

**Cabin**

- magnetos off, key out
- park brake on
- master switch on
- alternator warning cancel
- pitot heat on for 20secs
- strobe on, check, off
- rotating beacons on, check, off
- trim note position
- stall warning test
- check pitot heat
- pitot heat off
- nav lights on, check, off
- landing lights on, check, off
- master off

**Rear Fuselage**

- check rotating beacon underneath
- LH side canopy, clean
- VHF aerial condition, secure
- LH static vent clear
- fin fairing secure
- tailplane LH side condition
- elevator LH side condition, movement, play, drains
- strobe light secure
- fin condition
- rudder condition, alignment, cable, clevis pin
- tail bumper condition
- trim tab condition, position, secure, clevis pin, locking nuts
- elevator RH side condition, drains clear, movement
- tailplane RH side condition
- access panel secure
- static vent RH side clear
- Nav aerials secure
- canopy RH side condition, clear

**Right Wing**

- flap condition, play, nut secure, arm, drains
- aileron movement, play, nut secure, drains
- nav light/strobe
- leading edge condition
- fuel quantity
- fuel cap secure, locked
- fuel drain check for water/dirt
- access panel secure
- wing surfaces condition
- undercarriage condition, extension
- brake no damage, leaks, disc condition
- tyre condition, inflation

**Forward Fuselage**

- cowling flap - check oil, engine condition
- secure cowling flap
- landing lights
- ram air inlet filter clean
- nose-wheel type
- nose-wheel oleo
- cowling LH side secure, 7 fasteners, 2 pins, no oil leaks
- fresh air intake clear

**Left Wing**

- leading edge condition
- fuel quantity
- fuel cap secure, locked
- fuel drain check for water/dirt
- undercarriage condition, extension
- brake no damage, leaks, disc condition
- tyre condition, inflation
- wing surfaces condition
- access panel aligned
- pitot head clean, unblocked
- nav light/strobe
- aileron movement, play, nut secure, drains
- flap condition, play, nut secure, arm, drains

**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.

**Pre-Start**

- check cockpit for loose items
- first aid kit stowed
- escape axe stowed
- fire extinguisher stowed
- baggage secure
- rudder pedals adjust, check locked
- harness straps secure all 5
- headset plugged in
- controls full & free movement
- lights all off
- avionics all off
- fuel pump off
- alternator off
- master switch on
- check alternator warn
- intercom on
- pitot heat off
- vacuum gauge zero
- stall warn light check off
- starter engaged light off
- reset accelerometer
- note manifold pressure
- RPM gauge check zero
- check instruments
- ASI zero
- altimeter set elevation
- VSI +/- 100ft
- engine Ts & Ps ambient
- ammeter zero
- circuit breakers all in
- throttle full & free, set closed
- propeller control full & free, set at max RPM
- mixture full & free, set lean cut-off
- fuel contents check (both)
- fuel cock on, select lowest tank
- alternator switch off
- parking brake on
- flap full check, set up
- trim full range, set neutral
- canopy secure
- propeller clear

**Engine Start - cold**

- mixture full rich
- fuel pump on
- throttle  $\frac{1}{4}$ inch open until fuel flow shows on fuel press. gauge
- fuel pump off
- mixture idle/cut-off

**Engine Start - warm (priming)**

- throttle open  $\frac{1}{2}$ inch
- fuel pump on
- mixture smoothly to full rich then idle/cut-off

**Engine Start - warm (without priming)**

- throttle open  $\frac{1}{2}$ inch

**Engine Start**

- magnetos set left
- engage starter
- mixture slowly to full rich
- magnetos set both
- check starter warning off
- set 1200 RPM
- check oil pressure rising
- alternator on, check charge
- radios on, check
- transponder on, check code
- check suction

**Run-Up**

- parking brake set
- fuel pump on
- select other tank (fullest)
- mixture full rich
- check Ts & Ps
- throttle 2000rpm
- mag check : max drop 175 rpm, diff. 50Rpm
- prop pitch drop by 400rpm three times, set full fine
- 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 55-60 kts  
Best angle climb 69 kts  
Clean-up - flaps up, fuel pump off  
Set Man. Press. 25"  
Set Prop RPM 2500  
Best rate climb 80 kts

**Max Performance Take-off**

Holding point checks  
  TMPFFIHCTR  
Note +ve acceleration point  
Note rotate point  
Line-up checks  
  RTLWDR  
Hold brakes  
Full throttle, check rpm  
  2600-2650  
Release brakes, keep straight  
Begin Rotate 55kts  
Best angle climb 69 kts  
Clean-up - flaps, fuel pump  
Best rate climb 80 kts

**Cruise, Climb**

Manifold Pressure 24-25"  
Prop. pitch 2400-2500rpm  
Approx 120 kts

**Approach, Landing**

Downwind checks  
  BUMFHW  
Throttle back ~15"  
Speed in white arc  
Flaps 10°, lookout, turn base  
Throttle as required  
Speed 75 kts  
Turn Final  
Full flaps 30°  
Speed 65 kts  
(Flapless : 74 kts)  
Short final (CCUP): prop full fine

**Precision Landing**

Downwind checks  
  BUMFHW  
Pick touch-down point,  
  identify short finals area  
Throttle back ~15"  
Speed in white arc  
Flaps 10, lookout, turn base  
Throttle as required  
Speed 75 kts  
Turn Final  
Full flaps 30°, 65 kts  
Short final (CCUP): set prop full fine

**Speeds**

Stall, full flap ( $V_{s0}$ )	49 kts
Stall, clean ( $V_{s1}$ )	57 kts
Take-off rotate	60 kts
Best angle climb: take-off flaps	69 kts
no flaps	74 kts
Best rate climb	80 kts
Cruise climb	90 kts
Best glide distance	70 kts
Approach	75 kts
Final, landing flap	65 kts
Final, flapless	74 kts
Precision Landing	65 kts
Max flap ( $V_{fe}$ )	88 kts
Max Manoev. ( $V_a$ )	140 kts
Never exceed ( $V_{ne}$ )	180 kts
Max crosswind	25 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

**Flight Planning**

Empty weight	750kg
Max Takeoff weight	1020kg
Max Landing weight	975kg
Fuel consumption	45 l/hr
Cruise speed	110kts

**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	124.3

**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  
Magnetics 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