

ORBITER REPAIR

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# ORBITER REPAIR MANEUVER (ORM) DTO

## 1. SETUP

MON 1	Elbow(EE)
MON 2	CAM C

SM 94 PDRS CONTROL

- √PL ID, ITEM 3: 0
- √INIT ID, ITEM 24: 0

- A8U
- ## 2. MANEUVER TO PRE-GRAPPLE
- RATE – as desired (VERN within 10 ft)
  - BRAKES – OFF (tb-OFF)
  - MODE – as desired

Mnvr to PMA2 PRE-GRAPPLE posn:

X	Y	Z	PITCH	YAW	ROLL	PL ID
-724	-71	-562	214	330	291	0
SY	SP	EP	WP	WY	WR	
-33.9	+131.6	-141.8	-114.0	-41.0	-4.1	

- BRAKES – ON (tb-ON)
- √MODE – not DIRECT

## 3. ODS POWERUP

Perform DOCKING MECHANISM POWERUP (RNDZ, APDS)  
 Perform UNDOCKING PREP (RNDZ, APDS)

## 4. RECAPTURE ODS INTERFACE

SM 167 DOCKING STATUS

- A7L
- CLOSE LATCHES pb – push
  - √LAT OP It – off
  - √CL It – on
  - APDS CIRC PROT OFF pb – push (It on)
  - FIXER OFF pb – push (It on)

### NOTE

APDS must be powered off within 10 sec of Capture to prevent the capture latches from automatically reopening

- RING OUT pb – push
- √FNL POS It – off

When CAPTURE It – on, immediately:

- PWR OFF pb – push
- ON pb – push
- √CAPTURE It – off
- √LAT CL It – on
- RING IN pb – push
- PWR ON pb – push

00:10

5. CONFIGURE ISS ATTITUDE CONTROL  
TBD

6. OPEN ODS HOOKS

- 00:00 A7L APDS CIRC PROT OFF pb – push (lt on)  
OPEN HOOKS pb – push  
CRT √HOOKS 1,2 DRV CMD (two) – ON  
02:30 A7L √HOOKS 1,2 OP lts (two) – on

7. EXTEND RING

- 00:00 CRT RING OUT pb – push  
√FNL POS lt – off  
00:00 CRT √DRV CMD – ON  
√FIXERS – ON  
√PETAL POS BASE (three) incr  
03:40 A7L √RING INIT POS lt – on  
CRT √PETAL POS BASE (three):  $76 \pm 3\%$   
03:50 √CLUTCH – blank/SLIP  
When no relative motion [PETAL POS BASE (three) not changing for 60 sec], proceed with step 8

8. GRAPPLE PMA2

MON 1	EE(Elbow)
MON 2	CAM C

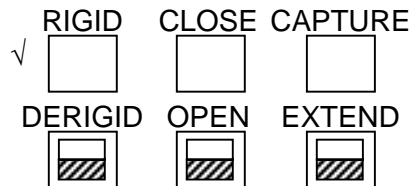
- A7U CCTV – config for grapple  
– install PDRS TARGET OVERLAY FOR CTVM  
– RMS WRIST, zoom 34.0 HFOV  
focus 5 ft  
Maintain eyepoint ~18 in when using grapple overlay

- A8U RATE – VERN (RATE MIN tb-ON)  
BRAKES – OFF (tb-OFF)  
MODE – END EFF, ENTER

Mnvr to grapple envelope

<u>CAUTION</u> Monitor EE tb timing to prevent EE motor burnout
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EE MODE – AUTO  
CAPTURE sw – depress (mom)



CRITICAL TIMES (28 sec total):  
CAPTURE tb – gray, then  
CLOSE tb – gray, 3 sec max, then  
RIGID tb – gray, 25 sec max

EE MODE – OFF  
BRAKES – ON (tb-ON)

SM 94 PDRS CONTROL

PL ID – ITEM 3 +4 EXEC

INIT ID – ITEM 24 +4 EXEC

PMA2 GRAPPLE posn:

	X	Y	Z	PITCH	YAW	ROLL	PL ID
Expected	-649	0	-475	0	0	0	4
	SY	SP	EP	WP	WY	WR	
Expected	-61.0	+138.3	-151.5	-84.0	-51.0	+32.7	

