

Sling LSA

Reference Guide & Checklist



Maintenance Release

Expiry Date:	Expiry Hours:
Hours to Date:	Hours to Run:

Preflight Inspection			
1. CABIN		6. NOSE SECTION	
Master	ON	R/H side Cowling	Secured
EFIS backup	ON	Oil/Coolant/Brake Fluid Levels	Inspect
Flight Times	Check	Exhaust Springs	Inspect
Flaps & Lights	DOWN & All ON	Air Induction Hose	Inspect
Master	OFF	Air Intakes	Inspect
		Nose Wheel	Inspect
2. LEFT FUSELAGE		Radiators	Inspect
Registration	Current	Propeller Blades & Spinner	Inspect
Fuselage Skin	Inspect	L/H side Cowling Secure	Secured
VHF Antenna	Inspect	Exhaust Springs	Inspect
		Engine Mounts	Inspect
3. EMPENAGE		Nose Wheel Pushrods	Inspect
Horizontal Vertical Stabilizer	Inspect	Fluid Leaks	Inspect
Elevator Hinges & Pushrod	Inspect		
Trim	Inspect	7. LEFT WING	
Rudder Hinges & Cables	Inspect	Flap pushrod & Hinges	Inspect
		Aileron Pushrod/Hinges/Deflection	Inspect
4.RIGHT FUSELAGE		Wing tip Light Assembly	Inspect
Fuselage Skin	Inspect	Leading Edge	Inspect
		Fuel Quantity & Fuel Cap	Check & Secured
5. RIGHT WING		Fuel Tank Vent (UNDERSIDE)	Inspect
Flap pushrod & Hinges	Inspect	Fuel Drain (QUALITY)	CHECK
Aileron Pushrod/Hinges/Deflection	Inspect	Wheel Strut (CONDITION)	Inspect
Wing tip Light Assembly	Inspect		
Leading Edge	Inspect		
Fuel Quantity & Fuel Cap	Check & Secured		
Fuel Tank Vent (UNDERSIDE)	Inspect		
Fuel Drain (QUALITY)	CHECK		
Wheel Strut (CONDITION)	Inspect		



I.M.S.A.F.E. Are You Fit To Fly?

Illness

Are you feeling well?

Been to the doctor in the last week?

Been to the doctor since your last flight?

Headache, sinus, runny nose, sore throat, cough?

Upset stomach, diarrhoea, vomiting?

Been diving or given whole blood in last 2 days?

Medication

Have you taken any medication in the last week?

What for? What was it and when?

Have you recently stopped taking any regular medication?

Second pair of prescription glasses?

Stress

How is work, Family and Finances?

Is there anything bugging you?

Should you be doing something else rather than flying today?

Do you have a big project, assignment or exam coming up?

Alcohol

Have you consumed any alcohol today or yesterday?

When was your last drink?

How much did you consume?

Fatigue

Are you feeling tired?

What did you do yesterday?

What time did you go to bed last night? Is that normal for you?

How many hours sleep did you get? Is that normal for you?

Was the sleep restful or was it broken?

What have you been doing so far today?

Eating

What did you eat for breakfast?

What did you eat for lunch?

Have you had enough to drink today?



