



## 02 PREPARATION FOR FLIGHT

### AIM

To teach the student how to ensure that the aeroplane is prepared and airworthy for flight plus the actions to be taken after a flight.

### INSTRUCTIONAL GUIDE

Before walking out to the aeroplane the instructor should show the student the documents that indicate the serviceability state of the aeroplane. The instructor should explain how the fuel and oil state can be determined, whether any work has recently been carried out on the aeroplane and why the pilot must review and possibly sign certain documents before flying the aeroplane.

The instructor should now teach the student the pre-flight checks in much greater detail than was done in Exercise 1. The instructor should point out that:

- (i) the position of the aeroplane for starting and running up should be such that no inconvenience or damage is caused by the slipstream and that no loose stones, etc., will be picked up by the propeller and damage it. It is also important that some types of aeroplane be headed into wind to reduce fire risk on starting; and
- (ii) the path for taxiing should be clear and that any obstructions are noted so that they can be avoided.

The instructor should ensure that the student is able to reach all controls, while at the same time is comfortable and high enough in the seat for good outside visibility and attitude judgment. It is important for the student to be always seated with their eyes on the same level so that the aeroplane's attitude for each manoeuvre remains substantially constant. The preliminary internal checks should then be done with the student taking an active part in carrying out these checks.

When starting and warming up the engine the instructor must ensure that the student is aware of the responsibilities with respect to persons outside the aeroplane. The student should be made to ensure that all is clear by visual inspection and by getting into the routine of shouting 'clear propeller' before actuating the starter.

The instructor must make the student very conscious of engine instrument indications.

When carrying out the run up checks the instructor must ensure that the student observes the engine temperature and pressure limitations. If the aeroplane has been moved before the run up check is done, the instructor must ensure that the student does not attempt to run up the engine if there is loose gravel in the immediate vicinity. Make the student aware once again of the damage to the propeller that this practice can cause. Explain why run ups should be conducted into wind and the need to ensure the propeller wash is not causing harm or annoyance.

The correct method of stopping an engine must also be taught. It should be explained to the student that the correct method will prevent damage caused by uneven cooling of the engine and damage to the exhaust system. Impress upon the student the necessity to ensure that the ignition and master switch is off and that the aircraft is correctly secured before leaving the aeroplane.

During the above walk around, it is also prudent to ensure that there is no obvious damage or oil leaks. Post flight documentation requirements should follow immediately.

In all these procedures allow the student to do as much as possible. Allow the student to start the engine and to manipulate the engine controls during the power check. Doing even these relatively minor tasks will give the average student a great sense of achievement.

Obviously all the points raised in this exercise cannot be taught in one lesson but will be spread over several. The student should be familiar with all drills, vital actions and pre take-off safety brief before his or her first solo flight. Insist from the beginning that the student repeats aloud these checks so that you can monitor them, and never allow the student to become so automatic (ritualistic) that they repeat the check aloud but do not physically carry it out. This is often a fault with students and shows a basic lack of understanding of the reasons for these checks.