Issue No. 4
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Issued with A.L.4 to A.P.4326B-PN
(5th Edition)
Pilot's Notes

REFERENCE ONLY

FLIGHT REFERENCE CARDS

CANBERRA B. MK. 2

NORMAL OPERATING DRILLS

SAFE FOR PARKING

Safety pins in face-screen and seat pan firing handles of each seat.
MASTER SAFETY switch OFF.
HATCH SAFETY switches OFF.

ISSUE 5 IN USE

PREPARATION FOR FLIGHT

Preliminary checks

Aircraft	Safe for parking
Armament circuits ...	Safe
UC master switch	SAFE
UC selectors	Down button in; UP button override horizontal
Battery master switch ...	ON, check UC greens, then OFF
Hydraulic accs.	Exhausted

External checks

Carry out a general check of the aircraft exterior, including the following specific items:—

UC locks	Removed
Control surface locks ...	Removed (see Note)
Hydraulic accs.	1,350 $^{+50}_{-0}$ PSI (min.) at 5°C.
Hydraulic ground / flight cocks (2)	Wired at flight
Pressure head	Cover removed
Static vents	Plugs removed
External power	As required

NOTE: In high wind conditions it may be necessary to fit rudder and aileron locks for taxying.

EJECTION SEAT CHECKS

Type 1 CN seats

Safety pin	In face screen firing handle
Leg restraint cords ...	Secure
Emergency oxygen ...	Static line connected
Emergency oxygen bottle	Safety pin removed
Auto. harness release ...	Static line secure
Parachute baro. release ...	Cap in place
Intercomm. leads	Connected
Drogue gun static line ...	Connected
Drogue gun safety pin ...	Removed
Drogue shackle	Secure
Top latch	Locked

Type 2 CA series seats

Safety pins	In face screen and seat pan firing handles
Leg restraint cords and negative G strap ...	Secure
Emergency oxygen ...	Static line connected. Tube connected at seat
Emergency oxygen bottle	Saftey pin removed
Override D-ring	Secured in pocket
Intercomm. leads	Connected
Drogue gun static rod ...	Connected
Drogue gun safety pin ...	Removed
Drogue withdrawal line ...	Above all other lines
Drogue shackle	Safety pin in position
Time release mechanism ...	Trip rod securing pin in place
Top latch	Locked

When Type 2CA Mk. 2/4 seats are fitted also check:

Cocking levers	Stowed
Cocking links	Correctly aligned
Hatch cables	Attached to restrictors

COCKPIT CHECKS

Before strapping in

All ejection seats	Checks complete
Hyd. handpump handle ...	Pump brake pressure to 1,500 PSI
Pilot's Notes, fire ext., crash axe, first aid kit, asbestos gloves, signal pistol and cartridges	Stowed
Drying crystals	Checked
LP cock and pump CB's ...	Closed
Generator switches ...	ON
Generator field CB's ...	Closed
Pilot's services & inverter CB's	Closed
* All radar & inverters ...	OFF
Navs. hatch JETTISON switch	Guarded
Bomb aimers hatch JETTISON switch	Guarded

After strapping in

External power or battery master switch	ON
Intercomm. (crew check) ...	ON and NORMAL
DC volts	..... volts
Generator warning lights ...	ON, screens open
Internal lights	Set
Emergency lights	Checked
External lights	Checked
Bomb door safety pin ...	Stowed
*Flap safety pin	Stowed
UC safety clip	Stowed
*External control locks ...	Out
*Flying controls	Full and free

*Except when aileron/rudder locks left in for taxying.