	Risk Asses	ssment for this flight	
Pilot	Score	Environment	Score
Less than 10 hours on type	2	Visibility <10K	2
Unfamiliar destination	1	Visibility <8K	4
Fatigued	6	Ceiling <5000'	4
Recent death of family member	4	Ceiling <2000'	6
Major domestic problems	4	Special VFR	X
llness in family	4	Wind >15kt	2
Cold, Flu, Gastro	10	Wind >20kt	10
Alcohol in last 24 hours	2	X/W >10kt	5
Alcohol in last 12 hours	4	X/W >15kt	10
Alcohol in last 8 hours	X	RWY 04/22 operations	2
		INTER showers or rain	2
Over the counter medication	3	TEMPO showers or rain	5
Hungry/Thirsty	2	Thunderstorm forecast <60min	10
Only one pair prescription glasses	X	Dewpoint split<2deg C	4
STRESS work, family, uni, money	6	Forecast decoded	-1
Dual Instructional flight or	-5	Actual weather verified prev PIC	-1
Second pilot rated and current	-2	Last light < 2 hrs end of flight	2
Recency <7 days	-1	Last light <1hr end of flight	4
Recency >21 days	3	ARR or DEP other than Eastern	2
ast flight different aircraft type	2	Sub	total
_ast 3 flights different a/c type	4	Aircraft	
ast flight different call-sign	1	Total fuel margin, excess >1 hour	-2
Flight duration >2 hours	2	T/O or LDG dist >50% RWY Length	2
Flight at end of work day	3	Spare headset	-1
Running late for departure	2	Spare Maps	-1
Carrying Pax	2	First flight of day for aircraft	2
Commitment or exam after flight	3	A/c service <2 flight hours ago	1
Travelling to an event	3		
Subtotal		Sub	total
		TOTAL SC	ORE

Assess all Subtotals individually and then Total score

< 0 Minimal Risk	GO
0 to 6 Low Risk	Consider alternate actions
6 to 10 Medium Risk	Consult Senior instructor / CFI
>10 High Risk	Don't Go



QUICK REFERENCE

ENGINE: Bombardier - Rotax GmbH......912 ULS 98.5 HP at 5800 RPM (Max 5 mins.) 92.5 HP at 5500 RPM (Max continuous) MAXIMUM WEIGHTS MAXIMUM USEFUL LOAD.......216 KG (477 lbs) BAGGAGE ALLOWANCE......35 KG (77 lbs) **FUEL CAPACITY** Total Usable......146 L (38.6 U.S. gal) Approved Fuel Grades (and Colours): 100LL Grade Aviation Fuel (Blue) 91 (AKI index) Octane MOGAS BLOCK PLANNING FUEL FLOW......20 L/HR OIL COOLANT TAKEOFF PERFORMANCE AT SEA LEVEL: Take-Off Run Distance Grass Runway......250 M (820 ft) Total Distance Over 50 Foot Obstacle Sealed Runway......230 M (755 ft) Grass Runway......250 M (820 ft)

LANDING PERFORMANCE AT SEA LEVEL:

Landing Roll Distance



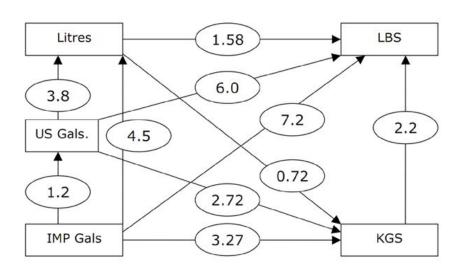
Sealed RunwayGrass Runway	
Total Distance Over 50 Foot Obstacle	
Sealed Runway	200 M (656 ft)
Grass Runway	200 M (656 ft)
SERVICE CEILING	12,000 FT
RANGE:	
75% Power	Range - 881 NM
146 Litres usable Fuel	Time - 9.22 HOURS
RATE OF CLIMB (ISA)	
SEA LEVEL	900 FPM
3,000 FT	700 FPM
CLIMB SPEED:	
Vx (Best angle of climb)	65 KIAS
Vy (Best rate of climb)	
Optimum Glide Speed	70 KIAS
Demonstrated cross wind	



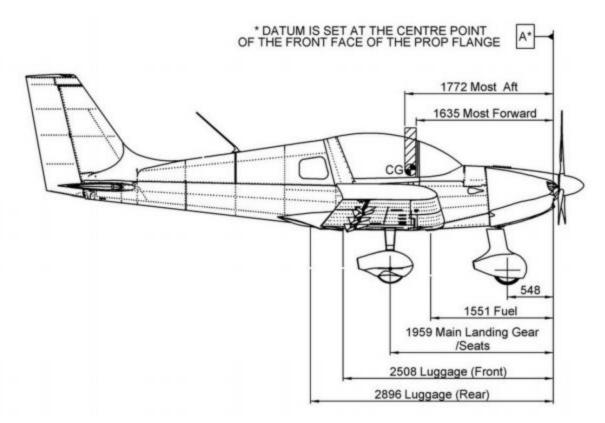
TOLD (Take-off Landing Data) Card

REG:		POB:	
Airport:	ELEV:	_ ATIS	
RWY:	Helicopter Area:		(Active)
Wind/V/XW:		VIZ:	
Cloud:	TEMP:	QNH:	
Pressure height: (1013 - QNH)	x 30 +ELEV :		
Density height: (Temp -15 x 12	20) + pressure heigh	t:	
Altitud:	SSR:		_ until
Freq: until		Next Freq: _	

