

SECTION 1—NORMAL PROCEDURES

SAFETY CHECKS (PILOTS)

1. Check modification state with ASC
2. External power Off
3. Bomb doors As required
4. Emergency bomb door switch NORMAL. Pin in
5. Undercarriage override SAFE. Safety guard fitted
6. R/C—I/C switches I/C (both pilots)
7. 1st pilot's emergency I/C NORMAL
8. VHF/UHF isolate switches NORMAL (both pilots)
9. H/F—I/C switches I/C (both pilots)
10. Check on both ejection seats:—
 - (a) Main sear and seat-pan firing handle safety-pins In
 - (b) Hatch jettison lever SAFE
 - (c) Top latch pin In
 - (d) Canopy lanyard safety-pin In position
 - (e) Drogue withdrawal line Above lifting line
 - (f) Drogue line shackles Attached to piston. Pin in
 - (g) Servicing pin Out
 - (h) Drogue line telescopic rod Attached to guide rail. Pin in
 - (j) Time release static line Attached to guide rail. Pin in
11. Hood detonator master switch SAFE. Pin in (Mod. 3182)

SAFETY CHECKS (AEO)

1. Artificial feel heater switches Off
2. 24 v. battery switch ON, indicator black
3. 96 v. battery switch ON, indicator black
4. Type 153 inverter ON. Check 96 v. battery voltage does not fall below 96 v. after 30 secs.
5. Type 153 inverter OFF
6. 96 v. battery switch OFF, indicator white
7. I/C ON. Check 24 v. battery voltage does not fall below 24 v. after 30 secs.
8. External power ON

INTERNAL CHECKS (AEO)

Rear cabin

- | | |
|---|--------------------------|
| 1. Generator | 1, 2 and 3 OFF, No. 4 ON |
| 2. Rotary transformers | 1 and 2 OFF, No. 3 ON |
| 3. Door seal cock | Wired vertically on |
| 4. Minimum oxygen contents | $\frac{2}{3}$ full |
| 5. Normal/emergency intercomm. switch | NORMAL |
| 6. IFF | STAND-BY |
| 7. Very pistol and cartridges | Stowed |
| 8. Two first-aid kits | Stowed |
| 9. Asbestos gloves | Stowed |
| 10. One fire extinguisher and axe | Stowed |

Port console door

- | | |
|---|--------------|
| 1. Cabin lights | As required |
| 2. Servicing lights | OFF |
| 3. Internal start selector switch | NORMAL |
| 4. Artificial feel unit heater switches | ON and caged |

Front cabin

- | | |
|--|------------------------|
| 1. Emergency oxygen operating cables | Connected (both seats) |
| 2. Intercomm. connections | Made (both seats) |
| 3. Bomb aimer's heater and demister | Off |
| 4. Hood detonator fuses and plug | Connected |
| 5. Two fire extinguishers (one each seat) | Stowed |

Starboard console board

- | | |
|---|---|
| 1. u/c extreme emergency circuit-breakers | Tripped |
| 2. Ration heater switches | Off |
| 3. One axe, two fire extinguishers | Stowed |
| 4. Pressure controller ground test lever | Operate, leave flush |
| 5. Pressure controller knurled knob | Wired |
| 6. Starboard crash exit | Secure |
| 7. Air spoilers | In |
| 8. Upper ditching hatch/astro dome | Secure |
| 9. Manual depressurising lever | To pressurise. Safety plunger fully engaged |
| 10. Stow loose equipment in cabin | |
| 11. No. 2 inverter | On |
| 12. IFF power switch | On |

SEATED AND STRAPPED-IN CHECKS

- | | |
|---------------------------------------|---|
| 1. Instrument master switch | ON |
| 2. G4B | Synchronised. Compare with standby. Nav. check true |
| 3. G4B changeover | Check and set |
| 4. VHF/UHF | Check (both pilots) |
| 5. Flood flow switches | DECREASE |
| 6. Hydraulic pressures | Normal |
| 7. External lights | Check |
| 8. Rudder pedals | Check |
| 9. | Check |
| 10. | Check |
| 11. | Check |