Bomb doors emerg. lever Wired shut

(*Continued*)

Cockpit checks—(*continued*)

Oxygen (*crew checks*)	
Contents	Sufficient
ON/OFF switch ...	Wired ON
Connections	Checked
Selector	100% (17D), NORMAL (17E)
Pressure	Checked (200-400 PSI)
Indications	Checked
Emergency flow ...	Checked
Heaters and air drier ...	All switches OFF
Bomb door selector ...	OPEN
Bomb safety switch ...	OFF
Bomb jettison switch ...	OFF
Tip tanks jettison	Guard flap down
Snatch unit, if fitted ...	Wire-locked
Fuel pump isol. switches ...	NORMAL (down)
Throttles and HP cocks ...	Checked, friction adjusted
IFF switches	OFF
Master safety switch ...	OFF CANOPY SWITCH MASKED
Canopy jettison	OFF, guarded, wired
Internal demister	OFF (clockwise)
UC emergency selector ...	Wired in
UC DOWN button	In, override horizontal
UC indicator	3 greens, changeover and screens checked
UC master switch	SAFE
Flaps	UP and indicating UP
Master start and ign. switches	OFF
VHF	OFF, No. ..... selected, volume set
Comp—D-gyro switch ...	COMP
Radio mixer control ...	RT
Flight instruments	Undamaged, set and tested
T-and-S emergency ...	Checked and OFF
Engine instruments ...	Undamaged
Generator warning lights ...	ON, screens open

(*Continued overleaf*)

Cockpit checks—(*continued*)

Fuel pressure warning lights	ON
Fuel contents	Checked
Recuperator switches ...	OFF, if fitted
LP pumps	Checked aurally and against FPWL's
Engine air switches ...	OFF
Cabin heat control ...	Checked. COLD Pre-Mod. 5. HOT Post-Mod. 5
Cabin press. warning switch	ON
UHF/VHF selector	Set
UHF	OFF, selected, volume set
Door jettison handle ...	Strapped up
Airbrakes	IN
Ext. power (if used) ...	Disconnected
Battery master switch ...	ON
DC volts	..... volts
Starboard eq. hatch ...	Locked, key stowed

FUEL MANAGEMENT DRILL

CONDITION	TANK		
	No. 1 PUMPS	No. 2 PUMPS	No. 3 PUMPS
1. Start and taxy	OFF	OFF	ON
2. Take-off to 2,000 ft.	ON	ON	ON
3. 2,000 ft. until tip-tanks empty	OFF	OFF	ON
4. Tip tanks empty and cruise	Maintain balanced levels in No. 1 and No. 3 tanks. As reqd.	OFF	As reqd.
5. Top of descent or when No. 1 and No. 3 tanks read 500 lb. (see Notes)	All ON		
6. Landing (see Notes)	All ON		

NOTE: 1. Because of fuel gauge unreliability, if Mods. 3367 and 3391 are not embodied, amend condition 5 above to read:

"Top of the descent or when No. 1 tank reads 500 lb. and No. 3 tank reads 1,000 lb."

2. When carrying out circuit practice, items 5 and 6 may be modified to read "Minimum of 2 pumps per engine ON as long as Nos. 1 and 3 tanks read above 500 lb. (1,000 lb. for No. 3 tank if Mods. 3367 and 3391 are not embodied)."

STARTING PROCEDURE

Entrance door	Open
VHF or UHF	ON, local freq. selected
Parking brake	On, (1,500 PSI min.)
Throttles and HP cocks ...	Closed
LP pumps	No. 3 tank ON
Fuel pressure warning light	Out
Port master start switch ...	ON
Emergency inst. supply ...	Indicator white
T-and-S and AH flags ...	Black
Stbd. master start switch ...	ON
Emergency inst. supply ...	Indicator black
Ignition switches	ON
Relights	Checked

Start port engine

HP cock	ON, starter button pressed
*RPM	Normal
*Fire warning light ...	Out
*Oil pressure	Normal (3 PSI min.)
*JPT	Normal (500°C max.)
*Generator warning light(s)	Out (Pre-Mod. 714 set 5,000 RPM, check warning light out at approx. 3.500 RPM
Bomb doors	Closed, hyd. pressure ..... (2,400-2,500 PSI)

Start starboard engine

HP cock	ON, starter button pressed

Check starred items above. Pre-Mod. 714, set starboard engine to 5.000 RPM, check generator warning lights out, and DC voltage; throttle back port engine to 2,750 RPM and check generator warning light on.

