

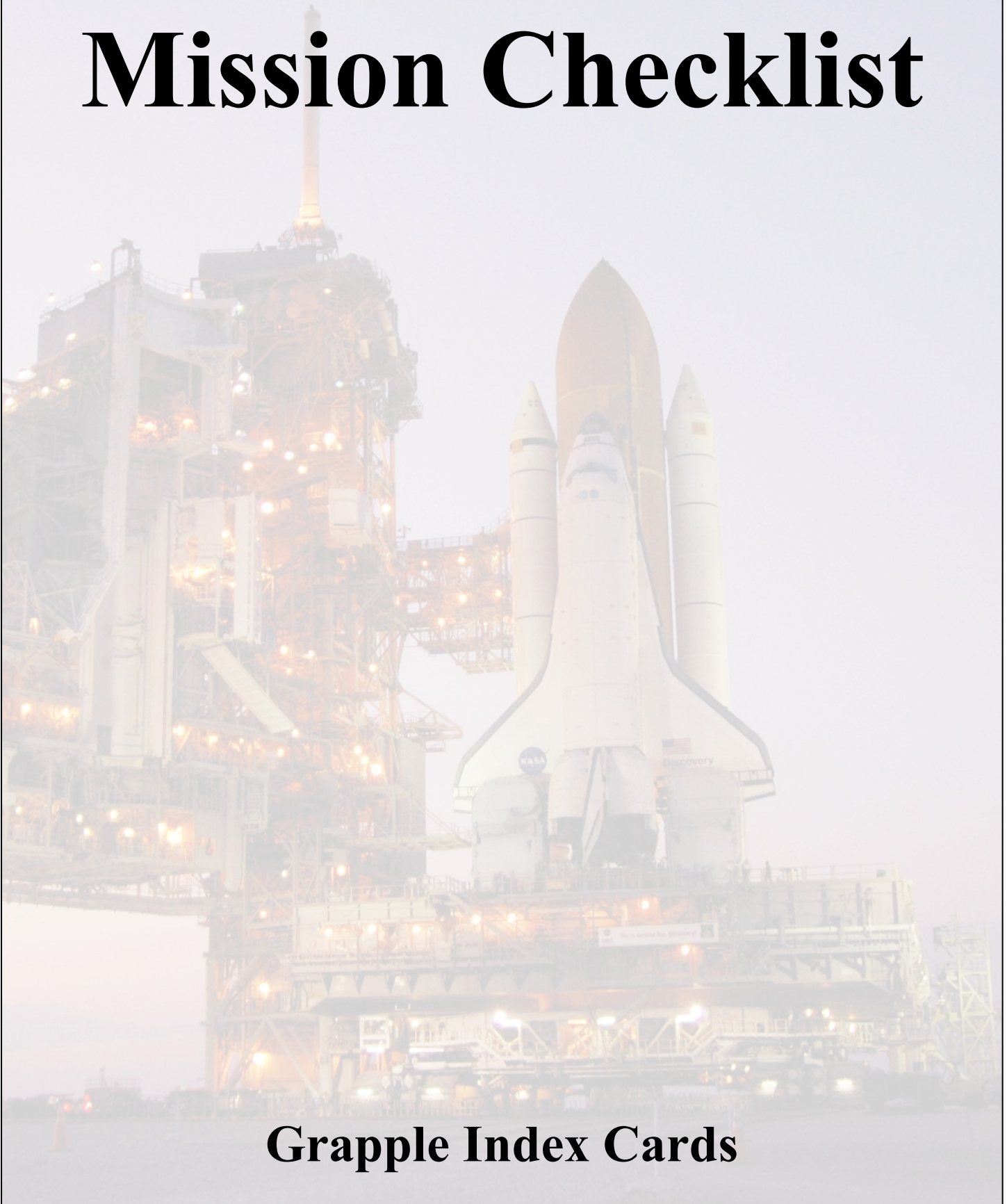


# Space Shuttle Mission 2007



Designed By: Michael Swannick

# Mission Checklist



## Grapple Index Cards



# Space Shuttle Mission 2007



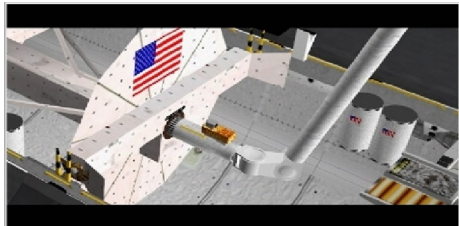
Designed By: Michael Swannick

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## Grapple Index Card

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STS-8: PFTA | COMM: 1115



POSITION - P Y R

P: 000.0 | Y: 000.0 | R: 000.0

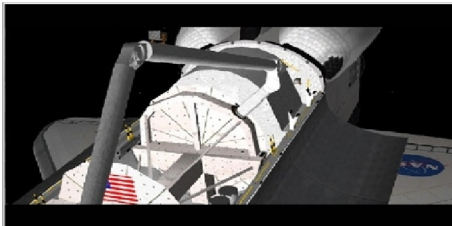
POSITION - X Y Z

X: 0709 | Y: -0016 | Z: 0420

JOINT ANGLE

YAW: -027.6  
SHOULDER: 063.9  
ELBOW: -136.8  
WRIST PITCH: 073.0  
WRIST YAW: 027.6  
WRIST ROLL: 000.0

STS-8: PFTA | COMM: 1145



POSITION - P Y R

P: -090.0 | Y: -045.0 | R: 000.0

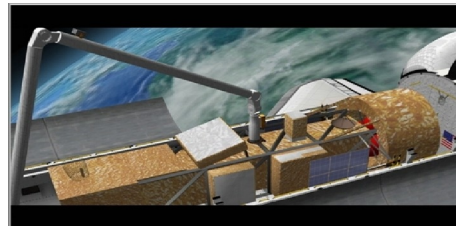
POSITION - X Y Z

X: 973 | Y: -064 | Z: 477

JOINT ANGLE

YAW: -000.5  
SHOULDER: 043.5  
ELBOW: -063.8  
WRIST PITCH: -069.2  
WRIST YAW: -045.0  
WRIST ROLL: 000.8

STS-27: Lacrosse Satellite | COMM: 1121



POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

POSITION - X Y Z

X: 851 | Y: -005 | Z: 525

JOINT ANGLE

YAW: -17.8  
SHOULDER: 66.9  
ELBOW: -99.0  
WRIST PITCH: -57.8  
WRIST YAW: 000.0  
WRIST ROLL: 17.9

STS-31: Hubble Telescope | COMM: 1115



POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 179.9

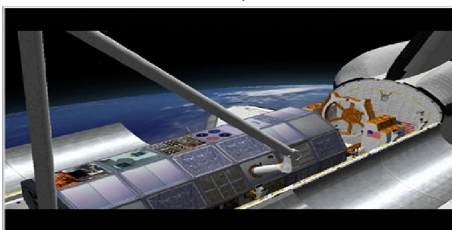
POSITION - X Y Z

X: 748 | Y: 31 | Z: 479

JOINT ANGLE

YAW: -033.1  
SHOULDER: 084.4  
ELBOW: -118.9  
WRIST PITCH: -055.6  
WRIST YAW: 000.0  
WRIST ROLL: 213.2

STS-32: LDEF-1 | COMM: 1171



POSITION - P Y R

P: -090.5 | Y: -060.0 | R: 000.3

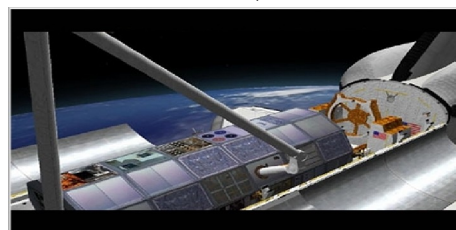
POSITION - X Y Z

X: 782 | Y: -077 | Z: 462

JOINT ANGLE

YAW: 004.0  
