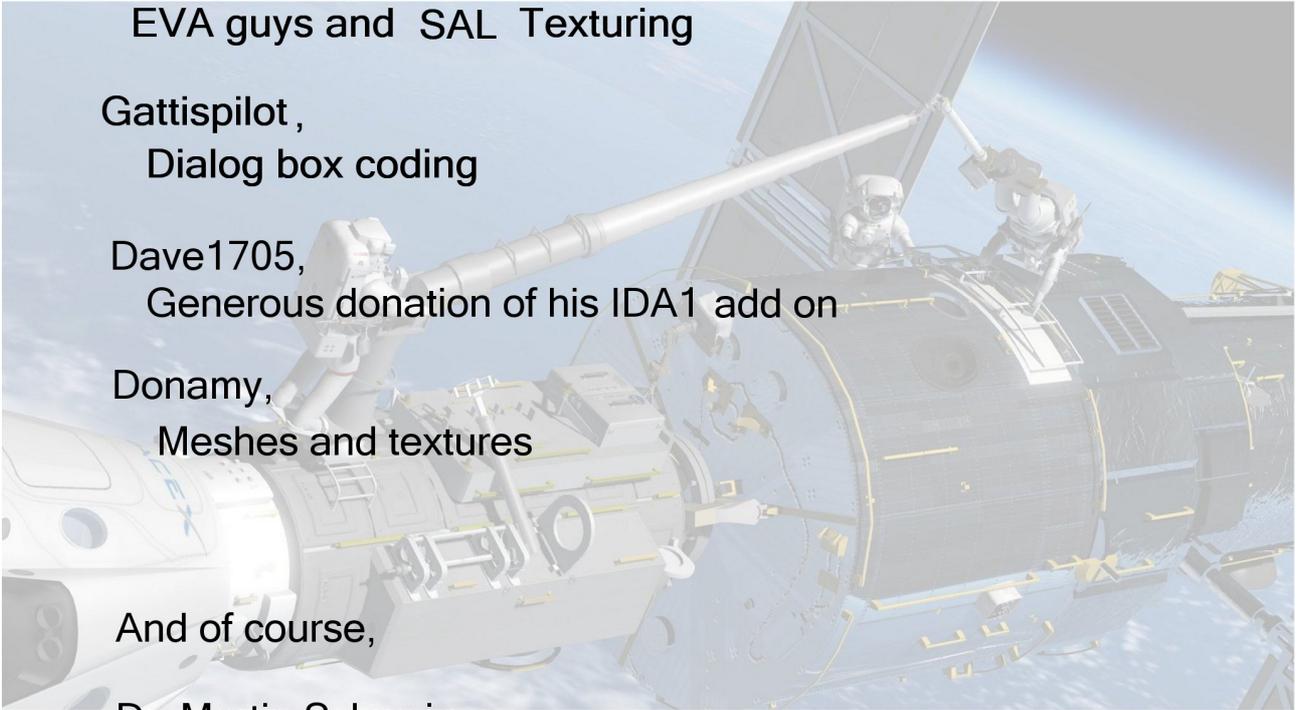
Gattispilot ,  
Dialog box coding

Dave1705,  
Generous donation of his IDA1 add on

Donamy,  
Meshes and textures

And of course,

Dr. Martin Schweiger  
Orbiter Spaceflight Sim creator



While focused on the Falcon9DRG, maneuver the vessel to align the planes with the falcon9SAL. After aligning planes, press "J" to separate the Dragon2 from the stage 2.

Set focus on the Falcon9SAL , press "J" to separate the SAL from it's stage 2. Press the "K" key to deploy the solar array. Press "G" to deploy the docking collar if it is not already. Don't forget to de-orbit both stage 2s.