Review GENERIC END EFFECTOR CUE CARD – ISS/SHUTTLE DOCKED OPS

A7L 9. OPEN CAPTURE LATCHES

OPEN LATCHES pb – push

√LAT CL It – off

√OP It – on

PWR OFF pb – push

A8U 10. MANEUVER TO SEPARATION POSITION

RATE – VERN (RATE MIN tb-ON)

BRAKES – OFF (tb-OFF)

MODE – ORB LD, ENTER

MON 1	CAM A
MON 2	CAM C

Mnvr to SEPARATION posn:

	X	Y	Z	PITCH	YAW	ROLL	PL ID
	-649	0	-595	0	0	0	4
	SY	SP	EP	WP	WY	WR	
	-70.1	+129.5	-124.8	-90.7	-51.3	+47.1	

BRAKES – ON (tb-ON)

√MODE – not DIRECT

11. OCAS TO UNDOCKED POSITION

SM 94 PDRS CONTROL

PL ID – ITEM 3 +5 EXEC

INIT ID – ITEM 24 +5 EXEC

Load OPR CMD (Items 18-23, 25)

-----  
-681, -41, -652, 214, 330, 290  
-----

A8U RATE – VERN (RATE MIN tb-ON)

BRAKES – OFF (tb-OFF)

MODE – ORB LD, ENTER

√AUTO SEQ READY It – ON

AUTO SEQ – PRO

When AUTO SEQ IN PROG It – OFF:

BRAKES – ON

√MODE – not DIRECT

√UNDOCKED posn:

X	Y	Z	PITCH	YAW	ROLL	PL ID
-679	-42	-729	215	330	290	5
SY	SP	EP	WP	WY	WR	
-76.4	+120.9	-105.1	-96.0	-49.7	+53.7	

12. CONFIGURE ISS ATTITUDE CONTROL  
TBD

A7L 13. RECONFIGURE ODS  
PWR ON pb – push  
CLOSE LATCHES pb – push  
√LAT OP It – off  
√CL It – on

14. ODS POWERDOWN  
Perform DOCKING MECHANISM POWERDOWN (RNDZ, APDS)

15. ORM DTO OBJECTIVES  
TBD

16. ODS POWERUP  
Perform DOCKING MECHANISM POWERUP (RNDZ, APDS)

17. CONFIGURE ISS ATTITUDE CONTROL  
TBD

18. MANEUVER TO ODS CAPTURE POSITION

SM 94 PDRS CONTROL

PL ID – ITEM 3 +4 EXEC

INIT ID – ITEM 24 +4 EXEC

A8U RATE – VERN (RATE MIN tb-ON)  
BRAKES – OFF (tb-OFF)  
MODE – ORB LD, ENTER

MON 1	CAM A
MON 2	CAM C

Mnvr to CAPTURE posn:

X	Y	Z	PITCH	YAW	ROLL	PL ID
-649	0	-471	0	0	0	4
SY	SP	EP	WP	WY	WR	
-60.7	+138.3	-152.3	-83.8	-51.0	+32.0	

BRAKES – ON (tb-ON)

√MODE – not DIRECT

19. ODS CAPTURE  
Perform DOCKING PREP (RNDZ, APDS)

After the PCT or equivalent has caused capture,  
perform DOCKING SEQUENCE CUE CARD (RNDZ), steps 1-3

20. RELEASE PMA2

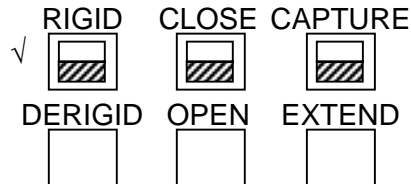
MON 1	EE (Elbow)
MON 2	CAM C

A8U RATE – VERN (RATE MIN tb-ON)  
BRAKES – OFF (tb-OFF)  
MODE – END EFF, ENTER

<u>CAUTION</u>
Monitor EE tb timing to prevent EE motor burnout

EE MODE – AUTO  
RELEASE sw – depress (mom)

Mnvr clear of grapple pin



CRITICAL TIMES (28 sec total):

DERIGID tb – gray, 5 sec max, then  
OPEN tb – gray, 3 sec max, then  
EXTEND tb – gray, 20 sec max