(Continued)

Starting procedure—(*continued*)

Failure to start

Engine fails to accelerate or cartridge fails to fire

1. HP cock ... ... OFF immediately
2. Master start and ignition switches ... ... OFF
3. Wait one minute before having starter breech cap removed.
4. If second cartridge fails to fire, have the electrical system checked.

Engine fails to accelerate above 1,000 RPM *or pressure relief valve blows*

1. Shut-down.
2. Make no more attempts to start with that starter.

Engine "blow through" drill

1. Master start switch ... ON
2. Ignition switch ... OFF
3. HP cock ... ... Closed
4. LP pumps ... ... OFF
5. Starter button ... ... Press

NOTE: 1. After a failure to start, if the HP cock is closed without delay it should not be necessary to "blow through" the engine.

2. A delay of 10 minutes must elapse before loading a third cartridge: 45 minutes must elapse between loadings of any subsequent cartridges.

TAXYING

Checks before taxying

NOTE: If control locks left in for taxying delay checks against the 3 starred items until pre-take-off checks.

DC volts	...	28 volts
Phase failure indicator	...	Needle in white sector
Entrance door	...	Closed
Radios	...	..... ON
Recuperators, if fitted	...	ON
*Flaps	...	Checked and UP
Airbrakes	...	Checked and IN
Hydraulic pressure	...	2,400-2,500 PSI
Aileron trim	...	Checked and neutral
*Rudder trim	...	Checked and neutral
Tailplane	...	Checked and neutral
G Mk. 4B	...	Annunciating on ..... Standby .....
Artificial horizon	...	Erect, button out and free
Altimeter	...	QFE ..... mbs ..... ft.
Pressure head heater	...	Checked and .....
Radios	...	Checked
*Engine air switches	...	ON, check individually

Taxying

Brakes (on moving)	...	Checked, 2,000 PSI (min.)
Instruments	...	All checked

TAKE OFF

Checks before take-off

NOTE: If external locks used, remove and stow them and the flap lever locking pin, before commencing checks and pressurising cabin. When locks have been removed check operation of flaps and trimmers.

RPM (Pre-Mod. 714)	...	5,000 on one engine, generator on line
Heaters, air drier	...	All ON
Bomb doors	...	Closed, light out
Oxygen (crew check)	...	Contents, connected, flowing

(*Continued*)

Checks before take-off—(*continued*)

Trimmers	All neutral
Fuel pump isol. switches ...	Normal (down)
Throttles	Friction adjusted
HP cocks	Fully open, friction adjusted
DC & AC volts	Checked
Master safety switch ...	ON
Hatch safety switches ...	ON
Internal de-mister	OFF (clockwise)
Flaps	UP and indicating UP
Artificial horizon	Erect, button free
Emergency inst. supply ...	Indicator black
Altimeter	Zero set ..... mbs.
G Mk. 4B	Heading ..... Standby .....
Turn-and-slip	Checked
Fire warning lights ...	Out
Engine instruments ...	Readings normal
Fuel contents	Sufficient
LP pumps	All on
LP pump and cock CB's ...	Closed
Fuel pressure warning lights	Out
Engine air switches ...	ON, temperature HOT (Pre-Mod. 5) or as required
Airbrakes	IN
Hatches	DV closed, door locked, jettison handle safe
UC master switch	LIVE
Ejection seat pins (crew check)	Out and stowed
Harnesses	Tight and locked
Flying controls	Full and free movement
Unstick speed	.....
Safety speed	.....