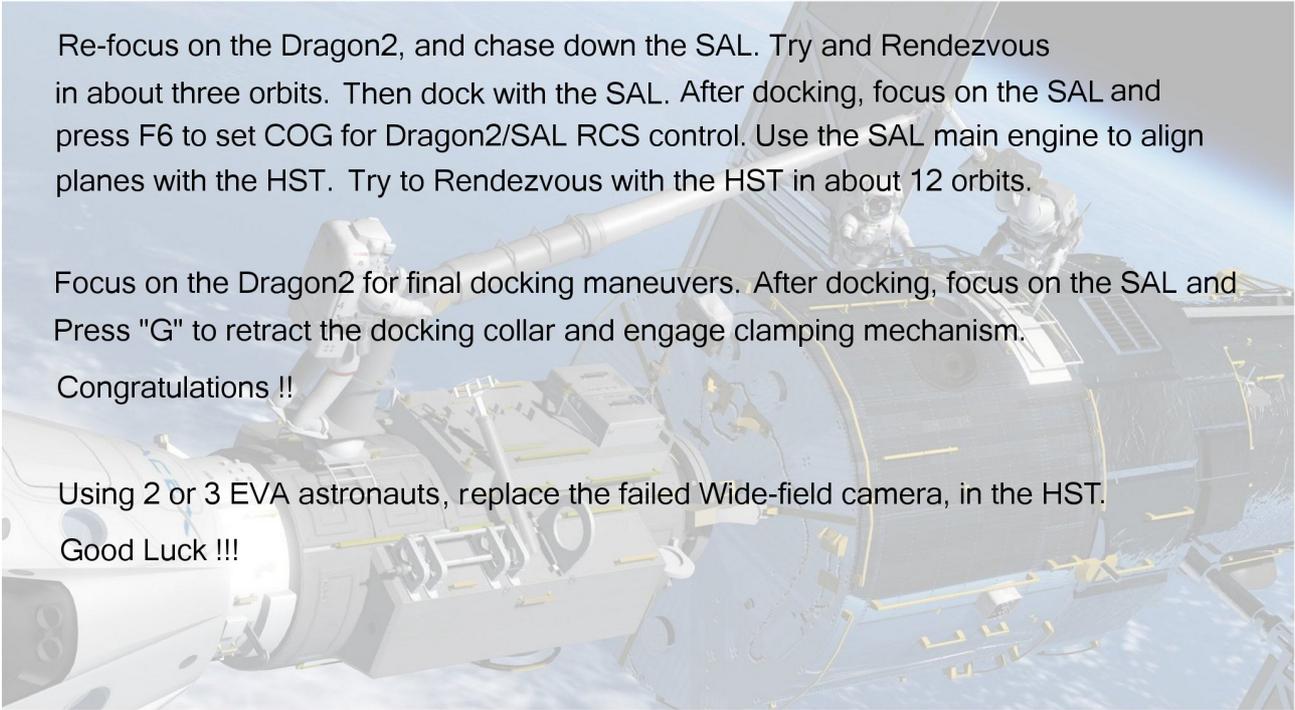
Re-focus on the Dragon2, and chase down the SAL. Try and Rendezvous in about three orbits. Then dock with the SAL. After docking, focus on the SAL and press F6 to set COG for Dragon2/SAL RCS control. Use the SAL main engine to align planes with the HST. Try to Rendezvous with the HST in about 12 orbits.

Focus on the Dragon2 for final docking maneuvers. After docking, focus on the SAL and Press "G" to retract the docking collar and engage clamping mechanism.

Congratulations !!

Using 2 or 3 EVA astronauts, replace the failed Wide-field camera, in the HST.

Good Luck !!!



To Start, run the "Dragon2\_SAL Launch to HST" scenario.

While on the pad, open the Falcon9 Launch Panel by pressing "K"

Set both the Falcon9DRG and Falcon9SAL to Launch at 13:00:00.