SHOULDER: 078.0  
ELBOW: -123.3  
WRIST PITCH: -052.1  
WRIST YAW: -059.7  
WRIST ROLL: -008.4

STS-41C: LDEF-1 | COMM: 1115



POSITION - P Y R

P: -090.0 | Y: -060.0 | R: 000.0

POSITION - X Y Z

X: 782 | Y: -077 | Z: 462

JOINT ANGLE

YAW: 004.0  
SHOULDER: 078.0  
ELBOW: -123.3  
WRIST PITCH: -051.7  
WRIST YAW: -059.7  
WRIST ROLL: -008.0

STS-41C: LDEF-1 | COMM: 1117



POSITION - P Y R

P: -090.0 | Y: 030.0 | R: 000.0

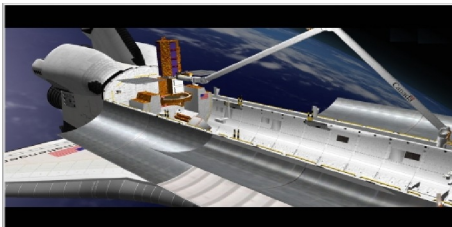
POSITION - X Y Z

X: 782 | Y: 035 | Z: 492

JOINT ANGLE

YAW: -034.7  
SHOULDER: 074.1  
ELBOW: -105.3  
WRIST PITCH: -077.0  
WRIST YAW: 024.2  
WRIST ROLL: 038.7

STS-41C: Solar Max | COMM: 1161



POSITION - P Y R

P: -001.7 | Y: -000.1 | R: 000.3

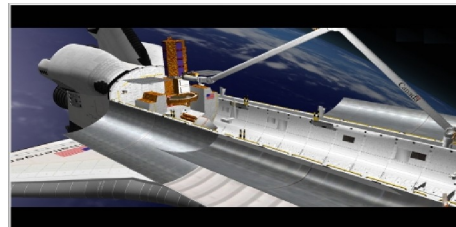
POSITION - X Y Z

X: 1030 | Y: -0007 | Z: 496

JOINT ANGLE

YAW: -012.8  
SHOULDER: 041.2  
ELBOW: -068.5  
WRIST PITCH: 025.5  
WRIST YAW: 012.6  
WRIST ROLL: 000.0

STS-41C: Solar Max | COMM: 1184



POSITION - P Y R

P: 000.1 | Y: 000.0 | R: 000.0

POSITION - X Y Z

X: 1031 | Y: -003 | Z: 494

JOINT ANGLE

YAW: -013.3  
SHOULDER: 040.3  
ELBOW: -067.9  
WRIST PITCH: 027.4  
WRIST YAW: 013.3  
WRIST ROLL: 000.0



# Space Shuttle Mission 2007



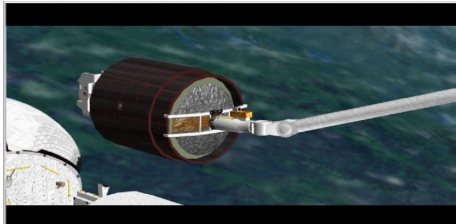
Designed By: Michael Swannick

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## Grapple Index Card

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STS-51A: WESTAR-VI Satellite | COMM: 1217



Use The RMS To Capture The WESTAR-VI Satellite's Front Grapple.

Grapple Coordinates Will Be Dependant Upon The Placement Of The WESTAR-VI Satellite. Since The Satellite's Coordinates Will Vary Depending Upon Placement, I Am Unable To Supply Coordinates For This RMS Grapple.

