

Pre-Launch Checklist

COM	TIME	PROCEDURE
1	T-00:05:00	<p><u>Launch HOLD</u></p> <p>CABIN DOOR to LATCH</p> <p>ENVIRONMENTAL SYSTEM O₂ SYS2 to OPEN</p> <p>ENVIRONMENTAL SYSTEM N₂ SYS2 to OPEN</p> <p>ENVIRONMENTAL SYSTEM H₂O LOOP to ON</p> <p>Key in ITM Select A Key in DPS Select 1 (OPS 1) Key in EXE</p> <p>BOILER CNTRL POWER (1/2/3) to ON</p> <p>BOILER CNTRL HTR (1/2/3) to ON</p> <p>BOILER N₂ SUPPLY (1/2/3) to ON</p> <p>Key in DPS Select 2 (OPS 2) Key in EXE</p>

1 cont.		<p>He ISOLATION A (LEFT/CENTER/RIGHT) to OPEN</p> <p>He ISOLATION B (LEFT/CENTER/RIGHT) to OPEN</p> <p>PNEUMATIC He ISOL (LEFT/CENTER/RIGHT) to OPEN</p> <p>APU FUEL TNK VLV (1/2/3) to CLOSE</p> <p>APU TK VLV to CLOSE</p> <p>APU SHUTDWN to ENABLE</p> <p>HYD MAIN PUMP PRESSURE (1/2/3) to LOW</p> <p>APU SPEED SELECT (1/2/3) to NORMAL</p> <p>HYD CIRC PUMP (1/2/3) to GPC</p> <p>APU POWER to ON</p> <p>APU CNTRL POWER (1/2/3) to ON</p> <p>APU TK VLV to OPEN</p> <p>APU FUEL TNK VLV (1/2/3) to OPEN</p> <p>APU /HYDRAULICS (1/2/3) to START/RUN</p> <p>HYD MAIN PUMP PRESSURE (1/2/3) to NORMAL</p>
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2	T-00:04:00	<p>PRIMARY SYSTEM RADAR to ON</p> <p>RATE GYRO ASSEMBLY (RG1/ RG2-3/ RG4) to ON</p> <p>INTERNAL SHUTTLE SYSTEM PWR (BAT A / BAT B) to ON</p> <p>INTERNAL SHUTTLE SYSTEM POWER - INT PWR TRANSFER to ON</p>
3	T-00:03:00	<p>Key in DPS Select 3 (OPS 3)</p> <p>GLOBAL POSITIONING SYSTEM (GPS-1/GPS-2/GPS-3) to ON</p>
4	T-00:02:00	<p>APU SHUTDOWN to INHIBIT</p> <p><i>Verify</i> SRB JETTISON is GPC</p> <p><i>Verify</i> EXT TANK JETTISON is GPC</p>
5	T-00:01:00	<p>AC BUS SENSOR to AUTO</p> <p>INTERNAL SHUTTLE SYSTEM POWER - EXT PWR DISCONNECT to ON</p>
6	T-00:00:04	<p>Key in EXE</p>
7	T-00:00:00	

Ascent Checklist

COM	MET	PROCEDURE
8	T+00:00:20	Switch Left MFD back to Surface Mode Key in 9
9	T+00:00:44	
10	T+00:01:10	
11	T+00:02:05	<i>SRB Separation</i>
12	T+00:03:00	
13	T+00:04:20	
14	T+00:08:00	
15	T+00:08:55	<i>Main Engine Cutoff (MECO)</i>

Orbit Insertion Checklist (Post MECO)

COM	MET	Procedure
16	T+00:09:00	FWD RCS He TANK ISOL (A/B) to OPEN FWD RCS He PRIMARY REGULATOR (A/B) to OPEN AFT RCS He TANK ISOL (A/B) to OPEN AFT RCS He PRIMARY REGULATOR (A/B) to OPEN
17	T+00:09:15	<i>Confirm</i> OMS ENGINE VLV (LEFT/RIGHT) are OPEN <i>Confirm</i> OMS ENGINE (LEFT/RIGHT) are ARMed
18	T+00:09:30	FLT CNTLR PWR to INHIBIT ENGINE DAP to AUTO
19	T+00:09:45	MAIN ENGINE POWER (LEFT/CENTER/RIGHT) to OFF
20	T+00:10:00	He ISOLATION A (LEFT/CENTER/RIGHT) to GPC He ISOLATION B (LEFT/CENTER/RIGHT) to GPC PNEUMATIC He ISOL

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20 cont.		(LEFT/CENTER/RIGHT) to GPC H ₂ SYSTEM LINE VENT to OPEN
21	T+00:10:30	<p>HYD MAIN PUMP PRESSURE (1/2/3) to LOW</p> <p>APU / HYDRAULICS (1/2/3) to OFF</p> <p>APU SHUTDOWN to ENABLE</p> <p>APU FUEL TNK VLV (1/2/3) to CLOSE</p> <p>APU TK VLV to CLOSE</p> <p>APU CNTRL POWER (1/2/3) to OFF</p> <p>APU POWER to OFF</p> <p>BOILER CNTRL HTR (1/2/3) to OFF</p> <p>BOILER CNTRL POWER (1/2/3) to OFF</p> <p>BOILER N₂ SUPPLY (1/2/3) to OFF</p> <p>HYD CIRC PUMP (1/2/3) to GPC</p> <p>H₂ SYSTEM LINE VENT to GPC</p>
22	T+00:11:00 <u>approximate</u>	<i>Advise Mission Control when OMS Burn Initiated</i>
23	T+00:15:10 <u>approximate</u>	<p><i>Advise Mission Control when OMS Burn Complete</i></p> <p>OMS ENGINE (LEFT/RIGHT) to OFF</p> <p>OMS ENGINE VLV (LEFT/RIGHT) to CLOSE</p>

