

THE GLIDING FEDERATION OF AUSTRALIA

GFA AN 121
(ISSUE 1)

AIRWORTHINESS ADVICE NOTICE

TYPE AFFECTED: ES 59 Arrow.

SUBJECT: Miscellaneous airworthiness information.

BACKGROUND: This AN records airworthiness information which is useful to know.

APPROVED MODIFICATIONS:

1. **Control Column Ball Joint.** The Ball joint at the base of the stick is prone to wear and if the wear is excessive the stick may pull out of the pivot or push through the lower plate which reduces available control travel.

One possible solution is to remanufacture the ball joint in accordance with Drawing 1. The GFA in conjunction with the owners of a ES 60 Boomerang is developing a new junction similar to that which is fitted to the K7/K13 sailplanes. When this Mod is completed this AN will be updated to provide drawings of the Mod.

2. **Airbrake Foot Control.** GFA Mod 88/2-2 describes the optional installation of a foot controller for the airbrakes to aid disabled pilots. Copies of this Modification are available from the GFA Secretariat.

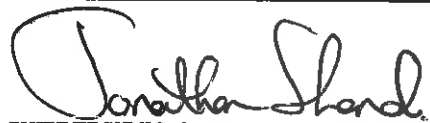
DEFECTS:

1. **Front skid.** The plywood and structure around the front skid is prone to breakage when the sailplane noses over on landing and should be carefully inspected at each annual inspection.

2. **Main wing fitting cracks.** A number of cases have been reported of cracking of the main wing attachment fittings on both the fuselage and the wing at the places shown in Figures 1 and 2.

If these cracks are found then the cracks should be ground out and rewelded.

SIGNED:


CHIEF TECHNICAL OFFICER AIRWORTHINESS

For and on behalf of:

THE GLIDING FEDERATION
OF AUSTRALIA

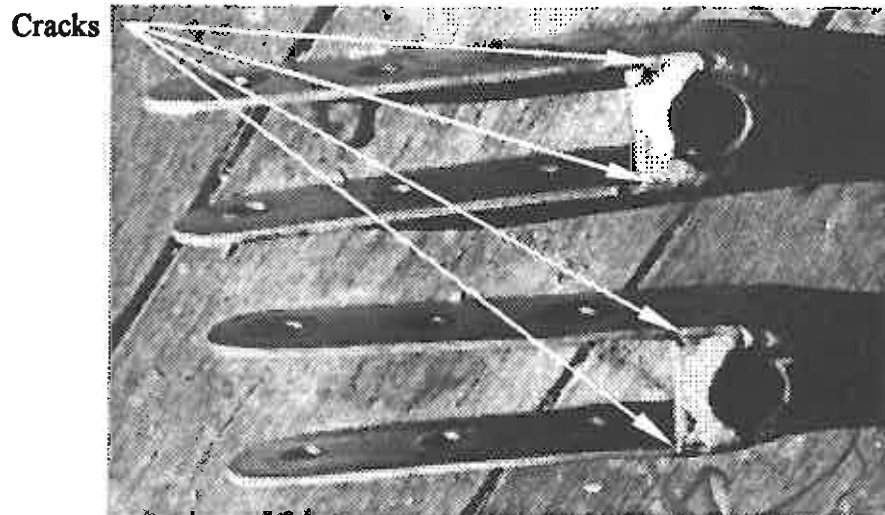


FIGURE 1 MAIN FITTINGS FROM FUSELAGE

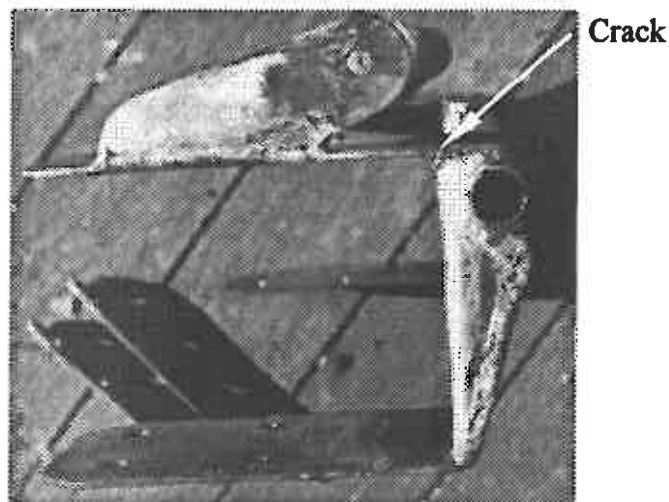


FIGURE 2 MAIN FITTING FROM WING

MAINTENANCE TIPS:

Very little maintenance data is available for the Arrow however certain data has been determined over the years, most of which is contained in the Type Data Sheet available from the GFA Secretariat. Other data which has been determined is as follows.

1. Control Surface Deflections. Harry Schneider has confirmed that the correct control surface deflections are:

Elevator Up	18°
Elevator Down	18°
Rudder	28° each way
Aileron Up (with neutral elevator)	25°
Aileron Down	10°

It would be expected that if the deflections are within $\pm 2^\circ$ of the above values then the system is within tolerance.

2. **Payload.** The Arrow has a relatively low Maximum Take off weight (280 kg) and if care is not taken when repainting components then the payload available may be reduced sufficiently to prevent most pilots flying the sailplane. When refabricating the sailplane use should be made of the modern fabrics which are significantly lighter than the original cotton.

DRAWING 1

