UNIT 1.02 – GROUP B (WEIGHT SHIFT) SYLLABUS

ELEMENT: 1. FLIGHT PREPARATION

Standard	Before Solo	Pilot Certificate	Inst Rating
1.1 Aeroplane Stability and Control			
• Provide a thorough explanation of the design and forces that provide stability and control of a Weight Shift aeroplane	3	2	1
1.2 Complete pre & post flight administration			
• Daily and pre-flight inspection conducted including checking of fluid levels and aeroplane serviceability	3	2	1
• Aeroplane is prepared for flight-untied or moved to appropriate start up area	3	2	1
• Equipment and documentation as required by regulations is identified and secured in the aeroplane, and internal and external checks are completed in accordance with approved checklist	3	2	1
• Aeroplane take-off and landing performance is calculated in accordance with performance and weight and balance charts with due regard to the operation to be conducted	3	2	1
• Pre and post flight logbook and flight administration is completed in accordance with Technical Manual and/or Operations Manual	3	2	**1**
1.3 Perform Daily and Pre-flight Inspection			
• Wing examination conducted as per approved checklist	3	2	1
• Trike examination conducted as per approved checklist	3	2	1
1.4 Certify Daily Inspection			
• Record and certify required details of daily inspection in accordance with regulations	3	2	1

ELEMENT: 2. THE CONTROLS

Standard	Before Solo	Pilot Certificate	Inst Rating
Flight Controls			
2.1 Pitch			
• Pitch control achieved by moving control bar outwards and inwards	3	2	1
2.2 Roll			
• Roll control achieved by moving control bar sideways	3	2	1
2.3 Trim			
• Trim control achieved by use of trim mechanism (if fitted)	3	2	1
Engine Controls			
2.4 Master / Ignition			
• Operation of master switch, ignition switch/s, starter system.	3	2	1
2.1 Throttle			
• Operation of foot and hand throttle to increase and decrease engine power.	3	2	1 1
2.6 Start and Stop engine			
• Pre start checks are completed and engine is started in accordance with Flight Manual	3	2	1
• After start checks are completed in accordance with Flight Manual	3	2	1
• Emergencies are managed in accordance with Flight Manual	3	2	1
• Pre and after shutdown checks are completed in accordance with Flight Manual	3	2	1

ELEMENT: 3. INSTRUMENTS

Standard	Before Solo	Pilot Certificate	Inst Rating
3.1 Engine management instruments			
• Identification, understanding, operation and monitoring of all engine instrumentation	3	2	1
3.2 Fuel management instruments			
• Identification, understanding, operation and monitoring of fuel management instruments	3	2	1
3.3 Flight instruments			
• Identification, understanding, operation and monitoring of aeroplane flight instruments	3	2	1

ELEMENT: 4. FUEL SYSTEM, USE AND MANAGEMENT

Standard	Before Solo	Pilot Certificate	Inst Rating
4.1 Fuel System			
• Components of fuel system	3	2	1
4.2 Plan Fuel Requirements			
• Duration of flight determined • Fuel reserves determined • Total fuel requirement determined	3 3 3	2 2 2	1 1 1
4.3 Refuel aeroplane			
• Aeroplane is refuelled in accordance with Flight Manual, health and safety and local requirements	3	2	1

ELEMENT: 5. TAXIING

Standard	Before Solo	Pilot Certificate	Inst Rating
1.5 Taxi Aeroplane			
• Steering is accomplished by the use of feet on nose wheel steering mechanism (billy cart style)	3	2	1
• Forward movement is accomplished by use of engine power (thrust)	3	2	1
• Brakes are used to arrest or control forward movement	3	2	1
• Wing controls (pitch and roll) are used to assist in directional control, aeroplane safety and pilot visibility	3	2	1

ELEMENT: 6. CARRY OUT PRE TAKE-OFF CHECKS

Standard	Before Solo	Pilot Certificate	Inst Rating
6.1 Carry out pre take-off checks			
• Stop at holding point and perform pre take-off checks.	3	2	1

ELEMENT: 7. TAKE-OFF AEROPLANE

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
7.1 Line-up Aeroplane			
• Aeroplane lined up in the centre of the runway in take-off direction and line-up checks carried out	3	2	1
7.2 Take-off			
• Take-off power is applied, aeroplane maintained on runway centreline and lift off established at manufacturers recommended airspeed	3	2	1
• Climb, airspeed and take-off direction maintained as required	3	2	1
7.3 Perform after take-off checks			
• After take-off checks performed	3	2	1