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23 cont.		AC BUS SENSOR to MONITOR
24	Mission Dependent	<p>Confirm central HUD is on and set to <u>Orbit Earth</u> mode.</p> <ul style="list-style-type: none"> • If needed Select 0 (toggle until <u>Orbit Earth</u> HUD is visible) <p>H₂ SYSTEM OUTBRD VLV to GPC</p> <p>H₂ SYSTEM INBRD VLV to GPC</p> <p>ENGINE DAP to MANUAL</p> <p>FLT CNTLR POWER to ENABLE</p> <p>RATE GYRO ASSEMBLY (RG1/ RG2-3/ RG4) to OFF</p> <p>Orient the shuttle to a zero attitude while using the <u>Kill Rotation</u> command (blue key 4) to stabilize the maneuver.</p>
25	Mission Dependent	<p>PAYLOAD POWER to ON</p> <p>PAYLOAD BAY DOOR to OPEN</p> <p>RADIATORS to DEPLOY</p> <p>Ku ANTENNA to DEPLOY</p>

De-Orbit Checklist

COM	MET	Procedure
26	Mission Dependent	STAR TRACKER to OFF Ku ANTENNA to STOW RADIATORS to STOW PAYLOAD BAY DOOR to CLOSE PAYLOAD POWER to OFF
27	Mission Dependent	BOILER CNTRL HTR (1/2/3) to ON HYD CIRC PUMP (1/2/3) to OFF
28	Mission Dependent	<i>Position The Shuttle to The Correct Attitude – Retrograde</i> Key in 6 – Retrograde
29	Mission Dependent	He ISOLATION A (LEFT/CENTER/RIGHT) to OPEN He ISOLATION B (LEFT/CENTER/RIGHT) to OPEN PNEUMATIC He ISOL (LEFT/CENTER/RIGHT) to OPEN

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30	Mission Dependent	<p>BOILER N₂ SUPPLY (1/2/3) to ON</p> <p>BOILER CNTRL POWER (1/2/3) to ON</p> <p>APU TK VLV to OPEN</p> <p>APU FUEL TNK VLV (1/2/3) to OPEN</p> <p>APU POWER to ON</p> <p>APU CNTRL POWER (1/2/3) to ON</p> <p>APU SHUTDOWN to INHIBIT</p> <p>HYD MAIN PUMP PRESSURE (1/2/3) to LOW</p> <p>APU SPEED SELECT (1/2/3) to NORMAL</p> <p>APU / HYDRAULICS (1/2/3) to START/RUN</p> <p>DUMP ISOL VLV to OPEN</p>
31	Mission Dependent	<p>OMS ENGINE VLV (LEFT/RIGHT) to OPEN</p> <p>OMS ENGINE (LEFT/RIGHT) to ARM</p> <p>Engine Throttle to Maximum</p>
32	Mission Dependent	<p>Engine Throttle to OFF</p> <p>OMS ENGINE (LEFT/RIGHT) to OFF</p> <p>OMS ENGINE VLV (LEFT/RIGHT) to CLOSE</p>

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33	Mission Dependent	<p><i>Position The Shuttle to The Correct Attitude – Prograde</i></p> <p>Key in 7 – Prograde</p>
34	Mission Dependent	<p>RE-ENTRY SYS CHECK to ON</p> <p>HYD MAIN PUMP PRESSURE (1/2/3) to NORMAL</p>
35	Mission Dependent	<p>FWD RCS He TANK ISOL (A/B) to CLOSE</p> <p>FWD RCS He PRIMARY REGULATOR (A/B) to CLOSE</p> <p>AFT RCS He TANK ISOL (A/B) to CLOSE</p> <p>AFT RCS He PRIMARY REGULATOR (A/B) to CLOSE</p> <p>DUMP ISOL VLV to CLOSE</p>
36	Mission Dependent	

Landing Checklist

COM	Altitude	Procedure
37	35 k	<i>Disengage RCS mode</i> Key in D LANDING SYS CHECK to ON LANDING SYSTEM RADAR to ON
38	28 k	<i>(Lift takes affect)</i>
39	25 k	THERMAL CONDITION SYSTEM HYD / FUEL to AUTO
40	3 k	LANDING GEAR to ARM
41	2.5 k	GEAR to DEPLOY
42	0.5 k (500 m)	SPEED BRAKE to DEPLOY <i>The speed brake is required to help stop the shuttle after landing. Its use at this point may be delayed until touchdown by order of the Mission Commander.</i>
43	Touchdown	DROGUE CHUTE to DEPLOY
44		<i>End of Mission</i>