

## CHAPTER 4

### THE DAILY INSPECTION OF GLIDERS

#### AUTHORITY

Any pilot may, **and in fact must**, enter any minor defects rendering the aircraft unserviceable. Only those approved by the club may carry out the daily inspection (DI) and sign out the aircraft as serviceable. An Instructor must countersign the inspection if carried out by a pupil. Repairs and adjustments may be made, and signed for, only by those more experienced members who are specifically approved to do this.

#### INSTRUCTIONS FOR USING THE 'DI' BOOK.

1. Write legibly.
2. Do not postpone making entries in the book – do it right away.
3. Details of any work carried out must be described clearly in the “Work Done” column.
4. Defects needing subsequent rectification, but which do not effect the serviceability of the aircraft, should be described in the “Minor Defects Remaining” column. Persons rectifying such defects should make an entry in the “Work Done” column and cross out, and initial, the original entry describing the minor defect.
5. Any pilot who makes, or notices, any fault in the aircraft which is of such a nature that it does not

render the aircraft unserviceable, must make an entry in the “Minor Defects Remaining” column, using a separate line for this purpose.

6. Similarly, any pilot who has reason to believe that the aircraft is unserviceable, must declare this in the “Reasons for Unserviceability” column, again using a separate line for this purpose. In this case the DI Book should be left on the seat of the aircraft and an “AIRCRAFT GROUNDED” sign hung in a prominent place and the CFI notified.
7. Persons responsible for de-rigging the aircraft must make a separate entry in the “Reasons for Unserviceability” column

The inspection of such a simple aircraft as a glider is a perfectly straightforward task and one that does not require much skill. The qualities needed are **care** and **honesty**. If the job is to be done at all it must be done thoroughly, and the aircraft should not be signed out as serviceable unless the person doing the inspection is prepared to justify his reasons.

The object of carrying out these inspections is to ensure that no defect has occurred which might render the aircraft unsafe. Such defects can arise in four ways.

- Fair wear and tear
- Maladjustment.
- Careless handling.
- Severe flight or landing loads.

Of these, the last is the least common but potentially the most serious.

The defects include:

- Actual failure – (e.g. cracked plywood, wood or metal, frayed cables, failure of glue joints, etc.).
- Deterioration – (e.g. rotten wood, brittle fabric, rusty steel, etc.)
- Excessive wear, looseness or lack of lubrication.
- Incorrect assembly, wrong adjustments, or actual loss of a particular part.
- Presence of foreign bodies.

It would be quite impractical to ensure that an aircraft is airworthy by merely insisting on the inspection of a number of listed items, since to include every conceivable eventuality would call for a fantastically lengthy list. All that can be done, therefore, is to call for the inspection of a limited number of items and to trust to the sharp eyes and imagination of the inspector. Signs that often act as indicators of more serious trouble are cracks in the paint, distortion of the plywood, and the excessive flexibility of components.

Once a fault has been discovered it is necessary to find its cause and to ascertain the full extent of the defect. In doing this it is important not to jump to conclusions. For example if a control cable is found to be unusually slack, it is most unlikely that the cable has stretched. It is far more probable that a control horn has bent or a lever or pulley bracket has been strained.

Another example, especially on the K7 or K13, is the sudden slackening of the over-lock on the airbrakes. Do not just adjust them without first examining for fatigue failure the bell-crank bracket on the wing root-rib. On two of our gliders this was found, in fact, to be the case.

The inspector should take nothing for granted and should devote his energies to actually inspecting the aircraft. Above all he should realise what he does not know, and if in the slightest doubt should ask someone with more experience.

### **THE DAILY INSPECTION WILL INCLUDE:**

#### **WINGS:**

- a) Visual Inspection.
- b) Aileron hinges. Control horns and Mass balance weights.
- c) Aileron cable tension.
- d) Airbrakes and their mechanism.
- e) Wing to wing and wing to fuselage attachments.
- f) Aileron and airbrake control attachments to fuselage.
- g) Wing-root fairing strip.

#### **TAIL:**

- a) Visual inspection.
- b) Elevator, rudder and trim tab hinges and control horns.
- c) Attachment of tail-plane.
- d) Connection of elevator and trimmer.
- e) Attachment of fairing.

#### **FUSELAGE:**

- a) Visual inspection.
- b) Condition of skid, wheel and tail-skid.
- c) Elevator cable tension.

- d) Rudder pedal bungees or springs.
- e) No junk in cockpit or luggage locker.
- f) Condition of interior of cockpit and harnesses.
- g) Canopy clean and serviceability of attachments.
- h) Instruments working.
- i) Batteries secure.
- j) Check the LS1 due-date placard for currency.
- k) Release hooks and release mechanism.

**CONTROLS:**

Check the following for full and free movement and movement in the correct sense.

- a) Ailerons.
- b) Rudder.
- c) Trim-tab. (with lever forward the tab should be up)
- d) Air brakes and locking.
- e) Wheel brake.

**EQUIPMENT:**

- a) Serviceable parachute – check re-pack date current and general condition.
- b) Cushion.
- c) Ballast weights if necessary.
- d) ‘DI’ logbook in the pouch.

**WAS A ‘D.I.’  
CARRIED OUT ON  
THE GLIDER?  
Check the DI Book.**

**Also, remember the  
‘Walk-about’  
Inspection before  
every flight!**