STS-51A: WESTAR-VI Satellite | COMM: 1223



### POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

### POSITION - X Y Z

X: 659 | Y: 000 | Z: 501

### JOINT ANGLE

YAW: -041.1

SHOULDER: 110.6

ELBOW: -136.7

WRIST PITCH: -063.8

WRIST YAW: 000.0

WRIST ROLL: -319.0

STS-88: Unity Module | COMM: 1121



### POSITION - P Y R

P: -090.0 | Y: 020.0 | R: 000.0

### POSITION - X Y Z

X: 0760 | Y: -0008 | Z: 0470

### JOINT ANGLE

YAW: -027.6

SHOULDER: 081.9

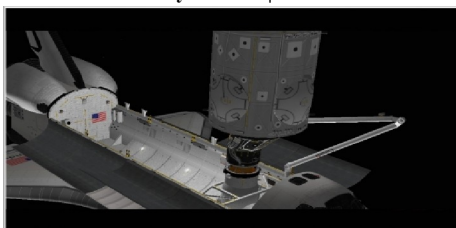
ELBOW: -119.3

WRIST PITCH: -062.2

WRIST YAW: 017.6

WRIST ROLL: 029.1

STS-88: Unity Module | COMM: 1126



### POSITION - P Y R

P: 173.3 | Y: -049.2 | R: -179.8

### POSITION - X Y Z

X: 590 | Y: -034 | Z: 567

### JOINT ANGLE

YAW: -19.0

SHOULDER: 141.5

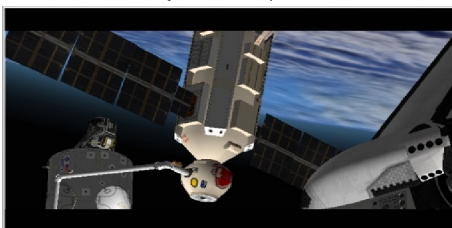
ELBOW: -153.0

WRIST PITCH: 016.0

WRIST YAW: -111.6

WRIST ROLL: 002.1

STS-88: Zarya Module | COMM: 1150



Use The RMS To Capture The Zarya Module.

Grapple Coordinates Will Be Dependant Upon The Placement Of The Zarya Module. Since The Module's Coordinates Will Vary Depending Upon Placement, I Am Unable To Supply Coordinates For This RMS Grapple.

STS-88: Zarya Module | COMM: 1150



### POSITION - P Y R

P: -152.6 | Y: -087.0 | R: 150.9

### POSITION - X Y Z

X: 557 | Y: -0055 | Z: 0932

### JOINT ANGLE

YAW: 005.8

SHOULDER: 116.0

ELBOW: -051.0

WRIST PITCH: -056.0

WRIST YAW: -098.5

WRIST ROLL: 010.8

STS-98: Unity Module | COMM: 1160



### POSITION - P Y R

P: -090.0 | Y: -020.0 | R: 000.0

### POSITION - X Y Z

X: 0577 | Y: -0038 | Z: 0696

### JOINT ANGLE

YAW: -049.9

SHOULDER: 136.4

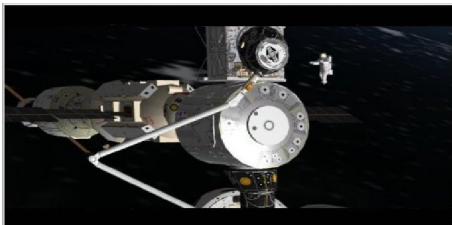
ELBOW: -107.7

WRIST PITCH: -103.1

WRIST YAW: -012.8

WRIST ROLL: 051.6

STS-98: Unity Module | COMM: 1163



### POSITION - P Y R

P: 090.0 | Y: -040.0 | R: +179.9

### POSITION - X Y Z

X: 0537 | Y: -0018 | Z: 0769

### JOINT ANGLE

YAW: -088.0

SHOULDER: 147.4

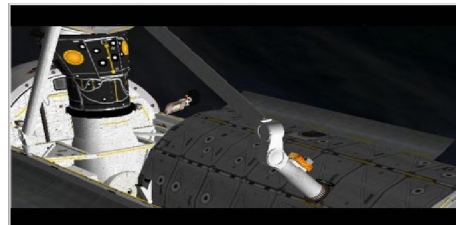
ELBOW: -123.2

WRIST PITCH: 025.7

WRIST YAW: -001.3

WRIST ROLL: 091.4

STS-98: Destiny Module | COMM: 1165



### POSITION - P Y R

P: -117.0 | Y: -041.6 | R: 018.8

### POSITION - X Y Z

X: 0934 | Y: -0070 | Z: 0484

### JOINT ANGLE

YAW: -000.1

SHOULDER: 046.5

ELBOW: -068.2

WRIST PITCH: -095.1

WRIST YAW: -041.7

WRIST ROLL: -018.7



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## Grapple Index Card

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STS-98: Destiny Module | COMM: 1169