ELEMENT: 8. OPERATION OF CONTROLS / STRAIGHT AND LEVEL FLIGHT

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
8.1 Demonstration of Stability			
• Lookout	3	2	1
• Situational awareness	3	2	1
• Handover and takeover procedures	3	2	1
• Follow me through procedures	3	2	1
• Demonstration of stability in trim	3	2	1
8.2 Operation of Controls			
• Primary effects	3	2	1
• Secondary effects	3	2	1
• Effect of airspeed	3	2	1
• Effect of slipstream	3	2	1
• Effect of power	3	2	1
• Control response at varying speeds and power settings	3	2	1
• Instrument indications	3	2	1
8.3 Maintain Straight and Level Flight			
• Straight and level at normal cruise (adjusting for minor heading and height corrections)	3	2	1
8.4 Maintain Straight and Level Flight At Various Airspeeds			
• Attitude and power are adjusted to achieve a constant height, heading and airspeed and other nominated airspeeds. (adjusting for minor heading and height corrections)	3	2	1
• Trim technique	3	2	1

ELEMENT: 9. CLIMBING AND DESCENDING

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
9.1 Climbing			
• Lookout prior to entering climb or descent	3	2	1
• Lookout during climb or descent manoeuvres	3	2	1
• Situational awareness	3	2	1
• Correct technique for climb entry	3	2	1
• Maintenance of required climb performance	3	2	1
• Engine management considerations	3	2	1
• Correct technique for levelling off	3	2	1
• Cruise climb	3	2	1
• Best rate climb	3	2	1
• Best angle climb	3	2	1
9.2 Descending			
• Lookout	3	2	1
• Situational awareness	3	2	1
• Correct technique for descent entry	3	2	1
• Maintenance of required descent performance	3	2	1
• Engine management considerations	3	2	1
• Correct technique for levelling off	3	2	1
• Cruise descent	3	2	1
• Glide descent	3	2	1
• Emergency descent	3	2	1

ELEMENT: 10. TURNING FLIGHT (maximum 45° AoB)

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
10.1 Level, Climbing and Descending Turns			
• Lookout prior to entering turn, during turn and prior to exit	3	2	1
• Situational awareness	3	2	1
• Entry technique	3	2	1
• Maintenance of turn performance	3	2	1
• Exit technique to specific geographic feature or compass heading	3	2	1
• Turns are performed at varying angles of bank	3	2	1
• Aeroplane is turned during level, climbing, descending and gliding manoeuvres	3	2	1
10.2 Billow Shift			
• Consideration of the effect on turning	3	2	1

ELEMENT: 11. STALL ENTRY AND RECOVERY

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
11.1 Approach Stall			
• Pre manoeuvre checks carried out	3	2	1
• Airspace cleared prior to each stall	3	2	1
• Appropriate orientation	3	2	1
• Situational awareness	3	2	1
• Correct entry technique	3	2	1
• Recognition of symptoms for approaching stall	3	2	1
11.2 Stall Entry			
• Recognition of stalled condition	3	2	1
11.3 Stall Recovery			
• Recovery technique for stall - without power	3	2	1
• Recovery technique for stall - with power	3	2	1
• Minimum height loss	3	2	1
11.4 Stall Recovery While Turning			
• Aeroplane attitude and power settings adjusted to correctly and safely recover from stall and resume normal flight	3	2	1

ELEMENT: 12. CIRCUITS

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
12.1 Perform Circuits and Approach For Landing			
• Assessment of weather conditions and the associated effects on the circuit and appropriate spacing.	3	2	1
• Situational awareness including traffic	3	2	1
• Appropriate entry and exit runway procedures	3	2	1
• Take off-controlled and aligned with runway centreline	3	2	1
• Normal circuit profile and procedures	3	2	1

ELEMENT: 13. LANDING

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
13.1 Normal Landing			
• Glide approach and landing	3	2	1
• Powered approach and landing	3	2	1
• Touch and go landing	3	2	1
• Stop and go landing	3	2	1
• Full stop landing	3	2	1
• After landing checks completed	3	2	1
13.2 Cross Wind Landing			
• Take off with due regard for crosswind effect	3	2	1
• Crosswind circuit profile and procedures	3	2	1
• Glide approach and landing	3	2	1
• Powered approach and landing	3	2	1
• Touch and go landing	3	2	1
• Stop and go landing	3	2	1
• Full stop landing	3	2	1
• Drift and cross wind effect are controlled	3	2	1
• After landing checks completed	3	2	1

ELEMENT: 14. MISSED APPROACHES

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
14.1 Missed Approach and Go Around			
• Procedure from base	3	2	1
• Procedure from final	3	2	1
• Recovery from an unstable approach	3	2	1
• Procedure from overshoot or undershoot position	3	2	1
• Procedure after bounce or balloon	3	2	1
• Recognition and appropriate procedure from pilot induced oscillation	3	2	1
• Awareness of engine management considerations	3	2	1
• Control of aeroplane and situational awareness of circuit pattern and traffic is maintained	3	2	1

ELEMENT: 15. ENGINE FAILURE ON TAKE-OFF

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
15.1 Manage Engine Failure on Take-Off			
• Aborted take off	3	2	1
• Engine failure on take off	3	2	1
• Partial power failure	3	2	1
• Control failures - throttle, etc. (simulated if required)	3	2	1
• Undercarriage or tyre problems	3	2	1
• Animal hazards	3	2	1
• Engine management considerations	3	2	1

