

## AIRWORTHINESS DIRECTIVE

TYPES AFFECTED:

LS 1 - All series  
LS 3 - All series  
LS 4 - All series

SUBJECT:

Loss of attachment between the 4 wing root rib pins and the wing root ribs. (Inspection/rectification)  
Inspection for wing root rib pin wear.

BACKGROUND:

One case of an Australian LSI found to have cracking and loosening of the attaching material between the wing root ribs and the 4 wing to fuselage pins.

This problem is known in Europe, the manufacturer having produced a repair method which was considered at best a temporary fix.

The original 4 pins are low grade steel and show early signs of wear at the point of contact with the fuselage bearings. This AD can be followed as a method of pin replacement when pin wear is considered excessive.

Factors causing the pin/rib attachment breakdown are not clear, but wing looseness due to pin wear combined with rough airfield surfaces, unsprung wing walking wheels, etc are all contributory.

ACTION REQUIRED:

(1) Within 25 hours flight time

- (a) Use an inspection mirror, through existing wing root rib holes to check the back of the pin mounting area (see Figure 1). Check the pin for movement (watch the back of the pin with the mirror at the same time).

If movement/cracking is found the glider must be taken out of service and the wing root pins removed and remounted in accordance with GFA Mod 88/2. The fuselage bearings are to be also inspected for any signs of damage or looseness.

(b) Wing tip freeplay check

Excessive wing tip fore/aft freeplay may contribute to wing root rib pin wear. The wingtip maximum allowable total freeplay fore/aft is 40mm. Freeplay can be reduced by gluing shim washers to the flange of the wing root rib pins. (40mm on 15m span). (Some models are adjustable)

(2) Each Form 2 Inspection

Action (1) is to be carried out at each Form 2 inspection irrespective of whether or not the pin installations are modified to GFA Mod 88/2.

Issued by:

Chief Technical Officer,  
Airworthiness

24.2.1988

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(3) Wing root rib pins and bearings wear limits (Form 2 inspection)

The manufacturer does not state any wear limits for the pins or the fuselage mounted bearings.

This A.D. sets the following limits:-

- (a) Maximum pin groove depth - .250mm
- (b) Maximum out of round of fuselage bearing - .150mm

When these limits are exceeded new pins, either factory supplied, or manufactured to GFA Mod 88/2 must be fitted.

Oval fuselage bearings may be either replaced or machined back to round, in which case the new pins must be manufactured oversize (Ref Mod 88/2).

IMPLEMENTATION: Actions 1, 2 and 3

To be carried out by the holder of a DoTC 1109 Inspectors Certificate authorised "C. of A. FRP".

If pin replacement is required that must be carried out by the holder of a DoTC 1109 Inspectors Certificate, authorised "Major repair FRP".

WEIGHT AND BALANCE: No appreciable change

DOCUMENTATION: GFA Approved Modification 88/2 is available from the GFA Secretariat.

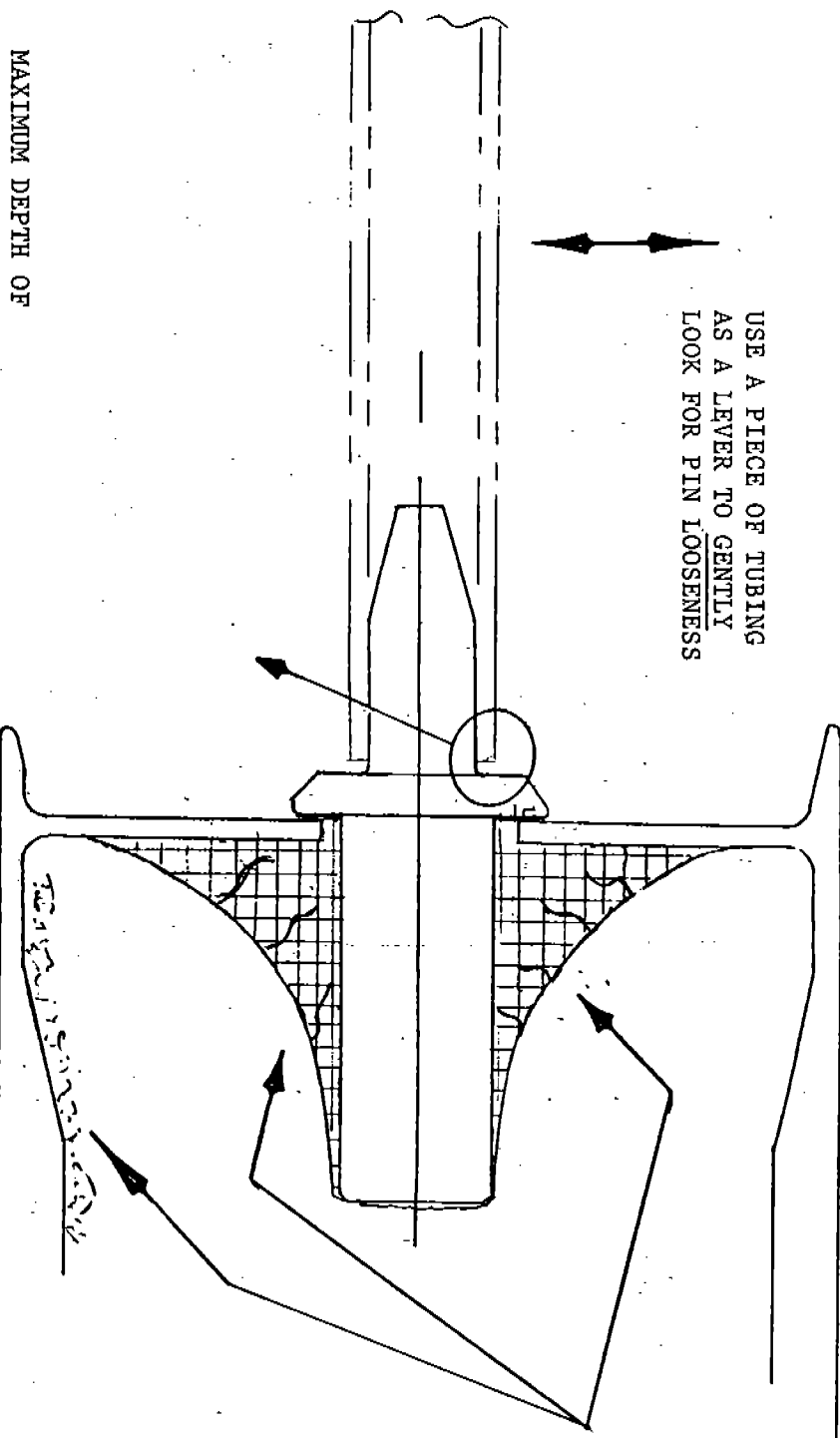
COMPLIANCE: The requirements of this Airworthiness Directive are mandatory. This Directive is issued pursuant to Air Navigation Regulations under the delegated authority of the Secretary of the Department of Transport and Communications.

FIG. 1.

WING TOP SURFACE

USE A PIECE OF TUBING  
AS A LEVER TO GENTLY  
LOOK FOR PIN LOOSENESS

INSPECT FOR CRACKS IN THE  
FILLING MATERIAL AND SIGNS  
OF WHITE DUST PRODUCED BY  
"FRETTING".



MAXIMUM DEPTH OF  
WEAR  
• 250mm

WING BOTTOM SURFACE

SECTION SHOWN IS LS1  
LS3 AND LS4 DIFFER IN DETAILS