

**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 aerals 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 ¼inch open until fuel flow shows on fuel press. gauge
- fuel pump off
- mixture idle/cut-off

**Engine Start - warm (priming)**

- throttle open ½inch
- fuel pump on
- mixture smoothly to full rich then idle/cut-off

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

- throttle open ½inch

**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 <sub>so</sub> )	49 kts
Stall, clean (V <sub>s1</sub> )	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 <sub>re</sub> )	88 kts
Max Manoev. (V <sub>a</sub> )	140 kts
Never exceed (V <sub>ne</sub> )	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  
 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