Checks after take-off

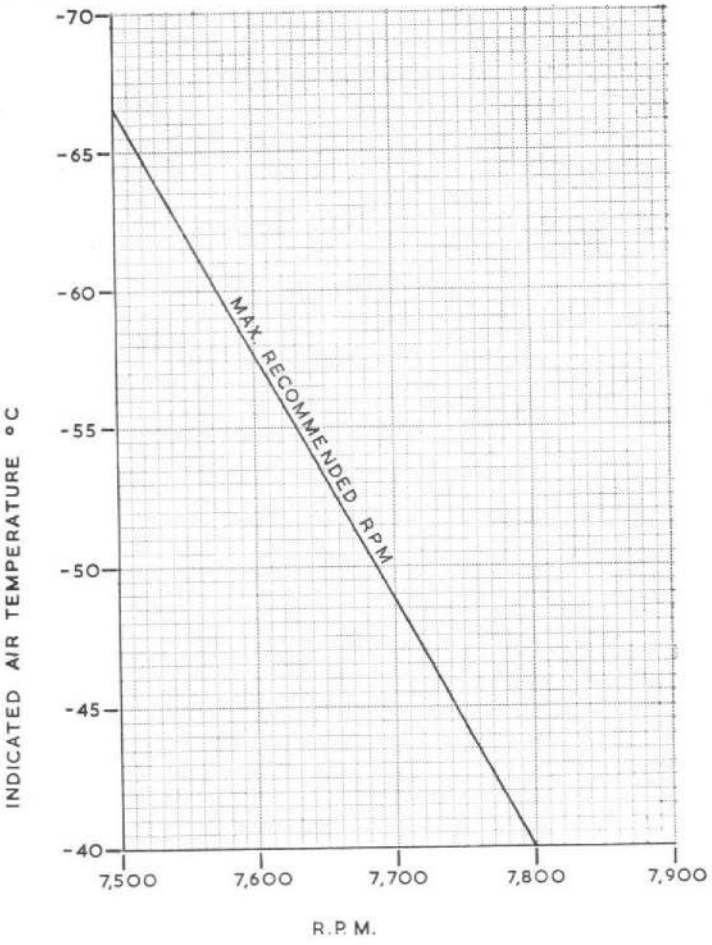
Wheelbrakes	ON, then off
Undercarriage	UP, lights out below 190 kts.
At safety speed (140 knots)	..... RPM (normally 7,600)
Fuel (2,000 ft.)	On No. ..... tanks

Climbing checks (every 10,000 ft)

Oxygen (crew check) ...	Contents, connected, flowing
Electrics	DC, AC. Black flag checked
Engines	RPM, JPT, oil pressure, fuel distribution
Cabin pressure	Checked ..... ft.

LOW TEMPERATURE ENGINE SURGE

Max. recommended RPM



INSTRUMENT APPROACH SETTINGS (30,000 lb. AUW)

Two engines

	RPM	UC	FLAP	IAS (kts.)
Pattern	6,200	Down	Up	150
Final	6,200	Down	Up	150
Glidepath	6,200	Down	Down	125 reducing to threshold speed

One engine (all conditions)

	RPM	UC	FLAP	IAS (kts.)
Pattern	6,300	Up	Up	150
Final	6,300	Up	Up	150
Glidepath	6,300	Down	Up	140 (min.)
Decision height	6,300	Down	Down as required	Reducing to asymmetric threshold speed

Two engines (icing conditions)
If possible divert to an airfield free of icing

	RPM	UC	FLAP	A/BRAKES	IAS (kts.)
Pattern	5,800	Up	Up	Out	170 (approx.)
Final	5,800	Up	Up	Out	170 (approx.)
Glidepath	5,800	Down	Up	As reqd. (Normally out)	160 (max.)
Decision height	5,800	Down	Down	In	Reducing to threshold speed

NOTES: to "Two engines (icing conditions)"