POSITION - P Y R

P: 064.0 | Y: -042.0 | R: 018.0

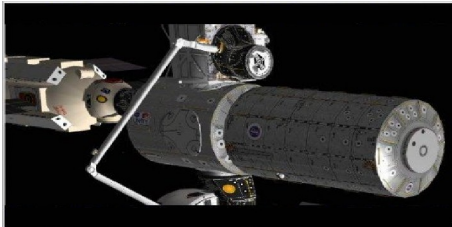
POSITION - X Y Z

X: 0663 | Y: -0070 | Z: 0584

JOINT ANGLE

YAW: -000.1  
SHOULDER: 123.9  
ELBOW: -155.1  
WRIST PITCH: 095.1  
WRIST YAW: -041.9  
WRIST ROLL: -018.2

STS-98: Z1 Truss (PMA) | COMM: 1178



POSITION - P Y R

P: -087.2 | Y: -073.0 | R: 087.1

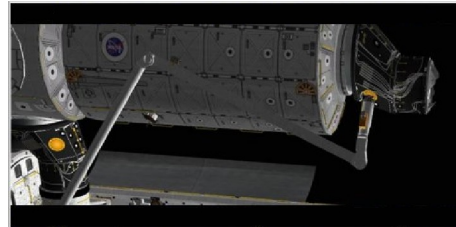
POSITION - X Y Z

X: 0532 | Y: -0069 | Z: 0812

JOINT ANGLE

YAW: -074.5  
SHOULDER: 142.4  
ELBOW: -089.2  
WRIST PITCH: -070.6  
WRIST YAW: -013.9  
WRIST ROLL: -004.4

STS-98: Destiny Module (PMA) | COMM: 1181



POSITION - P Y R

P: 090.0 | Y: -045.0 | R: -090.0

POSITION - X Y Z

X: 0928 | Y: -0041 | Z: 0606

JOINT ANGLE

YAW: -004.0  
SHOULDER: 055.0  
ELBOW: -080.1  
WRIST PITCH: 111.0  
WRIST YAW: -044.9  
WRIST ROLL: 084.3

STS-100: Pallet | COMM: 1171



POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

POSITION - X Y Z

X: 0659 | Y: -0094 | Z: 0432

JOINT ANGLE

YAW: -006.2  
SHOULDER: 107.8  
ELBOW: -152.8  
WRIST PITCH: -045.0  
WRIST YAW: 000.0  
WRIST ROLL: 006.2

STS-100: Pallet | COMM: 1174



POSITION - P Y R

P: 090.7 | Y: -088.9 | R: 179.8

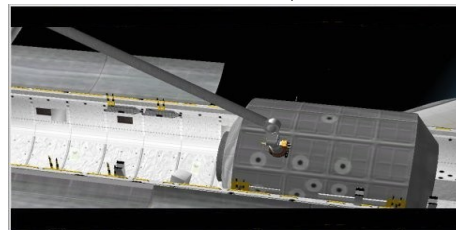
POSITION - X Y Z

X: 0236 | Y: -0064 | Z: 0693

JOINT ANGLE

YAW: 177.6  
SHOULDER: 88.8  
ELBOW: -091.0  
WRIST PITCH: -022.1  
WRIST YAW: 092.5  
WRIST ROLL: 113.6

STS-100: Raffaello MPLM | COMM: 1192



POSITION - P Y R

P: -090.0 | Y: -045.0 | R: 000.0

POSITION - X Y Z

X: 0932 | Y: -0068 | Z: 0482

JOINT ANGLE

YAW: 000.0  
SHOULDER: 53.3  
ELBOW: -079.1  
WRIST PITCH: -064.2  
WRIST YAW: -045.0  
WRIST ROLL: 000.0

STS-100: Raffaello MPLM | COMM: 1195



POSITION - P Y R

P: 090.0 | Y: -045.0 | R: 180.0

POSITION - X Y Z

X: 0624 | Y: -0071 | Z: 0934

JOINT ANGLE

YAW: 001.6  
SHOULDER: 115.7  
ELBOW: -071.6  
WRIST PITCH: 047.6  
WRIST YAW: -045.0  
WRIST ROLL: 182.2

STS-100: Pallet | COMM: 1225



POSITION - P Y R

P: 106.0 | Y: 049.0 | R: 099.0

POSITION - X Y Z

X: 0519 | Y: -0443 | Z: 0692

JOINT ANGLE

YAW: 091.1  
SHOULDER: 087.9  
ELBOW: -101.8  
WRIST PITCH: 053.4  
WRIST YAW: 009.5  
WRIST ROLL: 363.9

STS-100: Pallet | COMM: 1227



POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

POSITION - X Y Z

X: 0659 | Y: -0094 | Z: 0432

JOINT ANGLE

YAW: -006.2  
SHOULDER: 107.8  
ELBOW: -152.8  
WRIST PITCH: -045.0  
WRIST YAW: 000.0  
WRIST ROLL: 006.2



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STS-100: Raffaello MPLM | COMM: 1235