ELEMENT: 16. ENGINE FAILURE IN CIRCUIT

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
16.1 Manage Engine Failures in all Areas of the Circuit			
• Immediate actions are performed in accordance with Flight Manual	3	2	1
• Emergency procedures are performed according to Flight Manual	3	2	1
• Engine management considerations	3	2	1

ELEMENT: 17. FIRST SOLO

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
17.1 Perform Solo Flight			
• Fly one circuit (as briefed) and conduct a full stop landing	3	/	/

ELEMENT: 18. STEEP TURNS

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
18.1 Steep Turns (>45° AoB)			
• Lookout prior to entering turn, during turn and prior to exit	3	2	1
• Situational awareness	3	2	1
• Maintenance of turn performance	3	2	1
• Level steep turns achieved without altitude change	3	2	1
18.2 Steep Descending Turns (max 45° AoB)			
• Lookout prior to entering turn, during turn and prior to exit	3	2	1
• Situational awareness	3	2	1
• Maintenance of turn performance	3	2	1
18.3 Spiral Dive Recovery			
• Recognition of a spiral dive	3	2	1
• Recovery from a spiral dive is performed	3	2	1

ELEMENT: 19. FORCED LANDING

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
19.1 Perform a Forced Landing			
• Situational awareness	3	2	1
• Initial actions	3	2	1
• Best glide speed selected and trimmed	3	2	1
• Landing area general selection	3	2	1
• Detailed trouble checks	3	2	1
• Engine restart (if applicable) and management considerations	3	2	1
• Passenger brief	3	2	1
• Shutdown checks (as appropriate)	3	2	1
• Go-around height when undertaking training	3	2	1

ELEMENT: 20. MANAGE ABNORMAL SITUATIONS

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
20.1 Recover from Unusual Attitudes			
• Return aeroplane to normal flight after experiencing an unusual attitude	3	2	1
20.2 Tuck/Tumble Avoidance			
• Considerations of Tuck/Tumble avoidance	3	2	1
20.3 Manage In-Flight Abnormal Situations			
• Appropriate emergency action and procedures are carried out in accordance with Flight Manual while maintaining control of the aeroplane	3	2	1
• Fire, smoke or fumes in engine bay	3	2	1
• Collision avoidance	3	2	1
• Correct engine management for engine type in all flight modes	3	2	1

ELEMENT: 21. PRECAUTIONARY SEARCH AND LANDING

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
21.1 Conduct Precautionary Search and Landing			
• Determine need - weather, light, passenger, etc.	3	2	1
• Advice to ATS or other aeroplanes (as applicable)	3	2	1
• Field selection	3	2	1
• Inspection runs	3	2	1
• Go-around height for training purposes	3	2	1

ELEMENT: 22. OFF-AIRFIELD OPERATIONS

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
22.1 Short Field Take-off			
• Take off with due regard for short field procedures	3	2	1
• Correct engine management for engine type in all flight modes	3	2	1
• Directional control maintained	3	2	1
22.2 Short Field Landing			
• Aeroplane touches down on or within 10M beyond the nominated touchdown point	3	2	1
• Maximum braking applied to stop aeroplane (without wheel lockup)	3	2	1
• Directional control maintained	3	2	1
• Ballooning, bouncing and pilot induced oscillation is recognised and controlled	3	2	1
22.3 Soft Field Take-off			
• Take off with due regard for soft field procedures	3	2	1
• Correct engine management for engine type in all flight modes	3	2	1
• Directional control maintained	3	2	1
22.4 Soft Field Landing			
• Aeroplane touches down on or within 10M beyond the nominated touchdown point using soft field landing technique.	3	2	1
• Braking used as required.	3	2	1
• Directional control maintained.	3	2	1
• Ballooning, bouncing and pilot induced oscillation is recognised and controlled.	3	2	1

ELEMENT: 23. LOW LEVEL OPERATIONS (100FT-1000FT AGL)

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
23.1 Safety and Navigation			
• Lookout	3	2	1
• Situational awareness	3	2	1
• Forced landing considerations	3	2	1
• Join circuit safely with consideration of other traffic and circuit levels	3	2	1

ELEMENT: 24. DEPART AND REJOIN CIRCUIT

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
24.1 Depart Circuit			
• Circuit departure procedures	3	2	1
• Situational awareness of traffic and weather requirements	3	2	1
24.2 Rejoin Circuit			
• Circuit joining procedures	3	2	1
• Situational awareness and sequencing with traffic	3	2	1

ELEMENT: 25. FIRST TRAINING AREA SOLO

Flying Standard	Before Solo	Pilot Certificate	Inst Rating
25.1 Perform Solo Flight in Training Area			
• Transit to and from training area	3	2	1
• Fly for a defined time and perform approved manoeuvres in the training area.	3	2	1
• Return to airfield and perform a full stop landing.	3	2	1

-End of Group B Syllabus-