NOTES:		







Operation C of G range:

- 1,635mm to -1,722mm from reference datum

FUEL LOAD	Left Tank:	Right Tank:	TOTAL:	
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	WEIGHT Kg	X ARM mm	= MOMENT mm/kg
PILOT		1959mm	
PASSENGER		1959mm	
FRONT BAGGAGE		2508mm	
REAR BAGGAGE		2896mm	
FUEL (L x 0.72)		1511mm	
ADD EMPTY VALUES	360KG	1653mm	595,080mm
TAKE OFF WEIGHT	Wt =		M =
FUEL BURN (L x 0.72)		1511mm	
LANDING WEIGHT	VVt =		



	Sling LSA (912	ULS) Checklist	
1. Befo	ore Start	ATIS & QNH	Checked & Set
Pre Flight	Completed	Radio	Set Current & Next Freq
MR & Running Sheet	Completed	Transponder	Set Code + GND
Start Position	Suitable	Runway Heading	Set
Passenger Brief	Completed	Departure Altitude	Set
Harnesses	Secured	Power	After 2 Minutes, 2500 RPM when Cold
Park Brake	Reset ON	3. Taxi	Checks
Fuel Selectors	Lowest Tank	Brakes	Tested
Switches	All OFF	Turning Left	- Compass & HSI ↓ - Right Skid - AH No Topple
Master	ON	Turning Right	- Compass & HSI ↑ - Left Skid - AH No Topple
EFIS & EFIS Backup	ON	4. Pre Take-Off - T.M.P.F.I.S.H	
Strobe Light	ON	Parked Into Wind	
Circuit Breakers	Checked	Park Brake	ON
Voltage & Flight Times	> 12V & Checked	Throttle	2000 RPM / 2500 RPM when Cold
AUX Fuel Pump	ON (Check Fuel Pressure)	Trim	Tested & Set for T/O
Throttle Lever	Set Between 0 - 5 mm	Master	ON
"Clear Prop!"	-	Magnetos	вотн
Engage Starter, us	se Choke if required	Mixture	N/A
2. After S	tart Checks	Propeller	N/A
Power	2000 RPM	Fuel Selector	Fullest Tank + Start Timer
Oil Pressure	Green within 30 s	Fuel Quantity	Set
EFIS	Checked ON	Flaps	Checked & UP
EFIS Backup	OFF	Instruments	Left To Right Checked
AUX Fuel Pump	OFF	Oil T's & P's	> 40°C & GREEN
Avionics & Radio	ON	Power	4000 RPM
Light	Taxi - ON Strobe - OFF Nav - ON	Switches - Ignition	L - BOTH - R - BOTH Max Drop 300 RPM Each
Flaps	UP		MAX Diff 115 RPM