POSITION - P Y R

P: 088.1 | Y: -044.9 | R: 179.9

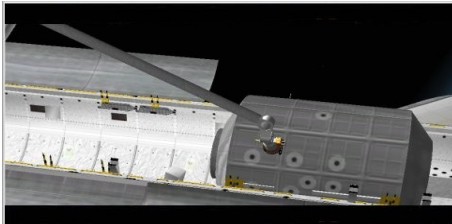
POSITION - X Y Z

X: 0634 | Y: -0071 | Z: 0928

JOINT ANGLE

YAW: 001.6  
SHOULDER: 115.2  
ELBOW: -073.1  
WRIST PITCH: 047.6  
WRIST YAW: -045.0  
WRIST ROLL: 182.2

STS-100: Raffaello MPLM | COMM: 1236



POSITION - P Y R

P: -090.0 | Y: -045.0 | R: 000.0

POSITION - X Y Z

X: 0932 | Y: -0068 | Z: 0482

JOINT ANGLE

YAW: 000.0  
SHOULDER: 53.3  
ELBOW: -079.1  
WRIST PITCH: -064.2  
WRIST YAW: -045.0  
WRIST ROLL: 000.0

STS-103: Hubble Telescope | COMM: 1130



POSITION - P Y R

P: 000.0 | Y: 000.0 | R: 000.0

POSITION - X Y Z

X: 0920 | Y: -0041 | Z: 0701

JOINT ANGLE

YAW: -011.4  
SHOULDER: 080.4  
ELBOW: -081.5  
WRIST PITCH: 001.1  
WRIST YAW: 011.5  
WRIST ROLL: -000.1

STS-116: OBSS | COMM: 1119



POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

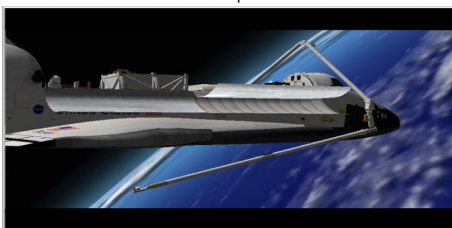
POSITION - X Y Z

X: 0550 | Y: 0099 | Z: 0464

JOINT ANGLE

YAW: -085.9  
SHOULDER: 092.9  
ELBOW: -131.4  
WRIST PITCH: -051.1  
WRIST YAW: 000.0  
WRIST ROLL: 086.0

STS-116: OBSS | COMM: 1122



POSITION - P Y R

P: -108.2 | Y: 009.4 | R: -012.2

POSITION - X Y Z

X: 0417 | Y: 0276 | Z: 0333

JOINT ANGLE

YAW: -104.3  
SHOULDER: 032.8  
ELBOW: -76.7  
WRIST PITCH: -051.1  
WRIST YAW: -019.9

STS-116: OBSS | COMM: 1123



POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

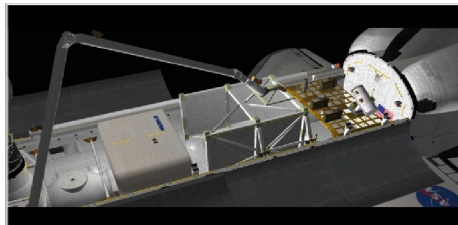
POSITION - X Y Z

X: 0550 | Y: 0099 | Z: 0464

JOINT ANGLE

YAW: -085.9  
SHOULDER: 092.9  
ELBOW: -131.4  
WRIST PITCH: -051.1  
WRIST YAW: 000.0  
WRIST ROLL: 086.0

STS-116: P5 Truss Segment | COMM: 1171



POSITION - P Y R

P: -045.0 | Y: 000.0 | R: 000.0

POSITION - X Y Z

X: 0920 | Y: -0003 | Z: 0492

JOINT ANGLE

YAW: -016.8  
SHOULDER: 064.1  
ELBOW: -094.5  
WRIST PITCH: -015.8  
WRIST YAW: 011.8  
WRIST ROLL: 012.0

STS-116: P5 Truss Segment | COMM: 1174



POSITION - P Y R

P: -045.0 | Y: 000.0 | R: 000.0

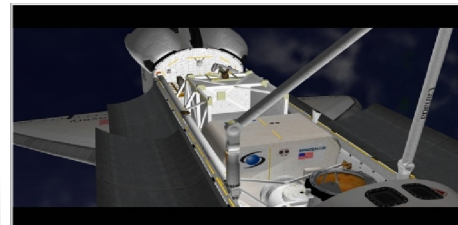
POSITION - X Y Z

X: 0590 | Y: -0579 | Z: 0604

JOINT ANGLE

YAW: 088.0  
SHOULDER: 032.7  
ELBOW: -017.9  
WRIST PITCH: -102.7  
WRIST YAW: -044.9  
WRIST ROLL: -087.2

STS-116: OBSS | COMM: 1266



POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

POSITION - X Y Z

X: 0550 | Y: 0099 | Z: 0464

JOINT ANGLE

YAW: -085.9  
SHOULDER: 092.9  
ELBOW: -131.4  
WRIST PITCH: -051.1  
WRIST YAW: 000.0  
WRIST ROLL: 086.0



# Space Shuttle Mission 2007



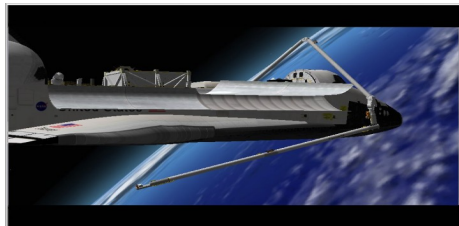
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## Grapple Index Card