EE MODE – OFF

* If manual release required:	*
* EE MODE – MAN	*
* MAN CONTR – DERIGID (hold until DERIGID	*
* tb-gray, 5 sec max)	*
* RELEASE sw – depress (hold until OPEN tb-gray,	*
* 3 sec max)	*
* Mnvr arm clear, then	*
* EE MAN CONTR – DERIGID (hold until EXTEND	*
* tb-gray, 20 sec max)	*
* MODE – OFF	*
* BRAKES – ON (tb-ON)	*

BRAKES – ON (tb-ON)  
✓MODE – not DIRECT

21. RETRACT RING AND CLOSE ODS HOOKS  
Perform DOCKING SEQUENCE CUE CARD (RNDZ), starting in step 4

22. CONFIGURE ISS ATTITUDE CONTROL  
TBD

23. MANEUVER TO PRE-CRADLE POSITION

SM 94 PDRS CONTROL
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PL ID – ITEM 3 +0 EXEC  
INIT ID – ITEM 24 +0 EXEC

A8U      RATE    – as desired (VERN within 10 ft)  
          BRAKES – OFF (tb-OFF)  
          MODE    – as desired

Mnvr to PRE-CRADLE posn:

X	Y	Z	PITCH	YAW	ROLL	PL ID
-1261	-146	-551	5	2	0	0
SY	SP	EP	WP	WY	WR	
0	+25	-25	+5	0	0	

BRAKES – ON (tb-ON)  
√MODE    – not DIRECT

24. ODS POWERDOWN  
Go to DOCKING MECHANISM POWERDOWN (RNDZ, APDS)

# ORBITER REPAIR MANEUVER (CONTINGENCY)

## 1. SETUP

MON 1	Elbow(EE)
MON 2	CAM C

SM 94 PDRS CONTROL

- √PL ID, ITEM 3: 0
- √INIT ID, ITEM 24: 0

- A8U
- ## 2. MANEUVER TO PRE-GRAPPLE
- RATE – as desired (VERN within 10 ft)  
 BRAKES – OFF (tb-OFF)  
 MODE – as desired

Mnvr to PMA2 PRE-GRAPPLE posn:

X	Y	Z	PITCH	YAW	ROLL	PL ID
-724	-71	-562	214	330	291	0
SY	SP	EP	WP	WY	WR	
-33.9	+131.6	-141.8	-114.0	-41.0	-4.1	

- BRAKES – ON (tb-ON)  
 √MODE – not DIRECT

## 3. ODS POWERUP

Perform DOCKING MECHANISM POWERUP (RNDZ, APDS)  
 Perform UNDOCKING PREP (RNDZ, APDS)

## 4. RECAPTURE ODS INTERFACE

- A7L
- SM 167 DOCKING STATUS  
 CLOSE LATCHES pb – push  
 √LAT OP It – off  
 √CL It – on  
 APDS CIRC PROT OFF pb – push (It on)  
 FIXER OFF pb – push (It on)

### NOTE

APDS must be powered off within 10 sec of Capture to prevent the capture latches from automatically reopening

- RING OUT pb – push  
 √FNL POS It – off

When CAPTURE It – on, immediately:

- PWR OFF pb – push  
 ON pb – push  
 √CAPTURE It – off  
 √LAT CL It – on  
 RING IN pb – push  
 PWR ON pb – push

00:10

## 5. CONFIGURE ISS ATTITUDE CONTROL TBD



- 6. OPEN ODS HOOKS
- 00:00 A7L APDS CIRC PROT OFF pb – push (lt on)
- OPEN HOOKS pb – push
- CRT √HOOKS 1,2 DRV CMD (two) – ON
- 02:30 A7L √HOOKS 1,2 OP Its (two) – on

- 7. EXTEND RING
- 00:00 RING OUT pb – push
- √FNL POS lt – off
- CRT √DRV CMD – ON
- √FIXERS – ON
- √PETAL POS BASE (three) incr
- 03:40 A7L √RING INIT POS lt – on
- CRT √PETAL POS BASE (three): 76 ± 3%
- 03:50 √CLUTCH – blank/SLIP
- When no relative motion [PETAL POS BASE (three) not changing for 60 sec], proceed with step 8