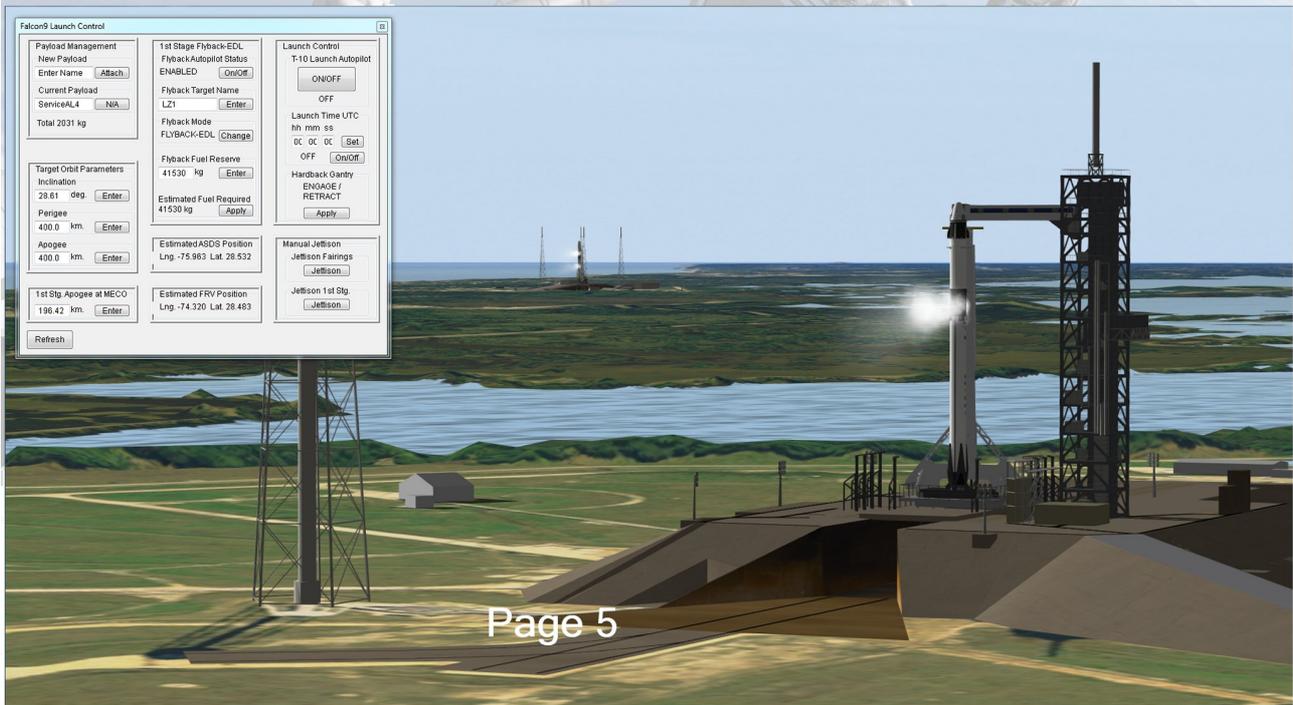
See the Falcon9 required add-ons to learn how do do this.

Sit back and enjoy the launch.

Be sure to focus on the different vessels after seperation.

Watch the stage 1 boosters fly back and land at Lading Zones 1 and 2

Amazing work by Brian !!!!!





Service Air Lock (SAL) Control :

[G] = Extend/Enable Docking Ring

[3] = Open Cloth Hatch

[N/M] = Rotate Docking Ring

[4] = Open Boom Bracket

[J] = Jettison

[5] = Open External Hatch

[V/B] = Translate STRELA

[6] = Open Tool Boxes

[F5] = Show/Hide Grapple Points

[7] = Open Inner Hatch

[L] = Beacon On/Off

[E] = Spawn EVA (max.3)

[1] = Open OTD Carrier

[K] = Solar Array Tracking/Lock

[2] = Stow STRELA

[F6] = Link RCS/Main to Dragon: On/Off

Attachments :

Parent

0 = Docking Ring

1 = StrelaCrane

2 = WIF1

3 = WIF2

4 = Toolbox WIF

5 = Inside Toolbox

6 = NewOTD Stow

7 = Tool\_PFR1 Stow

8 = NewAPFR1 Stow

9 = NewStrelaBoom Stow

10 = NewStrelaBase Stow

11 = WIF3

12 = WIF4

13 = EVA1 Tether

14 = EVA2 Tether

15 = EVA3 Tether

Child

0 = To Falcon9

EVA guys:

[L] = Spotlight On/Off

[F10] = Acquire Tool\_Caddy

[G] = Right Hand Grab/Release

[F11] = Set L/R Hand Loose/ Snap-to

[K] = Left Hand Grab/Release

[N] = Tether/Release

[E] = End EVA

[V] = Visor Up/Down

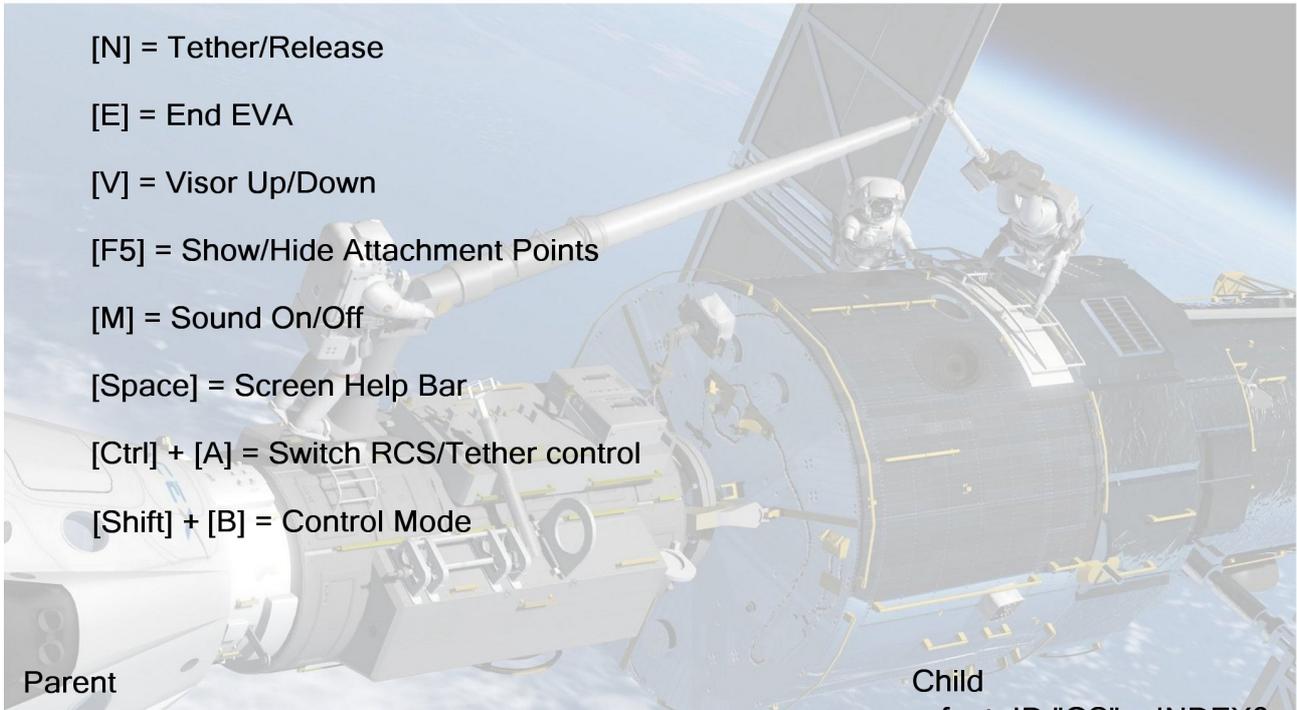
[F5] = Show/Hide Attachment Points

[M] = Sound On/Off

[Space] = Screen Help Bar

[Ctrl] + [A] = Switch RCS/Tether control

[Shift] + [B] = Control Mode



Parent

Child

mmws1	ID "GS"	INDEX0	F10 spawn "Utility Item" attach point	foot	ID "GS"	INDEX0
mmws2	ID "GS"	INDEX1		cog	ID "GS"	INDEX1
l/hand	ID "GS"	INDEX2	Manual Grapple to ID "EVA"			
r/hand	ID "GS"	INDEX3	Manual Grapple to ID "EVA"			