- | | |
|---|---|
| 11. 96 v. battery switch | OFF. Indicator white |
| 12. Auto-pilot power switch | ON |
| 13. Control handwheels | Engaged and adjusted |
| 14. Elevator load lights | Functioning |
| 15. Manual trimmers master switches | ON |
| 16. Manual trimmers | Full travel. Set for T/O |
| 17. Feel cut-off levers | Forward |
| 18. Feel trimmers | Operate one division each way
and return to neutral |
| 19. TPI coarse and fine | Both pilots operate. Set for
T/O |
| 20. Controls | Unlock |
| 21. Manual control full travel | Check with Crew Chief |
| 22. Instrument master switch | ON. PFC lights out |
| 23. Control movement and desyns | Check with Crew Chief |
| 24. Auto-pilot | Aileron drift, check and
remove. Instinctive cut-out
both pilots check. Power
switch off |
| 25. Power control motors | Trip. Warning lights on |
| 26. Controls | Lock |

LEFT TO RIGHT CHECKS

- | | |
|--|---|
| 1. Engine master start switch | SAFE |
| 2. Windscreen wiper | Off and parked (both pilots) |
| 3. Emergency depressurising switch | NORMAL |
| 4. Oxygen blinker | Responding. Check emerg.
(both pilots) |
| 5. Call crew and emergency 1/c | Test |
| 6. u/w tank jettison switches | OFF |
| 7. Low-level radio altimeter | As required |
| 8. Hydraulic pump indicators | Black |
| 9. Inst. panel emergency lights | Test (both pilots) |
| 10. Demist selector | As required |
| 11. Accelerometer | Reset |
| 12. Pitot heaters | Off (both pilots) |
| 13. Flight instruments | Serviceable (both pilots) |
| 14. Master power control warning light | Test |
| 15. Landing lamp switches | Central |
| 16. Engine master cocks | On and black |
| 17. Fire warning lights | Test |
| 18. Rear bearing overheat lights | Test |
| 19. Fuel filter de-icing light | Test |
| 20. Fuel low pressure warning lights | On |
| 21. JPT fuel control switch | NORMAL |
| 22. Water methanol warning lights | Out |
| 23. Undercarriage | 3 greens 2 ambers. Check
changeover |
| 24. Water methanol master switch | Off |

(continued)

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|---|---|
| 25. Undercarriage door indicators | On |
| 26. Air refuelling switches | Off |
| 27. Windscreen de-icing switches | Off |
| 28. Cabin pressure switch | As required |
| 29. Ram air and vent fan | As required |
| 30. Cabin air supplies | Off |
| 31. Flood flow switches | Off |
| 32. Anti-icing master switch | Off |
| 33. Airframe anti-icing switches | Off |
| 34. Ice detector | Test (Stbd pitot heater on
whilst testing) |
| 35. Undercarriage horn | Test |
| 36. Cabin temperature control | FRIDGE OUT |
| 37. Bomb bay heating | Off |
| 38. Engine gate valves | NORMAL |
| 39. Flowmeters | METER |

FUEL PANEL CHECKS

- | | |
|--|---|
| 1. Underwing pumps | Test with Crew Chief. Check
indicators |
| 2. Underwing nitrogen | ON (Crew Chief) |
| 3. Nose caps | Secure |
| 4. Fuel contents | Check |
| 5. Abandon aircraft switch | Test |
| 6. Reserve tank/interconnect/cross-feed
cocks | Test, indicators black |
| 7. Contents gauge changeover | Test |
| 8. Transfer tank pumps | Test with Crew Chief |
| 9. Fire protection warning lights | Test |

CENTRAL PEDESTAL CHECKS

- | | | |
|--|---|-----------------------------------|
| 1. Flap main | Select 40 degrees | } Check
with
ground
crew |
| 2. Flap emergency | Test down and up | |
| 3. Contactor | Reset | |
| 4. Flap main | Full travel. Set
20 degrees | |
| 5. Airbrakes | Function and
desyns | |
| 6. Bomb doors | Closed, indicators
black | |
| 7. Friction lever | Adjusted | |
| 8. u/c safety guard | Removed. Down button in,
override safe | |
| 9. Cockpit high intensity lighting | Test | |
| 10. Brakes No. 1 system | Starboard selected | |