8. GRAPPLE PMA2

MON 1	EE(Elbow)
MON 2	CAM C

- A7U CCTV – config for grapple
- install PDRS TARGET OVERLAY FOR CTVM
- RMS WRIST, zoom 34.0 HFOV
- focus 5 ft

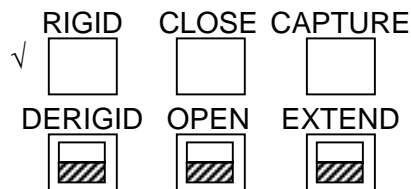
Maintain eyepoint ~18 in when using grapple overlay

- A8U RATE – VERN (RATE MIN tb-ON)
- BRAKES – OFF (tb-OFF)
- MODE – END EFF, ENTER

Mnvr to grapple envelope

CAUTION  
Monitor EE tb timing to prevent EE motor burnout

- EE MODE – AUTO
- CAPTURE sw – depress (mom)



CRITICAL TIMES (28 sec total):  
 CAPTURE tb – gray, then  
 CLOSE tb – gray, 3 sec max, then  
 RIGID tb – gray, 25 sec max

- EE MODE – OFF
- BRAKES – ON (tb-ON)

SM 94 PDRS CONTROL  
 PL ID – ITEM 3 +4 EXEC  
 INIT ID – ITEM 24 +4 EXEC

PMA2 GRAPPLE posn:

	X	Y	Z	PITCH	YAW	ROLL	PL ID
Expected	-649	0	-475	0	0	0	4
	SY	SP	EP	WP	WY	WR	
Expected	-61.0	+138.3	-151.5	-84.0	-51.0	+32.7	

Review GENERIC END EFFECTOR CUE CARD – ISS/SHUTTLE DOCKED OPS

- A7L 9. OPEN CAPTURE LATCHES  
 OPEN LATCHES pb – push  
 √LAT CL It – off  
 √OP It – on  
 PWR OFF pb – push

- A8U 10. MANEUVER TO UNDOCKED POSITION  
 RATE – VERN (RATE MIN tb-ON)  
 BRAKES – OFF (tb-OFF)  
 MODE – ORB LD, ENTER

MON 1	CAM A
MON 2	CAM C

Mnvr to UNDOCKED posn:

X	Y	Z	PITCH	YAW	ROLL	PL ID
-648	-1	-671	0	0	0	4
SY	SP	EP	WP	WY	WR	
-74.6	+120.9	-105.1	-96.0	-49.7	+53.7	

- BRAKES – ON (tb-ON)  
 √MODE – not DIRECT

11. CONFIGURE ISS ATTITUDE CONTROL  
 TBD

12. AUTO SEQUENCE TO OVERNIGHT PARK POSITION

MON 1	CAM A
MON 2	CAM C

SM 94 PDRS CONTROL

PL ID – ITEM 3 +5 EXEC  
 INIT ID – ITEM 24 +5 EXEC  
 AUTO MODE 1 – ITEM 13 +1 EXEC

- A8U RATE – VERN (RATE MIN tb-ON)  
 BRAKES – OFF (tb-OFF)  
 MODE – AUTO 1, ENTER

SM 94 PDRS CONTROL

- √START PT, ITEM 17: 1  
 √READY It – ON  
 AUTO SEQ – PROCEED (IN PROG It on)

Auto Pos #	X/ SY	Y/ SP	Z/ EP	PITCH/ WP	YAW/ WY	ROLL/ WR	PL ID
1	-679	-42	-729	215	330	290	5
	-74.6	+120.9	-105.1	-96.0	-49.7	+53.7	
2	-783	15	-732	236	291	327	
	-55.6	+110.6	-103.8	-55.3	-37.5	+83.7	
3	-1082	-104	-722	324	293	66	
	-7.7	+65.3	-50.2	-66.0	-47.7	+69.5	
4	-1017	-394	-694	354	331	107	
	+36.0	+70.4	-46.3	-52.7	-58.4	+87.9	
5	-1003	-394	-637	347	356	124	
	+37.3	+80.5	-71.7	-25.7	-35.8	+115.0	
6	-605	-340	-548	318	23	193	
	+126.4	+112.5	-117.1	-78.5	-63.1	+92.9	
7	-364	-340	-489	280	10	257	
	+151.5	+69.4	-80.5	-73.4	-30.7	+126.6	
8	-375	-194	-589	215	338	284	
	+170.6	+96.7	-105.9	-31.7	+17.6	146.4	

