



## 03 TAXIING

### AIM

To teach the student to manoeuvre the aeroplane safely on the ground.

### INSTRUCTIONAL GUIDE

Instruction in taxiing must be commenced as soon as possible and the pupil should be allowed to do all the taxiing at an early stage, the instructor taking control only when necessary.

From the beginning, impress upon the student the need to taxi at a reasonable speed considering safe and expeditious movement of traffic and to keep a sharp lookout for other aircraft and obstacles.

In confined areas a pilot may request or be offered taxi guidance. However, the ultimate responsibility for the safety of the aeroplane still rests with the pilot.

### PRE-FLIGHT BRIEFING CONSIDERATIONS

- **Aeroplane Inertia** Explain fully the effect of inertia on starting and stopping, stressing the use of power to start the aeroplane moving and the need to anticipate the inertia effect when stopping and turning
- **C of G position** Explain the effect of having the C of G forward or aft of the main wheels as applicable to the type of aeroplane.
- **Directional Control** Explain the use of the rudder, nose wheel steering and the brakes in controlling direction on the ground
- **Brakes** In addition to explaining the use of brakes to assist in controlling direction, explain how to test the brakes as soon as the aeroplane is moving. Stress that harsh braking should be avoided, except in an emergency
- **Use of Power** Explain how taxiing speed is controlled primarily by power. Emphasis engine pressure and temperature limitations and the need to avoid prolonged idling. Stress that power should not be used against the brakes, and when stopping or

slowing down, close the throttle first then apply brakes

- **Effect of Wind** Explain the effect of wind on the aeroplane whilst taxiing into wind, down wind and cross wind. Explain the position of the flying controls whilst taxiing in various wind conditions as applicable to the type of aeroplane
- **Cold Weather** Operations Explain that carburettor icing is possible and how to remedy the situation

### RULES OF TAXIING

Explain the rules of surface movement to, from and whilst taxiing on the landing area as applicable to the particular aerodrome.

### AIRMANSHIP

Stress the need to taxi at a reasonable speed considering the safe and expeditious movement of traffic. Never taxi too fast.

If radio failure is suspected and a control tower is in operation, teach the student to look for signals from the tower.

### GROUND EXERCISE

- (a) Use of power
- (b) Control of direction
- (c) Use of brakes
- (d) Effect of wind and use of flying controls
- (e) Instrument checks

### USE OF POWER

Demonstrate that the speed of the aeroplane is governed primarily by the use of power. Show that the amount of power needed depends on the ground surface. Make sure that the student is aware that higher power is often necessary to overcome the inertia of a stationary aeroplane and demonstrate that power must be reduced as soon as the aeroplane is moving at the required speed. Emphasize the points to check with respect to engine temperature and pressure limitations and try to avoid long periods with the engine idling too slowly. Always insist that the student operates the throttle smoothly.



### CONTROL OF DIRECTION

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Show the student how to control direction primarily with the rudder. Make sure that the student understands how to use the nose wheel steering if applicable and demonstrate the use of brakes in controlling direction if this is applicable to the type of aeroplane. Show how to ensure that the path ahead is clear if the design is such that the nose of the aeroplane obscures the view of the taxi path. This is done by turning the aeroplane slightly to the left and looking out of the right hand side and then turning slightly to the right and looking out of the left hand side. Teach the student to anticipate the recovery from a turn and to apply corrective action before the nose of the aeroplane is pointing in the required direction.

### USE OF BRAKES

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Teach the student to always test the brakes when moving away from the parking position. Do not allow the student to brake harshly unless this is unavoidable and teach never to rely completely on brakes, especially in wet weather. When wishing to stop, close the throttle before applying brakes, avoiding the use of power in opposition to brakes.

### EFFECT OF WIND AND USE OF FLYING CONTROLS

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Demonstrate how the aeroplane tends to turn into wind (weathercock) when taxiing across the wind. Show that taxiing into the wind is a comparatively simple exercise as the aeroplane tends to keep straight. Show how the aeroplane gains speed as it taxis down wind.

Show how to position the flying controls with significant wind coming from various directions relative to the aeroplane's heading. Some manufacturers give very specific instructions on the use of ailerons and elevators whilst taxiing. When giving instruction in these types the instructor must be thoroughly familiar with the recommended method and teach the student accordingly.

### INSTRUMENT CHECKS

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As the pupil becomes more proficient at taxiing explain the importance of checking the engine temperature and pressure indications. Additionally, demonstrate how to check the gyro instruments and magnetic compass while taxiing. Include navaid checks if appropriate.

### COMMON FAULTS

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The most common fault is that a student will tend to taxi too fast, especially as more confidence is gained. Many students become careless about lookout and clearing the blind spot created by the nose of the aeroplane and positioning the flight controls correctly. These faults must be eliminated at an early stage.