

HGFA'S PHASE Weightshift Pilot Training Syllabus

UNIT 4

Phase 16 Taxying

Objectives

- The student will become familiar with the front seat and the controls for ground operation
- The student will revise Rules of the Air and Local Airfield operating conditions
- The student will apply safe control of the aircraft on the ground during taxiing manoeuvres in different wind conditions and on different surfaces.

Venue / Lesson Type:	Briefing Room, Taxiway, Airfield
Lesson Duration	Approx 2 hours
Equipment:	Training Aircraft
Other Materials:	Handouts

- Rules of the air
- Airfield procedures/operations
- Airfield surface
- Obstructions
- Lookout
- Airmanship
- Hand signals
- Wind considerations
- Taxispeed
- Taxi area
- Engine monitoring
- Wing position
- Inertia / energy
- Hand / foot throttle
- Footbrakes / park brake
- Directional control
- Brake failure
- Collision

References:

HGFA Weightshift Microlight Flying Instructor's Manual
 Aircraft Manufacturers Manual
 HGFA Operations Manual
 ERSA
 AIPs
 Local Standing Orders

UNIT 4 Phase 16 Taxying

Let us first revise a safe start up procedure. Only start up at the designated areas, not in or behind the hanger.

As a start up check:

- Choke set – make sure you differentiate between cruise and choke.
- - Brake on – foot or handbrake or chocks.
 - Base bar free
 - Foot throttle off (foot under throttle)
 - Cruise throttle off
 - Clear right rear of people/animals etc.
 - Ignition on (Airborne forward, Pegasus rearward!)
 - Clear left rear, clear right rear
 - ‘Clear prop’ and start

(Always point the trike towards the centre of the airfield so that an inadvertent high engine speed start will give you somewhere to go).

(1) *Taxi Speed*

A fast walking pace is regarded as an appropriate standard. Use pilot discretion to vary this due to weather, pavement, obstructions etc. The centre of gravity of a trike is high and the inherent design of a single front wheel allows the inside wheel to unload due to a steering input. Remember that push trike you had a child! DO NOT turn the front wheel sharply unless at a very slow speed – a slow walking speed. When taxiing downwind, the wind will tend to push you along, keep the wing neutral to slight bar out.

(2) *Wing Position into Wind*

Before the wing is flying it is equivalent to a large umbrella. Make sure that the windward wing is level or several centimetres lower than the other wing. Be especially cautious of strong wind from a rear side, it can push the trike over forward if it can get under the trailing edge of the wing.

(3) *Figure 8*

It is best to start with a simple figure 8 taxi practice, since it incorporates side wind practice and turning circle practice at walking speed. As you rotate around the figure 8, alternate wind down into wind. On throttle, it can be difficult to achieve power on left lock, and you can inadvertently use too much on right lock. A kinked throttle may also cause the revs to increase. You may find that your instructor has his hand on the magneto switches during this practice! Remember that your aircraft is 10 metres wide and wingtips should not contact vertical objects.

(4) **Stopping Points**

Regard any entrance point to a runway as a stop sign. Stop, look and if necessary radio call crossing runways.

(5) **Taxi Call**

Before commencing the taxi to the runway a compulsory taxi call should be completed. As per the Radio Phase 7:

- Who you are calling.
- Who you are
- Your position
- Your altitude! Delete for taxi
- Your intentions.

(6) **Give Way Rules**

Revise Phase 5. Remember that an aircraft on final has right of way. Regard the entrance points to a runway as a stop sign.

(7) **Stopping Points**

The inertia of the aircraft, couple with the wind's power and relatively small brakes results in the pilot having to think ahead about braking. The brakes should be used only in a straight ahead scenario, since braking whilst turning will increase the tendency for the trike unit to tip over. Brake, then turn. At Point Cook, brake to a complete stop at the start up area when returning to the hangar. If lazy, or unfit, taxi at a very slow walking pace towards the hanger (stopping 15m from the hanger), otherwise push the trike.

(8) **Brake Failure**

Landing into wind will reduce your ground roll, but brake failure on tarmac when taxiing downwind can result in speed increasing, divert to grass for more ground resistance and slowly steer into the crosswind position (90 degrees).

The Instructor should demonstrate a 360 degree taxi in medium wind conditions keeping the windward wing down – steering inputs should be small and speed slow.

Neutral pitch for a normal takeoff.

This Manual is available for the personal use only, of any approved Student/Instructor, by OliAir Pty Ltd.

Without the written consent of OliAir Pty Ltd, this Manual may not be reproduced in any manner or under any circumstance.

HGFA'S PHASE Weightshift Pilot Training Syllabus

UNIT 4 Phase 16 Taxying

Name: _____

	TEST		
1	Speed	Appropriate taxiing and turning speeds.	
2	Wing Position into Wind	Student demonstrates an ability to keep windward wing down under prevailing circumstances.	
3	Figure 8	Test - Do a figure 8 near if a vertical object.	
4	Stopping Points	Demonstrate knowledge and practices of stopping at appropriate places.	
5	Taxi Call	Taxi – demonstrate good taxi call.	
6	Give Way Rules	Must demonstrate knowledge and ability to taxi safely onto runway and airstrip.	
7	Braking	Should demonstrate that they are capable of stopping the trike at a certain point.	
9	Brake Failure	Student demonstrates procedure when brakes fail.	

Pilot Signature: _____ Date: _____

Instructor Signature: _____ **Date:**

This Manual is available for the personal use only, of any approved Student/Instructor, by OliAir Pty Ltd.

Without the written consent of OliAir Pty Ltd, this Manual may not be reproduced in any manner or under any circumstance.

HGFA'S PHASE Weightshift Pilot Training Syllabus

UNIT 4

Phase 17 Familiarisation Flight

Objectives

- The student will observe in-flight conditions in the front seat of a weightshift microlight.
- The student will be introduced to the aircraft and identify its characteristics while airborne.

Venue / Lesson Type:	Tie Down Area, Training Area / Practical
Lesson Duration	Approx 1 hour
Equipment:	Training Aircraft
Other Materials:	Handouts

- Principles of flight
- Rules of the air
- Lookout
- Pre take-off checks
- Area maintenance
- Relaxation
- Horizon
- Hand-over / Take-over drills
- Control feel
- Trim
- Effects of flight controls
- Effect of speed
- Primary and secondary effects of attitudes
- Slip / Yaw
- Pitch
- Billow shift
- Centripetal force
- Adverse rolling yaw

References

HGFA Weightshift Microlight Flying Instructor's Manual
 Microlight Pilot's Handbook - Brian Cosgrove
 Student Training Briefs - Parnang
 Flying Training Manual - Trevor Thom
 The Student Pilot's Handbook