

**Cabin**

- canopy secure, clean
- controls unlocked, seat belts
- flight manual tech log, airworthiness cert, radio licence
- compass & card
- emergency equipment, ELT
- controls & trim free
- mags. Off, throttle closed
- fuel valve on, tank selected
- master on, lights on, walk around, check lights & stall warning
- lights off
- fuel pump on, check pressure, pump off
- master off

**Right Wing**

- flap secure
- aileron free movement
- surfaces clean
- free of damage
- remove tie-downs, chocks
- main gear undamaged, tyre tread, brakes, oleo extension, spats secure
- check fuel drain

**Nose**

- cowl flap, check oil >4qts
- cowl secure
- exhaust secure
- windscreen clean
- nose wheel undamaged, tyre tread, oleo 50-80mm, spats secure
- air intakes clear
- prop & spinner clean
- alternator belt tight
- check cowling fuel drain

**Left Wing**

- check fuel drain
- pitot tube clear
- main gear undamaged, tyre tread, brakes, oleo extension, spats secure
- surfaces clean
- free of damage
- remove tie-downs, chocks
- aileron free movement
- flap secure

**Empennage**

- fuel quantity, endurance
- fuel cap locked
- fuel drain - clear, no water, no dirt
- left static vent clear
- horizontal stabiliser free movement, surface clean
- rudder movement, surface clean
- tail section screws & cables
- luggage door closed

**Passenger Briefing**

- Emergency equipment location & use : ELT, extinguisher, first aid, axe
- Outside : keep behind wings, clear of prop
- Cabin entry & exit
- Canopy emergency release
- Headset, use of radio push to talk
- Stowage pockets, airsick bags
- Seats, belts (always secure)
- Keep clear of controls - stick, rudder
- Lifejacket use if equipped
- Assist with traffic lookout
- Notify pilot of dizziness, nausea, toilet, etc.

**Engine Start**

- parking brake set
- seat belts fastened
- check circuit breakers
- avionics switch off
- mixture full rich
- carb heat off
- throttle full movement, set ¼" open
- prime as required
- fuel on lowest tank
- master on
- fuel pump on, check pressure
- clear area
- start with mag switch
- throttle 1200 rpm
- oil pressure positive
- check instruments
- fuel pump off

**After Start**

- avionics on
- lights on
- set & check radio
- transponder standby, check code
- release brake for taxi

**Run-Up**

- parking brake set
- fuel pump on
- select other tank (fullest)
- mixture full rich
- check Ts & Ps
- throttle 2000rpm
- carb heat check : min drop 20rpm, max 200rpm
- mag check : max drop 175 rpm, diff. 50Rpm
- vacuum/suction gauge
- ammeter
- throttle idle - 600-700rpm
- release brake & taxi to holding point

**Take-off**

Holding point checks:  
 TMPFFIHCTR  
 Line-up checks:  
 RTLWDR  
 Full throttle, keep straight  
 Rotate 55 kts  
 Best angle climb 64 kts  
 Clean-up - flaps, fuel pump  
 Best rate climb 74 kts

**Max Performance**

**Take-off**

Holding point checks  
 TMPFFIHCTR  
 Note +ve acceleration point  
 Note rotate point  
 Line-up checks  
 RTLWDR  
 Hold brakes  
 Throttle 2000rpm  
 Cycle Carb heat  
 Full throttle, min 2300rpm  
 Release brakes, keep straight  
 Begin Rotate 55kts  
 Best angle climb 64 kts  
 Clean-up - flaps, fuel pump  
 Best rate climb 74 kts

**Cruise, Climb**

Cruise 2400-2450rpm  
 Approx 90 kts

**Approach, Landing**

Downwind checks  
 BUMFHW  
 Carb. Heat On  
 Throttle 1800rpm  
 Check white arc  
 Flaps 10, lookout, turn base  
 Throttle as required  
 Speed 75 kts  
 Turn Final  
 Full flaps 35  
 Speed 63 kts  
 Short final : carb heat off

**Precision Landing**

Downwind checks  
 BUMFHW  
 Pick touch-down point,  
 identify short finals area  
 Carb. Heat On  
 Throttle 1800rpm  
 Check white arc  
 Flaps 10, lookout, turn base  
 Throttle as required  
 Flaps 20  
 Speed 70 kts  
 Turn Final  
 Full flaps 35°, 64 kts  
 Short final : carb heat off

**Speeds**

Stall, full flap ( $V_{s0}$ )	47 kts
Stall, clean ( $V_{s1}$ )	53 kts
Take-off rotate	55 kts
Best angle climb	64 kts
Best rate climb	74 kts
Normal climb	90 kts
Normal Cruise ( $V_{no}$ )	126 kts
Best glide distance	75 kts
Approach	74 kts
Final	64 kts
Precision Landing	64 kts
Max flap ( $V_{fe}$ )	103 kts
Max Manoev. ( $V_a$ )	88-111 kts
Never exceed ( $V_{ne}$ )	160 kts
Max crosswind	17 kts

**Transponder Codes**

xxxx - Aircraft discreet code  
 yyyy - Flight plan assigned code  
 1400 - Local Circuit VFR  
 1200 - Local Area VFR  
 7500 - Unlawful interference  
 7600 - Radio failure  
 7700 - Emergency

**Local Frequencies**

North Shore	118.0
Emergency	121.5
Kaipara/Parakai	119.1
Gulf/City	120.4
Whenuapai ATIS	128.3
Whenuapai TWR	134.5
Auckland ATIS	127.8
Auckland TWR	118.7

**Emergencies**

Refer to Operating Handbook

**Engine fire at start**

Starter : engage  
 Mixture : idle/cutoff  
 Throttle : full open  
 Fuel pump : off  
 Fuel selector : off

**Engine fire in flight**

Increase airspeed  
 Fuel pump off  
 Fuel selector off  
 Throttle closed  
 Mixture idle/cutoff  
 Magnetos off  
 Land ASAP

**Smoke/Electrical fire**

Master off  
 Electrical equipment off  
 Floor vents open  
 Cabin heat off  
 Land ASAP

**Low oil Pressure**

Land ASAP  
 Prepare for engine failure

**High Oil Temperature**

Mixture full rich  
 Land ASAP  
 Prepare for engine failure

**Low fuel pressure**

Fuel pump on  
 Fuel selector switch tanks  
 Check fuel pressure  
 Prepare for engine failure