

Acknowledgements

Particularly thanks to Vinka for Spacecraft3 and Schimz for the arm structure and the DGex.

This addon add an arm named DGex_arm to the DGex vessel. It can be reused in a scenario with another vessel if you want

INSTALLATION

Unzip the pack in your Orbiter folder.

Insure you have Spacecraft3 in the last issue and the DGex from Schimz.
You can find it in <http://www.orbithangar.com/>

COMMAND KEYS

Use left shift key to command the arm

1 – Arm contols

With F3 select DGex_arm according to scenario	
Spacebar	Activate/Desactivate arm and a message is displayed in the screen bottom left when activated.to show which arm part is selected
LShift + Numpad 4 (Previous) LShift + Numpad 6 (Next)	Cycle through the different parts Shift (if used)→ Shoulder yaw → Shoulder pitch → Elbow pitch → Wrist pitch → Wrist Yaw → Wrist roll
LShift + Numpad 2 LShift + Numpad 8	Move selected part in one direction or the other direction. Release the key to stop move. Hold the numpad key and release Shift key to continue the move. Now you can release the numpad key. Stop with Shift + Numpad again
LShift + Numpad 0	Use to grappled or release the target. Child must be detached before grapples (see attachment management)

2 – Attachment management

A (Q on a french Keyboard)	Activate/Desactivate parent attachment management. A message will be displayed in the screen bottom left when activated. The name of the selected attachment and the name of the attached vessel (if any) is displayed.
LShift + Numpad 4 (Previous) LShift + Numpad 6 (Next)	Cycle through attachment points if several

LShift + Numpad 0	Attach /Detach child (if any) depending of the current status of the parent attachment.
LShift + Numpad 5	Toggle display of grapple points

ATTACHMENT POINTS ASSOCIATED WITH ARM

16 attachment points (PARENT + CHILD) associated with arm can be defined. Offset is related to arm origin.

This points are PARENT points in the DGex_arm.ini file. For example in the include scenario, two points are defined as this:

```
[PARENT_ATTACH_1]      ;payload attachment #1
NAME="Payload 1"
POS=(-4.6,1,5)          ;offset x,y,z in arm system reference
DIR=(0,1,0)             ;approach direction
ROT=(0,0,1)            ;related direction to approach
LOOSE=0                 ;loose attachment enable or disable
RANGE=1                 ;minimum range for attachment (in m)
```

Operate payload management using attachment control (see above)

EXAMPLES

Look the example scenarios to understand what to do for your own scenario

Arm move parameters can be changed if you want.

Open for example the file Modarm.ini with a text editor and find this part

```
[ANIM_SEQ_0] ;Shift
INIT_POS=0
DURATION=20
```

Duration = time for complete shift move in second.

If you think the move is slow, reduce the value

If you think the move is fast, increase the value

Make the same for others animation sequences.

Name for NAME et JOINT_#_NAME can be customized in the same way in Modarm.ini

For example you can to use NAME="Arm" in place of NAME="Rms" in

```
[PARENT_ATTACH_0] ;arm grapple point
NAME="Rms"
.....
```

For more details on how to use the parameters read Spacecraf2 doc included in Vinka's package.

Enjoy !