- √READY It – ON
- BRAKES – ON (tb-ON)
- √MODE – not DIRECT
- PARAM – PORT TEMP
- JOINT – CRIT TEMP

- A7L
13. RECONFIGURE ODS  
PWR ON pb – push  
CLOSE LATCHES pb – push  
√LAT OP It – off  
√CL It – on

14. ODS POWERDOWN  
Perform DOCKING MECHANISM POWERDOWN (RNDZ, APDS)

15. CONFIGURE ISS ATTITUDE CONTROL  
TBD

16. ORBITER OVERNIGHT PARK CONFIGURATION  
TBD

17. CONFIGURE ISS ATTITUDE CONTROL  
TBD

18. AUTO SEQUENCE TO REPAIR POSITION

MON 1	CAM A
MON 2	CAM C

SM 94 PDRS CONTROL

- √PL ID, ITEM 3: 5
- √INIT ID, ITEM 24: 5
- √AUTO MODE 1, ITEM 13: 1

A8U      RATE    – VERN (RATE MIN tb-ON)  
 BRAKES – OFF (tb-OFF)  
 MODE    – AUTO 1, ENTER

SM 94 PDRS CONTROL

START PT – ITEM 17 +8 EXEC

√READY It    – ON  
 AUTO SEQ – PROCEED (IN PROG It on)

Auto Pos #	X/ SY	Y/ SP	Z/ EP	PITCH/ WP	YAW/ WY	ROLL/ WR	PL ID
8	-375	-194	-589	215	338	284	5
	+170.6	+96.7	-105.9	-31.7	+17.6	146.4	
9	-158	-151	-381	206	345	273	
	+171.9	+31.0	-61.0	+0.1	+13.0	+134.6	
10	-158	-151	-248	248	345	273	
	+168.4	+3.5	-28.3	-44.2	+1.0	+130.9	
11	-340	-151	-109	279	345	273	
	+156.9	+5.2	-68.6	-32.9	-7.3	+133.0	
12	-498	-120	-97	315	315	287	
	+143.4	+2.7	-89.4	-47.7	+6.0	+140.8	
13	-852	-165	-158	341	330	290	
	+53.4	+16.3	-115.4	+32.4	-61.6	+237.4	

BRAKES – ON (tb-ON)  
 √MODE    – not DIRECT

19. CONFIGURE ISS ATTITUDE CONTROL  
TBD
20. ORBITER REPAIR CONFIGURATION  
TBD

# REVERSE ORBITER REPAIR MANEUVER (CONTINGENCY)

## 1. SETUP

MON 1	Elbow
MON 2	CAM B

SM 94 PDRS CONTROL

- √PL ID, ITEM 3: 5
- √INIT ID, ITEM 24: 5

## 2. CONFIGURE ISS ATTITUDE CONTROL TBD

## 3. MANEUVER BACK TO REPAIR START POSITION

√REPAIR posn:

X	Y	Z	PITCH	YAW	ROLL	PL ID
-852	-165	-158	341	330	290	5
SY	SP	EP	WP	WY	WR	
+53.4	+16.3	-115.4	+32.4	-61.6	+237.4	

If not within 1"/1° of REPAIR posn:

Load OPR CMD (Items 18-23, 25)

-----  
-852, -165, -158, 341, 330, 290  
-----

A8U

√RATE – VERN (RATE MIN tb-ON)  
BRAKES – OFF (tb-OFF)  
MODE – OPR CMD, ENTER

√AUTO SEQ READY It – ON  
– PRO

When AUTO SEQ IN PROG It – OFF:

BRAKES – ON  
√MODE – not DIRECT

## 4. AUTO SEQUENCE TO OVERNIGHT PARK POSITION

SM 94 PDRS CONTROL

AUTO MODE 2 – ITEM 13 +2 EXEC

A8U

RATE – VERN (RATE MIN tb-ON)  
BRAKES – OFF (tb-OFF)  
MODE – AUTO 2, ENTER

SM 94 PDRS CONTROL

√START PT, ITEM 17: 1

√READY It – ON  
AUTO SEQ – PROCEED (IN PROG It on)