**Modes :**

**Body Control :**

[Shift] [1] = L.Ankle

[Shift] [2] = L.Knee

[Shift] [3] = Waist Pitch

[Shift] [4] = Waist Roll

[Shift] [5] = Waist Yaw

**Right Leg Control :**

[Shift] [1] = R.Hip

[Shift] [2] = R.Knee

[Shift] [3] = R.Ankle

**L/R Arm Control**

[Shift] [1] = Swing

[Shift] [2] = Raise

[Shift] [3] = Roll

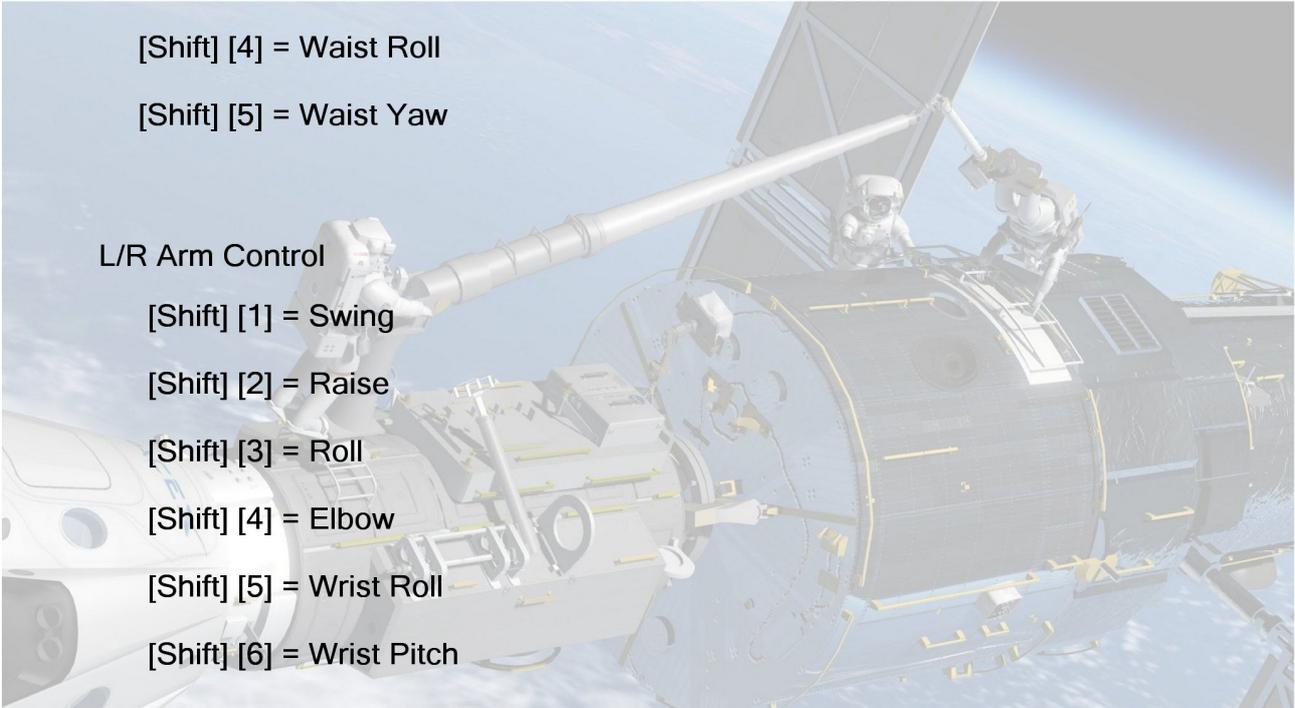
[Shift] [4] = Elbow

[Shift] [5] = Wrist Roll

[Shift] [6] = Wrist Pitch

[Shift] [7] = Wrist Yaw

[Shift] [8] = Hand Grab



EVA guys motion :

Tethered :