4. Pre Take-0	Off - Continued	Carby Heat N/A	
Power	IDLE, Smooth Running	Lights	All ON
Power	2000 RPM	8. After Landing - F.A.S.T.	
Controls	Correct, Full & Free	Fuel Pump	OFF
Hatches & Harnesses	Secured	Flaps	Retract
T.O.S.B 8	& Taxi Call	Avionics	SET Current & Upcoming Freq
5. Line U	p - F.A.S.T.	Switches	Landing - OFF Strobe - OFF / ON for crossing RWY
Fuel Pump	ON	Transponder	Checked Code + STBY
Fuel Selector	Fullest Tank	Trim	Set For T/O
Flaps	SET for T/O	9. Shutdov	vn Checks
Avionics	SET Current & Upcoming Freq	Park Brake	ON
Switches & Lights	Magnetos - BOTH Strobe - ON entering RWY Landing - ON for T/O	RPM	2000 RPM
Transponder	Checked Code + ALT	Avionics & Radio	OFF
Trim	SET for T/O	Magnetos	L - BOTH - R - BOTH
Hatches & Harness	Secured	Magnetos	OFF
6. After Tal	ke-Off Check	Flaps	DOWN
300 F	T AGL	Flight Times	Recorded
Flaps	Up	Switches	All OFF
Landing Light	OFF	Master	OFF
Т	ос	Limitations	and Speeds
Fuel Pump	OFF (Check Pressure)	VNE	135
7. Pre Land	ding Checks	Vno	110
B.O.U.N	I.F.A.H.L.	VA	91
Brakes & Park Brake	Checked Pressure & OFF	VFE	85
Oil T's & P's	GREEN	Vx	65
Undercarriage	Down & Locked	VY	72
Master	ON	VGLIDE	70
Magnetos	Both	Vso	40
Mixture	N/A	Vs1	45
Fuel Pump	ON (Check Pressure)	X- Wind	15
Fuel Selector	Fullest Tank	VR	55
Fuel Quantity	Checked, Sufficient	VBASE	75 / 80
Autopilot	Disengaged	VFINAL	65 / 70
Hatches & Harnesses	Secured	Мтом	600 KG



Passenger Brief

Seats are adjusted prior to entering the aircraft, they're adjusted by lifting the entire seat up and repositioning it. Seat belts are based on the four point harness system, and are operated as per the demonstration. The emergency exit is the canopy above, and secured via the overhead latch, twisting to the left to secure the canopy, and to the right to unlatch the canopy. There are dual controls in the aircraft, they are not to be interfered with at any stage of the flight. Smoking is prohibited on this aircraft. There is a fire extinguisher located behind the seats and in the event of a cabin fire I will operate the fire extinguisher. Life jackets are/aren't carried on today's flight (demo operation if carried) and ELT (TBC). Luggage is stored behind the seats and to be stowed correctly prior to departure. Are there any questions?

Maintenance Release Brief

The maintenance release is for (Aircraft Call-Sign), and expires on the (date) or at
hours. It was issued by (company) on (date). It has hours to run
before the next check.
In part 1, the next scheduled maintenance is due on/at (date or hours). In part 2, there
are outstanding maintenance issues, (which if any, are). Part 3, the daily inspection
has been completed and signed off for today's flight (PPL) or the whole day (CPL or ATPL). The
considerations for this flight are (any issues which may be caused by the maintenance
endorsements).



Take Off Safety Brief

This will be a Normal/ Short Field takeoff from Runway with a rotate speed of 55 knots.
If I have an engine failure before 55 knots, I will close the throttle, call stopping, apply maximum braking and vacate the runway.
If I have an engine failure after 55 knots below 700 feet I will lower the nose for the glide attitude and select an area 30 degrees either side of the nose and land on the selected area This can include any remaining runway.
I will not turn back to the field unless above 700 feet AGL and will consider landing on Runway
Departure Brief
Once airborne I will depart the field on an extended leg of the circuit (or overhead) and climb to
My heading for departure is I will not climb above 2500 feet until outside 3nm from Moorabbin at which point I can climb to an altitude of not above feet.
At 3nm I will change my transponder to 1200 and I will start monitoring the Melbourne Centre frequency on 135.7.



RADIO COMMUNICATIONS

Frequencies		
Moorabbin Tower	118.1	123.0
Moorabbin Ground	119.9	
ATIS (MB)	120.9	398
Moorabbin CTAF	118.1	
AWIS	03 9580	9637
Essendon Tower	125.1	
Essendon Ground (SMC)	121.9	
ATIS (EN)	119.8	356
AWIS	133.2	
Melbourne Approach	132.0	
Melbourne Departures	118.9N	129.4S
Coastal & Inland Route		
Melbourne Radar	135.7	

Phone Numbers	
Flightwatch	1800 814 931
Moorabbin Tower	03 9586 6180
Essendon Tower	03 9374 1678
Contact tower only in an	emergency.

