

TECHNICAL INSTRUCTION NO. 4.

Care and Maintenance of Sailplanes manufactured prior to 1947.

The purpose of this instruction is to draw the attention of owners and operators of sailplanes over ten years old, to certain considerations which may affect their safe operation.

All aircraft manufactured by Slingsby Sailplanes Ltd. have been made of wood as this has been, and is still considered to be, the best available material for sailplanes construction. The life of a wooden airframe can be considered as indefinite provided it is correctly maintained and stored under suitable conditions. Since it is felt that the conditions under which some sailplanes are hangared are not of the highest standard and as there may also be doubt in some instances as to the standard of maintenance, it has been decided to draw the attention of operators to the possible long term effect of these considerations.

REPAIRS.

It sometimes happens that over a period of time a number of repairs are made in close proximity to each other. Considered individually at the time they were made these repairs could be regarded as sound but their culminative effect may be to produce a structure which should be regarded as suspect.

It is recommended that particular attention be paid to areas which have undergone several repairs and where possible such areas be replaced with new structure.

Details of repairs and their exact location should always be entered in the log book.

HANGARAGE AND STORAGE.

A wooden aircraft should be kept in a hangar or other storage which is dry, light and airy. It is realised that such conditions are not always available and in these circumstances extra attention must be paid to inspection and maintenance.

Water should not be allowed to stand on or in aircraft for long periods. Drainage holes in all components must be kept clear.

Modern synthetic resin glues are not affected by dampness or water, but these conditions can cause deterioration to wood or plywood.

To protect the structure the external and internal treatment must be maintained in good condition.

MAINTENANCE AND INSPECTION.

It is recommended that a special major inspection and overhaul be introduced for aircraft over ten years old. This should take place at the next annual C. of A. or immediately if there is reason to suspect the aircraft.

The inspection should be repeated at least every three years.

At this inspection it is recommended that one side of the fabric covering be removed from the entire length of fabric covered components and that sufficient plywood be removed from ply covered components to allow a detail inspection to be made of the entire internal structure. Where possible the bolts holding important fittings should be withdrawn to allow inspection of the bolt holes and the timber under the fitting.

Where possible control systems should be removed from the aircraft for inspection. Worn parts should be replaced or returned to the manufacturers for reconditioning.

Attention is drawn to the list of modifications affecting safety which has been circulated by the B.G.A. and which should be embodied in aircraft.

The date and exact details of this special overhaul should be entered in the log book of the aircraft.

COMPONENTS MADE WITH CASINE GLUE.

There are still in regular use certain components made with casine glue. As casine glue is very sensitive to damp conditions these components should be regarded as suspect until it can be proved that they are sound.

If on inspection a casine glued component is found to show signs of glue deterioration, or to be damp, or is found to smell sour or of acetylene gas, it is strongly recommended that the component be destroyed.

The log books of aircraft which have casine glued components should have a note inserted on the cover or first page to the effect that casine glue is used.

OPERATIONAL LIMITATIONS.

The conditions and limitations under which aircraft are operated are not the responsibility of Slingsby Sailplanes once the aircraft have left our works. As a matter of safety, attention is however drawn to the Flying Limitations displayed in the cockpit. Exceeding these limitations may impose loads on the structure in excess of that for which it is designed. It is particularly important that a nine hundred-weight weak link be used in all launching cables, the omission of the weak link can result in structural failure in the aircraft.

Slingsby Sailplanes will be pleased to give advice on problems connected with the maintenance of aircraft manufactured by them, but they cannot accept responsibility for the condition of machines which have been out of their hands for long periods or which have not been maintained by them.