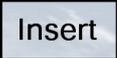
cursor keys

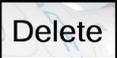
 = Move left

 = Move right

 = Move up

 = Move down

 = Forward

 = Backward

 = Roll left

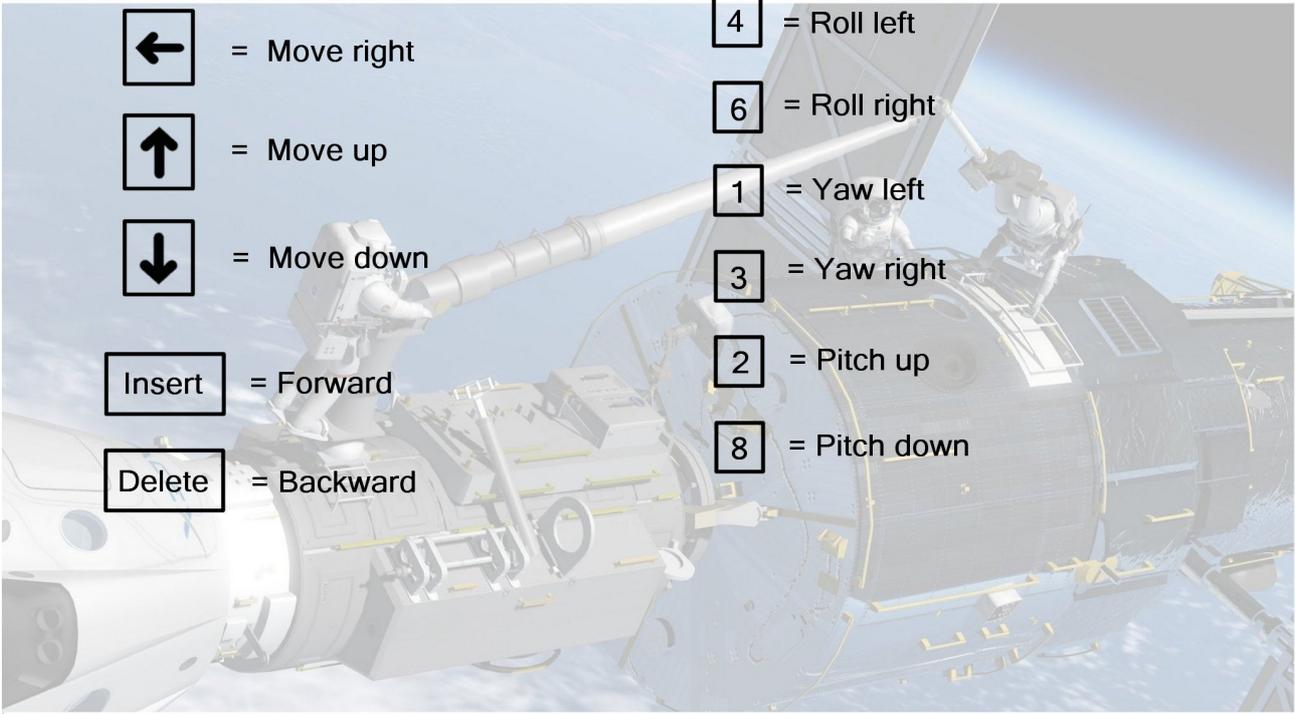
 = Roll right

 = Yaw left

 = Yaw right

 = Pitch up

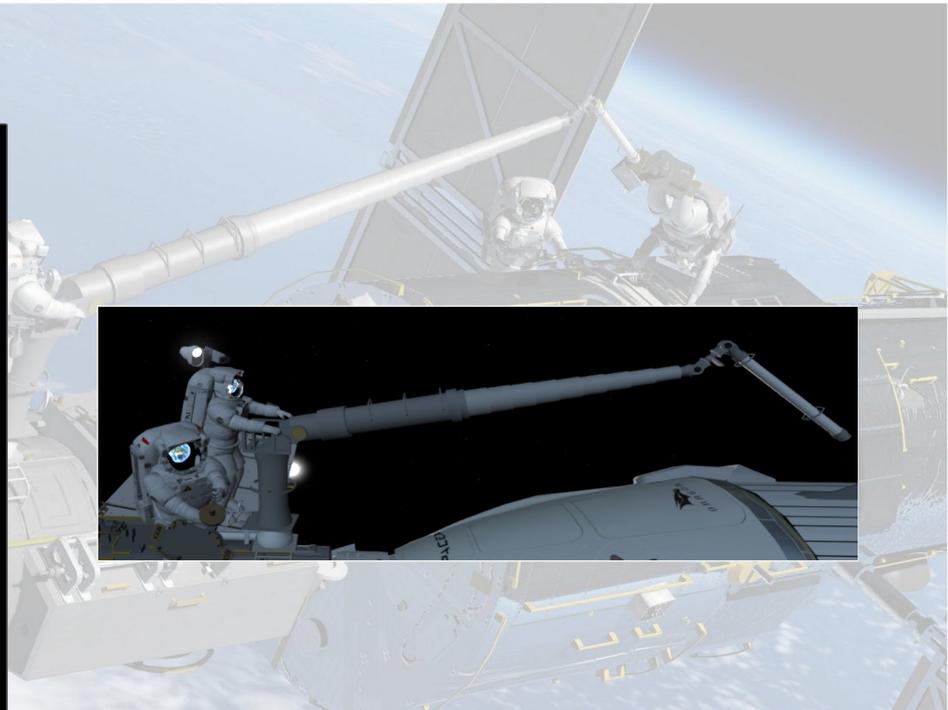
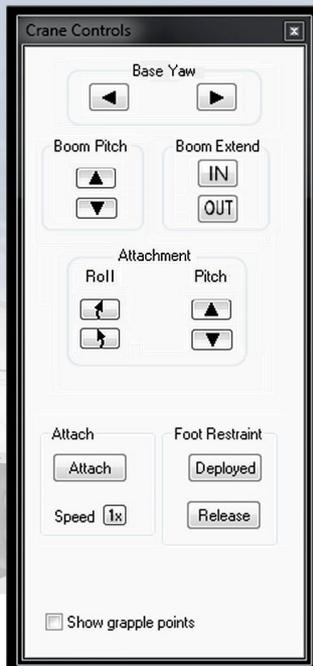
 = Pitch down



STRELACRANE Dialog Box :

[Ctrl] + [Space] = Display Dialog Box

Can be controlled remotely from another vessel.



**NewOTD:**

**Animations :**

[K] = Rotate on WIF

**Robotics\_1:**

Seq\_0 = Boom Pitch

Seq\_1 = Rotate Attachment

Seq\_2 = Boom Extend



**Attachments**

Parent

Child

0 = WFC Temporary Stow attach

0 = Attach to WIF

1 = Hand ID="EVA"

2 = To OTD Carrier