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STS-116: OBSS | COMM: 1269



POSITION - P Y R

P: -108.2 | Y: 009.4 | R: -012.2

POSITION - X Y Z

X: 0417 | Y: 0276 | Z: 0333

JOINT ANGLE

YAW: -104.3  
SHOULDER: 032.8  
ELBOW: -76.7  
WRIST PITCH: -051.1  
WRIST YAW: -019.9  
WRIST ROLL: 114.1

STS-117: OBSS | COMM: 1119



POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

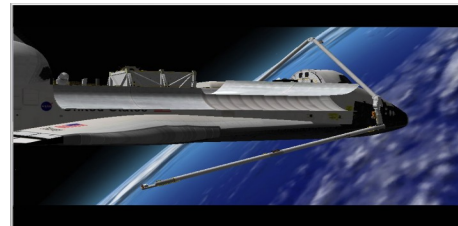
POSITION - X Y Z

X: 0550 | Y: 0099 | Z: 0464

JOINT ANGLE

YAW: -085.9  
SHOULDER: 092.9  
ELBOW: -131.4  
WRIST PITCH: -051.1  
WRIST YAW: 000.0

STS-117: OBSS | COMM: 1122



POSITION - P Y R

P: -108.2 | Y: 009.4 | R: -012.2

POSITION - X Y Z

X: 0417 | Y: 0276 | Z: 0333

JOINT ANGLE

YAW: -104.3  
SHOULDER: 032.8  
ELBOW: -76.7  
WRIST PITCH: -051.1  
WRIST YAW: -019.9  
WRIST ROLL: 114.1

STS-117: S3/S4 Truss Segment | COMM: 1171



POSITION - P Y R

P: -090.0 | Y: 045.0 | R: -090.0

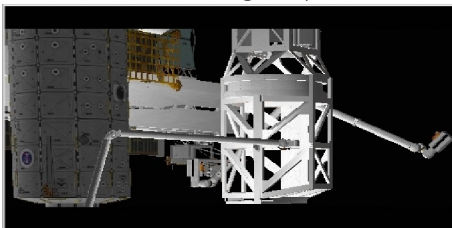
POSITION - X Y Z

X: 0674 | Y: 0062 | Z: 0462

JOINT ANGLE

YAW: -056.5  
SHOULDER: 076.4  
ELBOW: -119.1  
WRIST PITCH: -087.2  
WRIST YAW: 023.0  
WRIST ROLL: 155.0

STS-117: S3/S4 Truss Segment | COMM: 1174



POSITION - P Y R

P: 180.0 | Y: -045.0 | R: 090.0

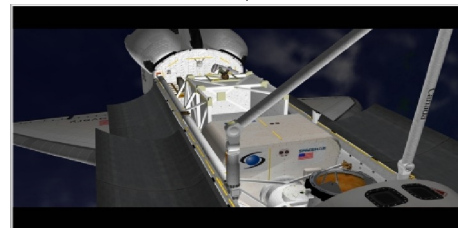
POSITION - X Y Z

X: 0714 | Y: 0207 | Z: 0689

JOINT ANGLE

YAW: -051.6  
SHOULDER: 076.5  
ELBOW: -079.4  
WRIST PITCH: 003.4  
WRIST YAW: -083.2  
WRIST ROLL: 090.6

STS-117: OBSS | COMM: 1266



POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

POSITION - X Y Z

X: 0550 | Y: 0099 | Z: 0464

JOINT ANGLE

YAW: -085.9  
SHOULDER: 092.9  
ELBOW: -131.4  
WRIST PITCH: -051.1  
WRIST YAW: 000.0  
WRIST ROLL: 086.0

STS-117: OBSS | COMM: 1269



POSITION - P Y R

P: -108.2 | Y: 009.4 | R: -012.2

POSITION - X Y Z

X: 0417 | Y: 0276 | Z: 0333

JOINT ANGLE

YAW: -104.3  
SHOULDER: 032.8  
ELBOW: -76.7  
WRIST PITCH: -051.1  
WRIST YAW: -019.9  
WRIST ROLL: 114.1

STS-121: OBSS | COMM: 1119



POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

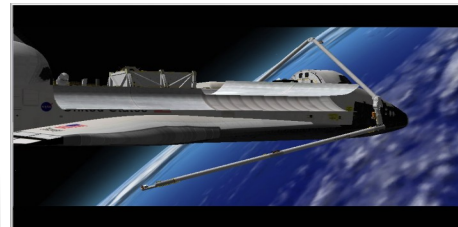
POSITION - X Y Z

X: 0550 | Y: 0099 | Z: 0464

JOINT ANGLE

YAW: -085.9  
SHOULDER: 092.9  
ELBOW: -131.4  
WRIST PITCH: -051.1  
WRIST YAW: 000.0  
WRIST ROLL: 086.0

STS-121: OBSS | COMM: 1122



POSITION - P Y R

P: -108.2 | Y: 009.4 | R: -012.2

POSITION - X Y Z

X: 0417 | Y: 0276 | Z: 0333

JOINT ANGLE

YAW: -104.3  
SHOULDER: 032.8  
ELBOW: -76.7  
WRIST PITCH: -051.1  
WRIST YAW: -019.9  
WRIST ROLL: 114.1



# Space Shuttle Mission 2007



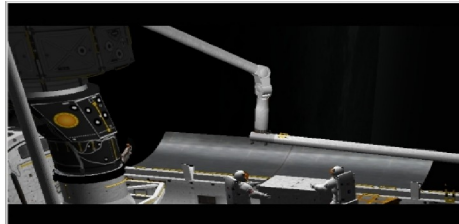
Designed By: Michael Swannick

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STS-121: OBSS | COMM: 1197



POSITION - P Y R

P: -102.4 | Y: -006.3 | R: 099.7

POSITION - X Y Z

X: 0639 | Y: 0104 | Z: 0498

JOINT ANGLE

YAW: -060.5

SHOULDER: 091.0

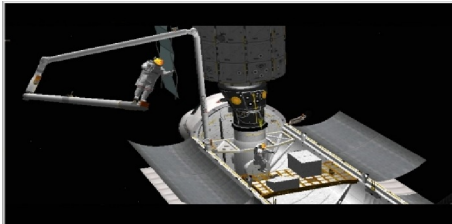
ELBOW: -121.6

WRIST PITCH: -060.0

WRIST YAW: -013.9

WRIST ROLL: -038.5

STS-121: OBSS | COMM: 1199



POSITION - P Y R

P: -071.4 | Y: 032.6 | R: 008.9

POSITION - X Y Z

X: 0469 | Y: -0409 | Z: 0595

JOINT ANGLE

YAW: 106.5

SHOULDER: 089.5

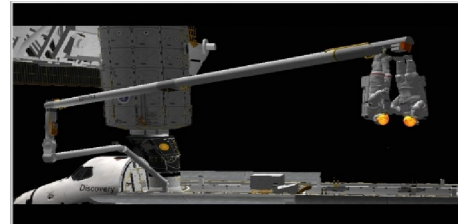
ELBOW: -100.9

WRIST PITCH: -049.6

WRIST YAW: -024.2

WRIST ROLL: -103.6

STS-121: OBSS | COMM: 1201



POSITION - P Y R

P: 088.9 | Y: -011.7 | R: -144.0

POSITION - X Y Z

X: 0561 | Y: -0590 | Z: 0636

JOINT ANGLE

YAW: 087.0

SHOULDER: 023.8

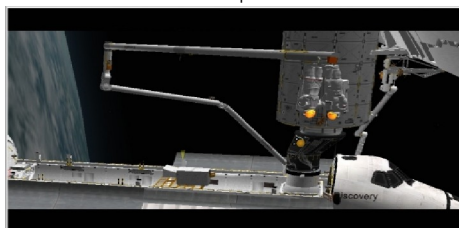
ELBOW: -023.1

WRIST PITCH: 100.9

WRIST YAW: -001.6

WRIST ROLL: -128.6

STS-121: OBSS | COMM: 1202



POSITION - P Y R

P: 081.5 | Y: -011.7 | R: -048.9

POSITION - X Y Z

X: 0835 | Y: 0227 | Z: 0765

JOINT ANGLE

YAW: -048.0

SHOULDER: 049.0

ELBOW: -039.2

WRIST PITCH: 065.8

WRIST YAW: -001.6

WRIST ROLL: -096.3

STS-121: OBSS | COMM: 1208



POSITION - P Y R

P: 090.2 | Y: 013.7 | R: -133.7

POSITION - X Y Z

X: 0534 | Y: -0572 | Z: 0525

JOINT ANGLE

YAW: 090.0

SHOULDER: 032.0