NORMAL STARTING CHECKS

1. All crew oxygen and R/T connections Made
2. Periscope In position and retracted
3. Pitot head covers Off and handed into cockpit
(ASC to action)
4. Pitot head heaters On, if conditions warrant
5. Entrance door Closed, indicator black
6. Select tanks for starting
7. Starter master switch START
8. Normal starting procedure (Order 3,
2, 1 and 4)

ENGINE FIRE ON GROUND

1. Warn crews (Air and ASC) and call
ATC
2. HP cocks CLOSED
3. Engine master cocks CLOSED
4. All fuel switches Off
5. Operate fire extinguisher
6. All electrics (including generators) Off

CHECKS AFTER STARTING

1. 96 v. battery switch ON/black
2. Starter master switch Safe
3. Fuel filter de-icing Check on and off with ground
crew
4. Engines 1 and 4 to 5,500 RPM Water Meth master switch ON,
red lights ON
5. Water Meth master switch OFF, red lights OUT, engines
1 and 4 to idling
6. External power Removed
7. Generators 1, 2 and 3 on, lights out
8. Rotary transformers 1 and 2 on, lights out
9. No. 3 inverter On
10. Flowmeters Functioning
11. Hydraulic pressures Normal
12. Chocks Away
13. Main seat and seat-pan firing handle
safety-pins Removed
14. All crew emergency oxygen pins Removed
15. Hood detonator master switch pin Out and stowed. Master switch
live
16. Swivel seat pip-pins In
17. Taxi clearance
18. External intercomm. Removed

NOTE: If NBS is not to be used, the following checks are to be completed:—

1. H2S switch Off
2. Scanner rotation switch Off
3. Scanner supply switch ON
4. Scanner stabilisation Emergency
5. NBC switch Off
6. NBC supply c.b. (if fitted) Out

AFTER TAKE-OFF CHECKS

- | | |
|---|--------------------|
| 1. Water methanol master switch | Off, lights out |
| 2. Undercarriage | UP, all lights out |
| 3. Flaps | UP |
| 4. Landing lights | IN |
| 5. Cabin air supply | ON |
| 6. Bomb bay heaters | As required |
| 7. Flowmeters | METER |
| 8. Clear airfield | |
| 9. JPT fuel control switch | NORMAL |
| 10. IFF | As required |
| 11. Fuel cycling | Started |
| 12. Altimeter setting | As required |
| 13. ILS | Off |
| 14. Auto-pilot power switch | ON |

CLIMBING CHECKS

1. Every 10,000ft., and at top of climb, check :—
 - (a) Oxygen connections and blinkers
 - (b) Engine instruments
 - (c) Cabin altitude
2. At 27,000ft. :—
 - (a) Check second cabin air supply
 - (b) Select TPI to FINE
 - (c) Auto-stabilizer to STANDBY

PRE-DESCENT CHECKS PRIOR TO LOW-LEVEL ROUTE FLYING

1. Route weather
2. Windscreen wipers As required
3. Windscreen demist As required
4. TPI FINE
5. Auto-stabilizer STANDBY
6. External lights As required
7. Second cabin air supply On
8. Anti-icing As required
9. Bomb bay heating switches As required. (To maintain bomb bay temperature between +5°c and +30°c)
10. All crew protective helmets On and secure
11. Loose articles Check
12. QNH Set
13. Safety and minimum leg heights Checks
14. Low level radio altimeter ON
15. AOW and minimum safe speed (Pattern)

POST-DESCENT CHECKS

1. Auto-pilot power switch OFF
2. LP / u/w pumps As required
3. Second cabin air supply As required

NOTE: For low level route flying the fuselage fuel is to be used to a minimum of 6,000 lb., and the internal wing tanks are to remain full.