**D2tv :**

Control remotely while focused on another vessel, or inside the VC.



D2TVArm Control :

Animations :

Robotics 1:

Seq\_0 = WIF Pivot

Seq\_1 = Yaw

Seq\_2 = Roll

Seq\_3 = Pitch

Attachments:

Parent  
0 = To D2TV

Child  
0 = To WIF

PFR :

Animations:

Robotics 1:

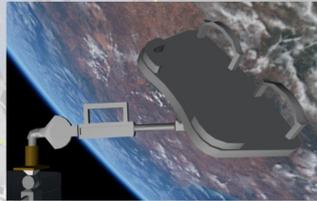
Seq\_0 = WIF Rotate

Seq\_1 = Pitch Arm

Seq\_2 = Rotate Arm

Seq\_3 = FR Pitch

Seq\_4 = FR Yaw



Attachments:

Parent  
0 = Foot Restraint

Child  
0 = Wif Attach ID="WIF"  
1 = Hand ID="EVA"

Tool\_PFR:

Animations:

Robotics 1:

- Seq\_0 = WIF Rotate
- Seq\_1 = FR Pitch
- Seq\_2 = Tool Arm rotate
- Seq\_3 = FR Roll
- Seq\_4 = FR Yaw

Robotics 2:

- Seq\_5 = ToolHead Rotate



Attachments:

Parent

0 = Foot Restraint

1 = Tool bag

Child

0 = Wif Attach ID="WIF"

1 = Hand ID="EVA"