Navigation Aids		
Moorabbin NDB	398	
Essendon NDB	356	
Melbourne VOR	114.1	

Radio Failure

Squawk 7600. Stay in VMC and broadcast intentions. Precede all radio calls with: 'Transmitting blind'.

If possible, avoid class C and class D airspace and land at a CTAF aerodrome.

CTAF: When joining the circuit stay at least 500ft above circuit height. When you have selected the runway descend on the non-active side of the circuit. Cross the upwind threshold at circuit height. Fly a normal circuit. Check AIP ENR 1.1-76 (48.5-7)for circuit entry requirements at an aerodrome in class G airspace and ERSA EMERG 1 for general emergency procedures.

Moorabbin: Carry out general COM failure procedures. Track via a VFR approach point. Enter the CTR at 1,500ft AMSL and maintain that altitude until overhead the aerodrome.

Ascertain the landing direction, descend to 1,000ft AMSL and join the appropriate circuit on crosswind (remain clear of the eastern circuit). Proceed with a normal circuit and landing.

Maintain separation from other aircraft and watch for light signals from the tower (see page 86 of this guide). Mobile phones can be used in emergencies.

359° 0° 9500 8500 7500 6500 9500 4500 3500 1500 1500 179° Based on magnetic track



LIGHT SIGNALS

ON GROUND

Authorised to TAKE-OFF if pilot is satisfied that no collision risk exists



IN FLIGHT

Authorised to LAND if pilot is satisfied that no collision risk exists

Authorised to TAXI if pilot is satisfied that no collision risk exists



RETURN for landing

STOP



GIVE WAY
to other aircraft
CONTINUE CIRCLING

TAXI CLEAR OF LANDING AREA in use



DO NOT LANDAerodrome unsafe

Return to starting point on aerodrome



SYMBOLS NEAR WIND DIRECTION INDICATOR







AERODROME UNSERVICEABLE GLIDING OPERATIONS IN PROGRESS

OPERATIONS ARE CONFINED TO HARD SURFACE RUNWAYS, APRONS AND TAXIWAYS ONLY



YMMB A.T.I.S.	120.9
INFORMATION	
RUNWAY	
FREQUENCY	
WIND	
CROSSWIND	
VISIBILITY	
CLOUD	
TEMPERATURE	
QNH	

TAXI CALL GROUND	119.9
MOORABBIN GROUND	
AIRCRAFT TYPE	
CALLSIGN	
RECEIVED ATIS	
FOR (DESTINATION AND INTENTIONS)	
RUNWAY	
DUAL/SOLO	
REQUEST TAXI CLEARANCE	



READY CALL TOWER	118.1 E OR 123.0 W
MOORABBIN TOWER	
AIRCRAFT TYPE	
CALLSIGN	
FOR (DESTINATION AND INTENTIONS)	
HOLDING POINT / RUNWAY	
READY	

INBOUND CALL TOWER	118.1 E OR 123.0 W
MOORABBIN TOWER	
AIRCRAFT TYPE	
CALLSIGN	
POSITION	
ALTITUDE	
RECEIVED ATIS	
INTENTION	

- NEED TO REQUEST CIRCUITS ON INITIAL CALL IF DESIRED.
- o TRANSPONDER 3000 ALT BEFORE RADIO CALL



PRECAUTIONARY LANDING WITH ENGINE POWER

A precautionary landing is generally carried out in the cases where the pilot may be disorientated, the aircraft has no fuel to reserve, unfamiliar aerodrome/runway strip, approaching end of daylight or bad weather conditions.

- 1. Choose a suitable landing area, determine the wind direction.
- 2. Report your intention to land and position to ATC
- 3. Perform a low-altitude asage into wind over the right-hand side of the chosen area with flaps extended as required and thoroughly inspect the landing area.
- 4. Perform circuit pattern.
- 5. Perform approach at increased idling with flaps fully extended.
- 6. Reduce power to idle when flying over the runway threshold and touchdown at the very beginning of the chosen area.
- 7. After stopping the airplane, switch off all switched, shut off the fuel selector, lock the airplane and look for assistance.