PRE-DESCENT OR JOINING CHECKS

1. Base weather
2. ILS As required
3. Above 2,000ft. u/w jettison switches ON
4. Windscreen wipers As required
5. Windscreen demist As required
6. TPI COARSE
7. Auto-stabilizer STANDBY for 5 secs.,
then off
8. External and landing lights As required
9. Second cabin air supply As required
10. Anti-icing As required
11. Bomb bay heating switches As required. (To maintain
bomb bay temperature
between +5°C and 30°C)
12. G4B MAGNETIC
13. All crew Protective helmets on and
secure
14. AUW and circuit speeds
15. Contactor lights Out
16. QFE Set

PRE-LANDING CHECKS

1. Flap As required
2. Airbrakes IN, bomb doors CLOSED
3. Undercarriage 3 greens 2 ambers
4. Brakes No. 1 system Selected
5. Hydraulic pressures Normal. Pump indicators black
6. Parking and toe brakes Off (both pilots)
7. Fuel contents All pumps ON
8. All crew harnesses Secure
- x 9. JPT fuel control switch ISOLATE
- x10. Flowmeters BYPASS
- x11. u/w jettison switches Off
- x12. G4B MAGNETIC

NOTE: Items marked x required on initial pre-landing checks only.

RESTRICTED

AFTER LANDING CHECKS

- | | |
|--|-----------------------------|
| 1. Anti-icing | OFF |
| 2. Cabin air supplies | OFF |
| 3. Bomb bay heating switches | OFF |
| 4. Auto-pilot | OFF |
| 5. Power controls | 4 red lights; lock controls |
| 6. Flap | As required |
| 7. JPR fuel control switch | NORMAL |
| 8. Fuel pumps | As required |
| 9. TPI | As required |
| 10. IFF | Off |
| 11. ILS | Off |
| 12. Low level radio altimeter | Off |
| 13. No. 3 inverter | Off |
| 14. Emergency oxygen pins, seat pins,
and hood detonator pins | As required |
| 15. Hydraulic pressures | Normal |

NORMAL SHUT-DOWN CHECKS

- | | |
|---|--|
| 1. Pitot head heaters | Off |
| 2. Taxi lamps | Out |
| 3. Undercarriage safety guard | Replaced |
| 4. Flap | As required |
| 5. Bomb doors | As required |
| 6. All services | Off |
| 7. Check idling | HP cocks CLOSED. No. 2
inverter OFF. Rotary
transformers OFF |
| 8. Fuel pumps | Off |
| 9. Instrument master switch | Off |
| 10. Generator warning lights | On, switches off |
| 11. Main gear and seat-pan firing handle
safety-pins | In |
| 12. Hood detonator master switch | Safe. Pin in |
| 13. Emergency oxygen pins | In |
| 14. Swivel seat pip-pins | Out |
| 15. 96 v. battery | Off/white |
| 16. Master cocks | Off |
| 17. Intercomm. | Off |
| 18. 24 v. battery | Off/white |

RESTRICTED

AIRCRAFT LIMITATIONS

Maximum all up weight

	Clean	Underwing
Take-off	138,000 lb.	175,000 lb.
Landing	175,110 lb.	110,000 lb.
Emergency landing	138,000 lb.	138,000 lb.

Load classification numbers

*Valiant tyre pressure 112 PSI to 138,000 lb, 142 PSI above this weight.
Extract oleo extension from Vol. I, Bk. 1, Ch. 2, Fig. 4.*

AUW	LCN
167,000 lb.	65
138,000 lb.	47
130,000 lb.	45
120,000 lb.	42
110,000 lb.	39
100,000 lb.	36
90,000 lb.	33
80,000 lb.	31

Speed limitations

1.	Undercarriage lowering	170 knots	
2.	Undercarriage raising	195 knots	
3.	Undercarriage locked down	195 knots	
4.	Flaps 20 degrees	190 knots	
5.	Flaps 20/58 degrees	150 knots	
6.	Airbrakes	No limit	
7.	S.L. to 10,000ft.	250 knots	
8.	10,000ft. to 30,000ft.	320 knots	
9.	30,000ft. to 35,000ft.	Bomb doors closed	Bomb doors open
		295 or 0·82M	290 or 0·80M
10.	Above 35,000ft.	0·85M	0·82M

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