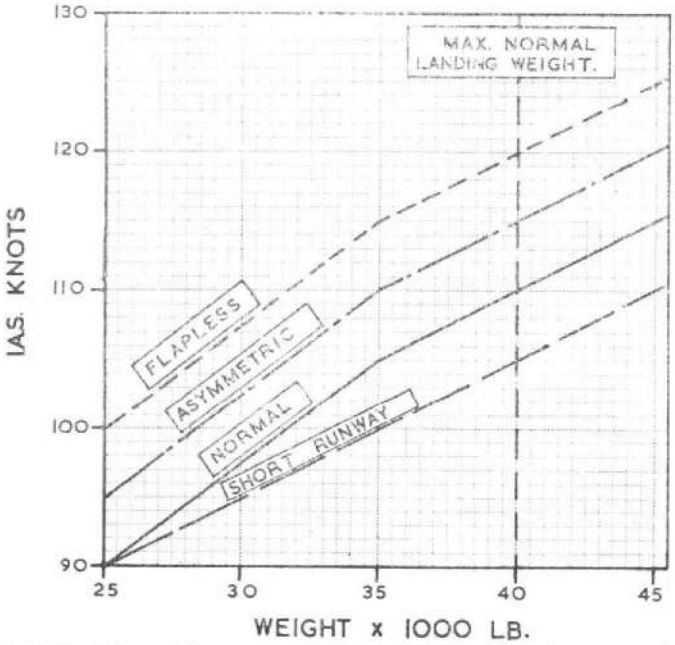
1. If the decision height is below 500 ft., a higher than normal speed at the threshold may be unavoidable.
2. The use of airbrakes and bomb doors will assist in reducing pattern and glidepath speeds.
3. Do not reduce RPM below 5,800 until certain of reaching the runway.

Aircraft approach limitations

GCA (precision) ... ... 200 ft.
ILS ... ... 300 ft.
Aids without glidepath ... 400 ft.

(Continued overleaf)

Threshold speeds



NOTE: When flying on one engine do not allow the approach speed to fall below 140 kts. until the final decision to land is made.

APPROACH AND LANDING

Checks before let-down or joining the circuit

G Mk. 4B	... Magnetic, synchronised
Internal de-mister ...	... .
Fuel contents ...	... Sufficient
LP pumps	... *All ON
Cock and pump CB's	... Closed
Bomb doors ...	... Closed
Altimeter	... Set as required

Descent

	Normal	*Rapid*
Throttles ...	Closed	Closed
Airbrakes ...	OUT	OUT
Speed ...	0·75M/250 knots	0·79M to 40,000 ft. 0·75M/400 kts. (365 kts. with tips) below 40,000 ft.

(Continued)

Approach and landing —(*Continued*)

Checks before landing

Airbrakes	IN
Undercarriage (below 190 knots)	DOWN, 3 greens
Fuel contents	Sufficient
LP pumps	*All ON
Fuel press. warning lights	Out
Harness	Tight and locked
Brakes	Checked and off (2,000 PSI min.)
Threshold speed	..... knots

Checks before finals

Airbrakes	IN
Undercarriage	3 greens

***See Note 2 to FUEL DRILL**

AFTER LANDING CHECKS

If external control locks are to be used for taxying, first complete the following checks, then insert the flap lever locking pin before having the locks fitted. Thereafter, do not operate the rudder or aileron trimmers or the flaps.

Parking brake	On (2,000 PSI min.)
RPM (Pre-Mod. 714) ...	5 000 on one engine
UC master switch	SAFE
Master safety switch ...	OFF
Hatch safety switches ...	OFF
Flaps	UP
Heaters and air drier ...	All switches OFF
Pressure head heater ...	.....
Canopy de-mister	Off
Trimmers	Neutral
Unrequired radios	OFF
LP pumps	No ..... tank(s) ON
Cabin temperature and engine air switches ...	COLD Pre-Mod. 5. As required Post-Mod. 5 (max. 10 mins. on COLD)
DV panel	Open momentarily
Radar and inverters ...	OFF
Wheelbrakes hyd. pressure	2,400-2,500 PSI

NOTE: After parking for "engines-running" change, the aircraft must be made "safe for parking" and the relieving crew must carry out the Cockpit checks and Checks before Taxying before moving off.