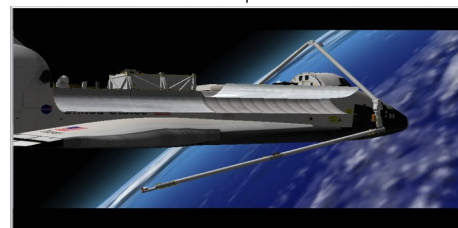
ELBOW: -062.6

WRIST PITCH: 106.8

WRIST YAW: 000.2

WRIST ROLL: -136.1

STS-121: OBSS | COMM: 1257



POSITION - P Y R

P: -108.2 | Y: 009.4 | R: -012.2

POSITION - X Y Z

X: 0417 | Y: 0276 | Z: 0333

JOINT ANGLE

YAW: -104.3

SHOULDER: 032.8

ELBOW: -76.7

WRIST PITCH: -051.1

WRIST YAW: -019.9

WRIST ROLL: 114.1

STS-122: OBSS | COMM: 1124



POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

POSITION - X Y Z

X: 0550 | Y: 0099 | Z: 0464

JOINT ANGLE

YAW: -085.9

SHOULDER: 092.9

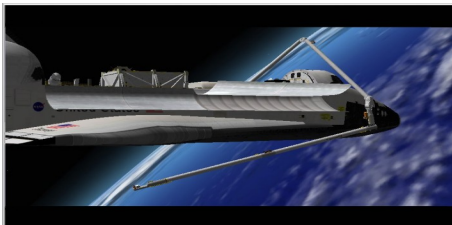
ELBOW: -131.4

WRIST PITCH: -051.1

WRIST YAW: 000.0

WRIST ROLL: 086.0

STS-122: OBSS | COMM: 1127



POSITION - P Y R

P: -108.2 | Y: 009.4 | R: -012.2

POSITION - X Y Z

X: 0417 | Y: 0276 | Z: 0333

JOINT ANGLE

YAW: -104.3

SHOULDER: 032.8

ELBOW: -76.7

WRIST PITCH: -051.1

WRIST YAW: -019.9

WRIST ROLL: 114.1

STS-122: OBSS | COMM: 1175



POSITION - P Y R

P: -004.2 | Y: 002.2 | R: 094.4

POSITION - X Y Z

X: 0887 | Y: -0255 | Z: 0722

JOINT ANGLE

YAW: 026.1

SHOULDER: 081.4

ELBOW: -076.9

WRIST PITCH: -009.0

WRIST YAW: -023.8

WRIST ROLL: 096.6



# Space Shuttle Mission 2007



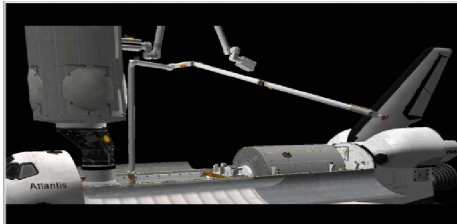
Designed By: Michael Swannick

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STS-122: OBSS | COMM: 1176



POSITION - P Y R

P: 010.4 | Y: -025.4 | R: -106.7

POSITION - X Y Z

X: 0713 | Y: 0206 | Z: 0694

JOINT ANGLE

YAW: -066.0  
SHOULDER: 084.4  
ELBOW: -090.2  
WRIST PITCH: 018.0  
WRIST YAW: 039.5  
WRIST ROLL: 094.2

STS-122: OBSS | COMM: 1270



POSITION - P Y R

P: -108.2 | Y: 009.4 | R: -012.2

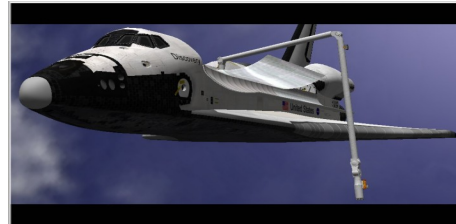
POSITION - X Y Z

X: 0417 | Y: 0276 | Z: 0333

JOINT ANGLE

YAW: -104.3  
SHOULDER: 032.8  
ELBOW: -76.7  
WRIST PITCH: -051.1  
WRIST YAW: -019.9  
WRIST ROLL: 114.1

STS-124: RMS | COMM: 1127



POSITION - P Y R

P: -091.0 | Y: 005.6 | R: -059.1

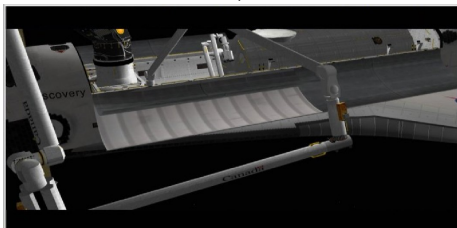
POSITION - X Y Z

X: 0495 | Y: -0387 | Z: 0149

JOINT ANGLE

YAW: 098.0  
SHOULDER: 009.0  
ELBOW: -93.2  
WRIST PITCH: 000.0  
WRIST YAW: 000.0  
WRIST ROLL: 000.0

STS-124: OBSS | COMM: 1177



POSITION - P Y R

P: -087.6 | Y: 017.2 | R: -082.2

POSITION - X Y Z

X: 0598 | Y: -0592 | Z: 0508

JOINT ANGLE

YAW: 082.6  
SHOULDER: 038.0  
ELBOW: -044.8  
WRIST PITCH: -065.7  
WRIST YAW: 000.0  
WRIST ROLL: 000.0

STS-124: OBSS | COMM: 1269



POSITION - P Y R

P: -108.2 | Y: 009.4 | R: -012.2

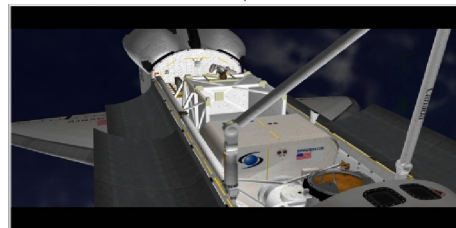
POSITION - X Y Z

X: 0417 | Y: 0276 | Z: 0333

JOINT ANGLE

YAW: -104.3  
SHOULDER: 032.8  
ELBOW: -76.7  
WRIST PITCH: -051.1  
WRIST YAW: -019.9  
WRIST ROLL: 114.1

STS-124: OBSS | COMM: 1270



POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

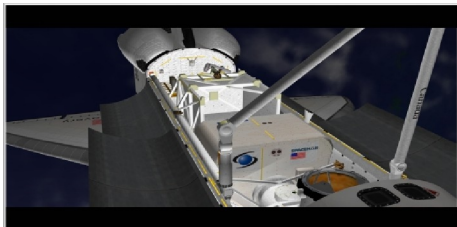
POSITION - X Y Z

X: 0550 | Y: 0099 | Z: 0464

JOINT ANGLE

YAW: -085.9  
SHOULDER: 092.9  
ELBOW: -131.4  
WRIST PITCH: -051.1  
WRIST YAW: 000.0  
WRIST ROLL: 086.0

STS-401: OBSS | COMM: 1124



POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

POSITION - X Y Z

X: 0550 | Y: 0099 | Z: 0464

JOINT ANGLE

YAW: -085.9  
SHOULDER: 092.9  
ELBOW: -131.4  
WRIST PITCH: -051.1  
WRIST YAW: 000.0  
WRIST ROLL: 086.0

STS-401: OBSS | COMM: 1127



POSITION - P Y R

P: -108.2 | Y: 009.4 | R: -012.2

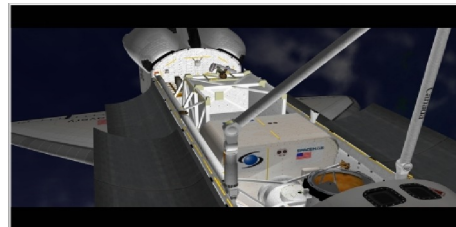
POSITION - X Y Z

X: 0417 | Y: 0276 | Z: 0333

JOINT ANGLE

YAW: -104.3  
SHOULDER: 032.8  
ELBOW: -76.7  
WRIST PITCH: -051.1  
WRIST YAW: -019.9  
WRIST ROLL: 114.1

STS-401: OBSS | COMM: 1128



POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

POSITION - X Y Z

X: 0550 | Y: 0099 | Z: 0464

JOINT ANGLE

YAW: -085.9  
SHOULDER: 092.9  
ELBOW: -131.4  
WRIST PITCH: -051.1  
WRIST YAW: 000.0  
WRIST ROLL: 086.0



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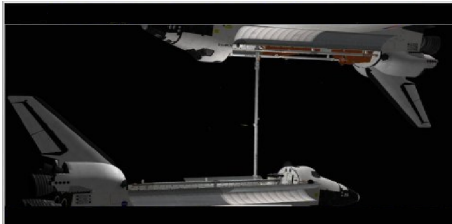
STS-401: Atlantis | COMM: 1151



Grapple Atlantis Using The Forward OBSS Boom Fixture.