Auto Pos #	X/ SY	Y/ SP	Z/ EP	PITCH/ WP	YAW/ WY	ROLL/ WR	PL ID
1	-852	-165	-158	341	330	290	5
	+53.4	+16.3	-115.4	+32.4	-61.6	+237.4	
2	-498	-120	-97	315	315	287	
	+143.4	+2.7	-89.4	-47.7	+6.0	+140.8	
3	-340	-151	-109	279	345	273	
	+156.9	+5.2	-68.6	-32.9	-7.3	+133.0	
4	-158	-151	-248	248	345	273	
	+168.4	+3.5	-28.3	-44.2	+1.0	+130.9	
5	-158	-151	-381	206	345	273	
	+171.9	+31.0	-61.0	+0.1	+13.0	+134.6	
6	-375	-194	-589	215	338	284	
	+170.6	+96.7	-105.9	-31.7	+17.6	146.4	

✓READY It – ON  
 BRAKES – ON (tb-ON)  
 ✓MODE – not DIRECT  
 PARAM – PORT TEMP  
 JOINT – CRIT TEMP

5. CONFIGURE ISS ATTITUDE CONTROL  
TBD
6. ORBITER OVERNIGHT PARK CONFIGURATION  
TBD
7. CONFIGURE ISS ATTITUDE CONTROL  
TBD
8. AUTO SEQUENCE TO UNDOCKED POSITION

MON 1	Elbow
MON 2	CAM B

SM 94 PDRS CONTROL

✓PL ID, ITEM 3: 5  
 ✓INIT ID, ITEM 24: 5  
 AUTO MODE 2, ITEM 13: 2

A8U      RATE – VERN (RATE MIN tb-ON)  
 BRAKES – OFF (tb-OFF)  
 MODE – AUTO 2, ENTER

SM 94 PDRS CONTROL

START PT – ITEM 17 +6 EXEC

✓READY It – ON  
 AUTO SEQ – PROCEED (IN PROG It on)

Auto Pos #	X/ SY	Y/ SP	Z/ EP	PITCH/ WP	YAW/ WY	ROLL/ WR	PL ID
6	-375	-194	-589	215	338	284	5
	+170.6	+96.7	-105.9	-31.7	+17.6	146.4	
7	-364	-340	-489	280.0	10.1	257.4	
	+151.5	+69.4	-80.5	-73.4	-30.7	+126.6	
8	-605	-340	-548	318.1	23.0	193.4	
	+126.4	+112.5	-117.1	-78.5	-63.1	+92.9	
9	-1003	-394	-637	347.0	355.8	124.1	
	+37.3	+80.5	-71.7	-25.7	-35.8	+115.0	
10	-1017	-394	-694	353.7	331.4	107.4	
	+36.0	+70.4	-46.3	-52.7	-58.4	+87.9	
11	-1082	-104	-722	324.5	293.2	66.0	
	-7.7	+65.3	-50.2	-66.0	-47.7	+69.5	
12	-783	15	-732	235.7	291.3	326.9	
	-55.6	+110.6	-103.8	-55.3	-37.5	+83.7	
13	-679	-42	-729	215.2	329.7	289.9	
	-74.6	+120.9	-105.1	-96.0	-49.7	+53.7	

BRAKES – ON (tb-ON)  
√MODE – not DIRECT

9. ODS POWERUP  
Perform DOCKING MECHANISM POWERUP (RNDZ, APDS)
10. CONFIGURE ISS ATTITUDE CONTROL  
TBD
11. MANEUVER TO ODS CAPTURE POSITION  
SM 94 PDRS CONTROL  
PL ID – ITEM 3 +4 EXEC  
INIT ID – ITEM 24 +4 EXEC

A8U RATE – VERN (RATE MIN tb-ON)  
BRAKES – OFF (tb-OFF)  
MODE – ORB LD, ENTER

MON 1	CAM A
MON 2	CAM C

Mnvr to CAPTURE posn:

X	Y	Z	PITCH	YAW	ROLL	PL ID
-649	0	-471	0	0	0	4
SY	SP	EP	WP	WY	WR	
-60.7	+138.3	-152.3	-83.8	-51.0	+32.0	

BRAKES – ON (tb-ON)  
√MODE – not DIRECT

12. ODS CAPTURE  
Perform DOCKING PREP (RNDZ, APDS)

After the PCT or equivalent has caused capture,  
perform DOCKING SEQUENCE CUE CARD (RNDZ), steps 1-3

13. RELEASE PMA2

MON 1	EE(Elbow)
MON 2	CAM C

A8U

RATE – VERN (RATE MIN tb-ON)  
 BRAKES – OFF (tb-OFF)  
 MODE – END EFF, ENTER

CAUTION  
 Monitor EE tb timing to prevent EE motor burnout

EE MODE – AUTO  
 RELEASE sw – depress (mom)

Mnvr clear of grapple pin

RIGID <input checked="" type="checkbox"/>	CLOSE <input checked="" type="checkbox"/>	CAPTURE <input checked="" type="checkbox"/>	<u>CRITICAL TIMES (28 sec total):</u> DERIGID tb – gray, 5 sec max, then OPEN tb – gray, 3 sec max, then EXTEND tb – gray, 20 sec max
DERIGID <input type="checkbox"/>	OPEN <input type="checkbox"/>	EXTEND <input type="checkbox"/>	

EE MODE – OFF

- \* If manual release reqd: \*
- \* EE MODE – MAN \*
- \* MAN CONTR – DERIGID (hold until DERIGID tb-gray, 5 sec max) \*
- \* RELEASE sw – depress (hold until OPEN tb-gray, 3 sec max) \*
- \* Mnvr arm clear, then \*
- \* EE MAN CONTR – DERIGID (hold until EXTEND tb-gray, 20 sec max) \*
- \* MODE – OFF \*
- \* BRAKES – ON (tb-ON) \*

BRAKES – ON (tb-ON)  
MODE – not DIRECT

14. RETRACT RING AND CLOSE ODS HOOKS

Perform DOCKING SEQUENCE CUE CARD (RNDZ), starting in step 4

15. CONFIGURE ISS ATTITUDE CONTROL

TBD

16. MANEUVER TO PRE-CRADLE POSITION

SM 94 PDRS CONTROL

  
 PL ID – ITEM 3 +0 EXEC  
 INIT ID – ITEM 24 +0 EXEC

A8U

RATE – as desired (VERN within 10 ft)  
 BRAKES – OFF (tb-OFF)  
 MODE – as desired



Mnvr to PRE-CRADLE posn:

X	Y	Z	PITCH	YAW	ROLL	PL ID
-1261	-146	-551	5	2	0	0
SY	SP	EP	WP	WY	WR	
0	+25	-25	+5	0	0	

BRAKES – ON (tb-ON)

√MODE – not DIRECT

17. ODS POWERDOWN

Go to DOCKING MECHANISM POWERDOWN (RNDZ, APDS)

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INSPECTION AND REPAIR REFERENCE DATA

OBSS JOINT ANGLES VS POR COORDINATES (TBS)  
  AUTO SEQUENCES (TBS)  
  COORDINATE SYSTEM – PL ID 1 OBSS UNBERTH/BERTH..... FS 6-2  
  2 OBSS BOOM MNVRS ..... FS 6-3  
  3 LDRI SURVEYS..... FS 6-4  
  4 LCS SURVEYS ..... FS 6-5  
  GO/NO-GO CRITERIA (TBS)  
  ATTITUDE CONTROL CONSTRAINTS (TBS)  
SRMS EE CAM JOINT ANGLES VS POR COORDINATES (TBS)  
  AUTO SEQUENCE (TBS)  
  COORDINATE SYSTEM – PL ID 5 (TBS)  
EVA SUPPORT JOINT ANGLES VS POR COORDINATES (TBS)  
  COORDINATE SYSTEM – PL ID 5A (UPLINK) (TBS)  
ORM JOINT ANGLES VS POR COORDINATES..... FS 6-6  
  AUTO SEQUENCES ..... FS 6-7  
  COORDINATE SYSTEM – PL ID 4B (UPLINK) (TBS)  
  5B (UPLINK) (TBS)  
  GO/NO-GO CRITERIA (TBS)  
  ATTITUDE CONTROL CONSTRAINTS (TBS)

INSPECT/REPAIR  
REF DATA