SMOKE AND FIRES

FIRE ON GROUND AT ENGINE STARTING

- 1. Starter RELEASE
- 2. Fuel Selector CLOSE
- 3. Throttle CLOSE
- 4. Ignition SWITCH OFF
- 5. Fire extinguisher RETRIEVE FROM BAGGAGE COMPARTMENT IF POSSIBLE
- 6. Leave the aeroplane

IF ENGINE FAILS TO START

- 1. Throttle FULL
- 2. Fuel selector OFF
- 3. Fuel pumps OFF
- 4. Lanes/Magnetos OFF
- 5. Master OFF
- 6. Engine SECURE
- 7. Parking Brake RELEASE
- 8. Fire Extinguisher -OBTAIN (Have ground attendants obtain if not installed)
- 9. Airplane EVACUATE



- 10. Fire EXTINGUISH (Using fire extinguishes, wool blanket, or dirt)
- 11. Fire Damage INSPECT (repair or replace damaged components and/or wiring before conducting another flight)

ENGINE FIRE DURING TAKE OFF

- 1. Airspeed 70KIAS
- 2. Electric fuel pumps OFF
- 3. FUEL Selector OFF
- 4. Throttle IDLE
- 5. Heating CLOSE
- 6. Lanes/Magnetos OFF after excess fuel is consumed and engines shuts down.
- 7. Airspeed INCREASE as required to extinguish fire.
- 8. Forced Landing EXECUTE (refer to ENGINE FAILURE IMMEDIATELY AFTER TAKE OFF)

ENGINE FIRE IN FLIGHT

- 1. Electric fuel pumps OFF
- 2. FUEL Selector OFF
- 3. Throttle MAX POWER
- 4. Heating CLOSE
- 5. Lanes/Magnetos OFF after excess fuel is consumed and engine shuts down.
- 6. Airspeed INCREASE as required to extinguish fire.
- 7. Forced Landing EXECUTE (refer to EMERGENCY LANDING WITHOUT ENGINE POWER.

......REFER POH FOR EXPANDED CHECKLISTS.......

- > Fire on ground with engine running
- > Fire in cockpit
- > Carburettor Icing
- > Landing with a flat tyre
- > recovery from unintentional spin



EMERGENCY PROCEDURES

ENGINE FAILURES AND MALFUNCTIONS

ENGINE FAILURE DURING TAKEOFF ROLL

- 1. THROTTLE Control IDLE
- 2. Brakes APPLY
- 3. Wing Flaps RETRACT
- 4. Electric fuel pumps OFF
- 5. Lane Switches OFF
- 6. MASTER Switch OFF
- 7. Switches All OFF

ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF

- 1. Speed CHECK (70KIAS)
- 2. Find a suitable place on the ground to land safely. The landing should be planned straight ahead with only small changes in direction not exceeding degrees to either side.
- 3. Flaps AS REQUIRED (plan to land as slowly as possible)
- 4. Throttle AS REQUIRED

At touch down

- 5. Lanes/Magneto CHECK
- 6. Engine gauges CHECk
- 7. Fuel Quantity CHECK

ENGINE IRREGULARITIES IN FLIGHT (Irregular engine rpm)

- 1. Throttle position CHECK
- 2. Engine gauges CHECK
- 3. Fuel Quantity CHECK
- 4. Electric fuel pumps ON
- 5. Fuel selector tank CHECK (Change if required)
- 6. If engine continues to run irregularly
- 7. Land as soon as possible

LOW FUEL PRESSURE (2.2 PSI (0.15 BAR) OR LESS)

- 1. Engine gauges CHECK
- 2. Electric fuel pumps ON
- 3. Fuel selector tank CHECK (change if required)
- 4. If fuel pressure remains low
- 5. Throttle setting DECREASE (if viable to do so)
- 6. If fuel pressure remains low
- 7. Land as soon as possible