Grapple Coordinates Will Be Dependant Upon The Placement Of Atlantis. Since The Coordinates Will Vary Depending Upon Placement, I Am Unable To Supply Coordinates For This RMS Grapple.

STS-401: Atlantis | COMM: 1152



### POSITION - P Y R

P: 090.1 | Y: 000.0 | R: 000.0

### POSITION - X Y Z

X: 0534 | Y: -0107 | Z: 1051

### JOINT ANGLE

YAW: 000.0

SHOULDER: 090.0

ELBOW: 000.0

WRIST PITCH: 000.0

WRIST YAW: 000.0

WRIST ROLL: 000.0

STS-401: OBSS | COMM: 1266



### POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

### POSITION - X Y Z

X: 0550 | Y: 0099 | Z: 0464

### JOINT ANGLE

YAW: -085.9

SHOULDER: 092.9

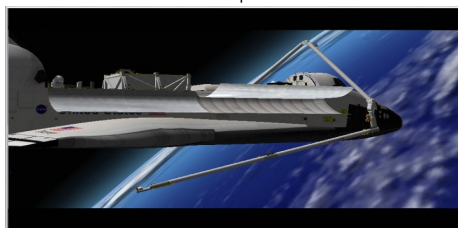
ELBOW: -131.4

WRIST PITCH: -051.1

WRIST YAW: 000.0

WRIST ROLL: 086.0

STS-401: OBSS | COMM: 1266



### POSITION - P Y R

P: -108.2 | Y: 009.4 | R: -012.2

### POSITION - X Y Z

X: 0417 | Y: 0276 | Z: 0333

### JOINT ANGLE

YAW: -104.3

SHOULDER: 032.8

ELBOW: -76.7

WRIST PITCH: -051.1

WRIST YAW: -019.9

WRIST ROLL: 114.1

STS-125: OBSS | COMM: 1119



### POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

### POSITION - X Y Z

X: 0550 | Y: 0099 | Z: 0464

### JOINT ANGLE

YAW: -085.9

SHOULDER: 092.9

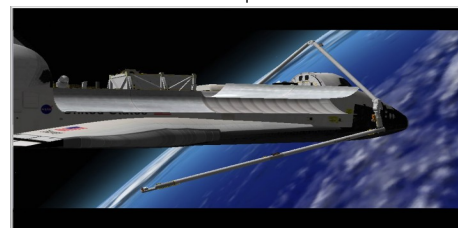
ELBOW: -131.1

WRIST PITCH: -051.1

WRIST YAW: 000.0

WRIST ROLL: 086.0

STS-125: OBSS | COMM: 1122



### POSITION - P Y R

P: -108.2 | Y: 009.4 | R: -012.2

### POSITION - X Y Z

X: 0417 | Y: 0276 | Z: 0333

### JOINT ANGLE

YAW: -104.3

SHOULDER: 032.8

ELBOW: -76.7

WRIST PITCH: -051.1

WRIST YAW: -019.9

WRIST ROLL: 114.1

STS-125: Hubble Telescope | COMM: 1143



### POSITION - P Y R

P: 000.0 | Y: 000.0 | R: 000.0

### POSITION - X Y Z

X: 0920 | Y: -0041 | Z: 0701

### JOINT ANGLE

YAW: -011.4

SHOULDER: 080.4

ELBOW: -081.5

WRIST PITCH: 001.1

WRIST YAW: 011.5

WRIST ROLL: -000.1

STS-125: Hubble Telescope | COMM: 1300



### POSITION - P Y R

P: 000.0 | Y: 000.0 | R: 000.0

### POSITION - X Y Z

X: 0920 | Y: -0041 | Z: 0701

### JOINT ANGLE

YAW: -011.4

SHOULDER: 080.4

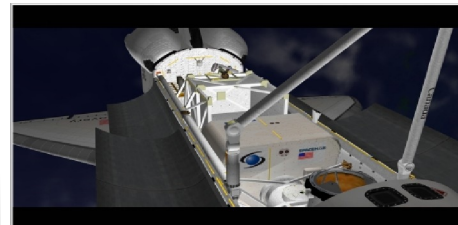
ELBOW: -081.5

WRIST PITCH: 001.1

WRIST YAW: 011.5

WRIST ROLL: -000.1

STS-125: OBSS | COMM: 1316



### POSITION - P Y R

P: -090.0 | Y: 000.0 | R: 000.0

### POSITION - X Y Z

X: 0550 | Y: 0099 | Z: 0464

### JOINT ANGLE

YAW: -085.9

SHOULDER: 092.9

ELBOW: -131.1

WRIST PITCH: -051.1

WRIST YAW: 000.0

WRIST ROLL: 086.0



# Space Shuttle Mission 2007



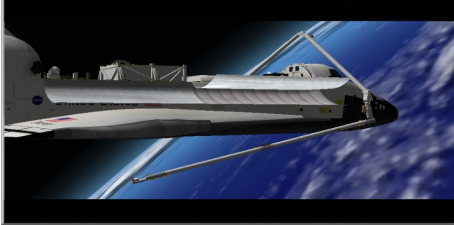
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STS-125: OBSS | COMM: 1319



### POSITION - P Y R

P: -108.2 | Y: 009.4 | R: -012.2

### POSITION - X Y Z

X: 0417 | Y: 0276 | Z: 0333

### JOINT ANGLE

YAW: -104.3

SHOULDER: 032.8

ELBOW: -76.7

WRIST PITCH: -051.1

WRIST YAW: -019.9

WRIST ROLL: 114.1