SHUT DOWN PROCEDURE

Parking brake	On. (2,000 PSI min.)
DV panel	Open
Tailplane	Full nose down, one "blip" up
Port HP cock	Closed
Bomb doors	OPEN
Hydraulic pressures ...	2,400-2,500 PSI
Starboard HP cock ...	Closed
Master start and ign. switches	OFF
LP pumps	OFF
Recuperators, if fitted	OFF
Cabin temperature ...	COLD Pre-Mod. 5. HOT Post-Mod. 5
Engine air switches ...	OFF
All radios	OFF
DV panel	Closed
Flap and bomb door pins	In
UC safety clip (if fitted) ...	In
Ejection seat pins	In face screen and seat pan firing handles (crew check)
MASTER SAFETY switch	Confirmed OFF
Hatch SAFETY switches	Confirmed OFF
External lights	OFF (if applicable)
Internal lights	OFF (if applicable)
Parking brake	Off when chocks in position
Pressure head heater ...	OFF
Intercomm.	OFF
Battery isol. switch ...	OFF

AIRFRAME LIMITATIONS

CG limits (feet aft of datum)

(*a*) *In flight and landing*

Forward limit	With or without tip tanks 1·235 ft. aft at weights up to 29,000 lb., then varying linearly aft to 2·100 ft. aft at 46,000 lb.
Aft limit	With wing tip tanks 2·810 ft. aft. Without wing tip tanks 3·058 ft. aft.

(*b*) *When taxying over uneven surfaces* 2·885 *ft. aft.*

(*Continued*)

Airframe limitations—(*Continued*)

Speed and mach number limitations

Condition	MAX IAS	MAX IMN.
Clean	450	0·75M below 15,000 ft. 0·79M 15,000 to 25,000 ft. Above 25,000 ft. limited by compressibility effects. The speed at which a nose-up change of trim occurs, i.e. about 0·84M, must not be exceeded
With wing tip tanks	365	0·79M below 25,000 ft. 0·8M above 25,000 ft.
Bomb doors	350	0·75M up to 40,000 ft. 0·8M above 40,000 ft.
Airbrakes (2 position)	No limit	No limit
Airbrakes (3 position) MID	No limit	No limit
Airbrakes (3 position) OUT	400	0·75M 12,500-25,000 ft. 0·79M above 25,000 ft.
Undercarriage	190	
Flaps	160	

NOTE: The speed for the operation of a service also applies for flight with the service in the extended position.

Maximum weights

For take-off and all permitted forms of flying 46,000 lb.
Max. normal for landing 40 000 lb.

NOTE: In emergency the aircraft may be landed at higher weights but great care will be required, particularly when braking.

Manoeuvre limitations

Combined application of coarse aileron and G should be avoided. The acceleration limitations are:—

Condition	With negligible aileron	With aileron
Up to 37,600 lb. without wing tip tanks	4·0 G	2·0 G
Above 37,600 lb. or with wing tip tanks	3·0 G	1·5 G

NOTE: Negative G should be avoided; however, flight in severe turbulence may result in negative G loads. The acceptable limit for such loads is minus 2½ G indicated on the accelerometer.

(*Continued overleaf*)

Airframe limitations—(*continued*)

Jettisoning of wing tip tanks

Max. speed 365 Kts. or 0·79M below 25,000 ft., 0·8M above.

Arrester barrier engagement

The aircraft is cleared for engagement with the Mk. 5, Mk. 6 or Mk. 12 arrester barriers.

Physical limitations

Pilots having a thigh length of more than 26·5 in. in flying clothing must not fly this aircraft.

Armament limitations

Limitations imposed by the carriage and dropping of armament stores are given in the "Release to Service."

ENGINE LIMITATIONS—AVON Mk. 1

Power rating	Time limt per flight	RPM	JPT°C.
Max. T.O. and Operational necessity	30 mins. total duration	7,800 ± 50	600
Max. Continuous	Unrestricted	7,600	565
Idling on ground	Unrestricted	2,750 ± 100	500

Oil limitations

Minimum pressure at idling RPM	—	3 PSI
Minimum pressure at 7,400 RPM and above	—	15 PSI
Normal at 7,400 RPM	—	20 PSI

Fuel and oil specifications

Fuel	*Ref. No.*	NATO *Code No.*
AVTUR 50	34A/9431771	F.35
AVTUR 50 with icing inhibitor	34A/2201036	F.34
AVTAG	34A/9100448	F.45
AVTAG with icing inhibitor	34A/2201037	F.40
Oil OM-11	34A/9105055	O-135