LOW OIL PRESSURE (12 PSi (0.8 BAR) OR LESS)

- 1. Oil temperature CHECK
- 2. If oil temperature is high or increasing
- 3. Throttle REDUCE POWER IMMEDIATELY
- 4. Land as soon as possible and remain vigilant for impending engine fault

FORCED LANDINGS

EMERGENCY LANDING WITHOUT ENGINE POWER

- 1. Airspeed 70 KIAS (Best glide speed)
- 2. Trim SET
- 3. Select Suitable Landing Field
- 4. Safety harness SECURE

If time permits and if appropriate, attempt to identity reason for engine failure and attempt to restart.

- 5. Flaps AS REQUIRED
- 6. Passenger brief COMPLETE
- 7. Mayday call TRANSMIT

Immediately prior to touchdown

- 8. Fuel Selector OFF
- 9. Electric fuel pumps OFF
- 10. Lanes/Magnetos oFF
- 11. Master OFF

ENGINE FAILURE DURING FLIGHT (Restart Procedures)

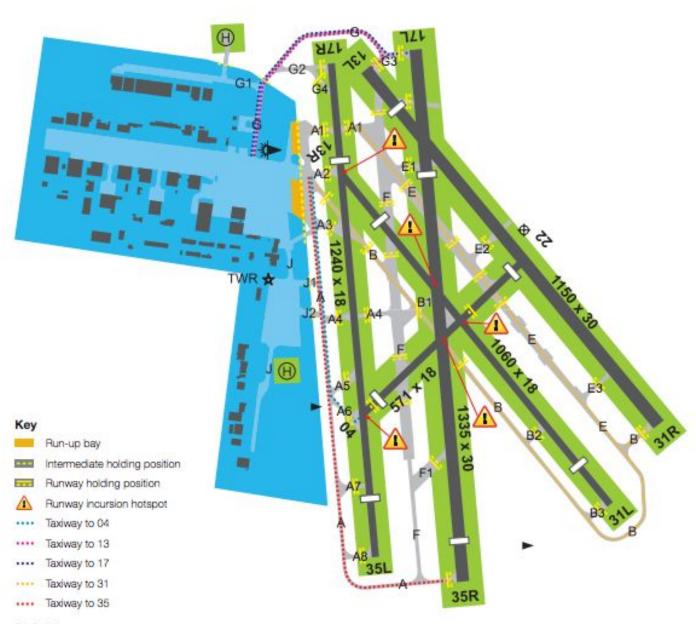
- Fuel Selector ENSURE ON
- Electric fuel pumps ON
- 3. Throttle SET HALF
- 4. Master ON
- 5. Lanes/Magnetos ON
- 6. Starter ENGAGE

If engine fails to restart, conduct emergency landing without power.



Speed	KIAS	Remarks
VNE Velocity Never Exceed	135	Never exceed this speed in any operation.
VNO Maximum Structural Cruising Speed	110	Never exceed this speed unless in smooth air, and then only with caution.
VA Manoeuvring Speed	91	Do not make full or abrupt control movements above this speed as this may cause stress in excess of limit load factor.
VFE Velocity Flap Extension	85	Never exceed this speed unless the flaps are fully retracted.
VS Clean Stall Speed	45	At maximum all up weight in the most forward CG configuration, with flaps fully retracted, engine idling, the aircraft will stall if flown slower than this speed.
VSo Stall Speed with Flaps	40	With full flap, maximum all up weight, engine idling, the aircraft will stall if flow slower that this speed.

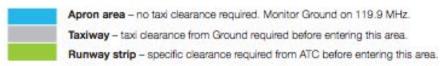




Definitions

Apron area	An area on the aerodrome intended to accommodate aircraft for the purpose of loading or unloading passengers, cargo, fuelling, parking, or maintenance. This includes building area
Manoeuvring area	That part of the aerodrome to be used for take-off, landing and taxing of aircraft, excluding aprons.
Movement area	That part of the aerodrome to be used for take-off, landing and taxing of aircraft, consisting of the manoeuvring area and the aprons.

Operation on the aerodrome



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