

**RESTRICTED**  
**LMU 81 VOL 2 PART 2 LEAFLET**  
**HARVARD E53**  
**CLASS A**  
**SERVICING INSTRUCTION SAAF/HARVARD/43A**

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- A. *Mainplane and Centre Section Bolting Angle - Parting of*
- B. *Harvard All Mks.*
- C. A flying accident has occurred due to bolting angle mainplane and centre section parting.
- D.1. Immediately on receipt of this instruction and at each subsequent Minor Servicing, proceed as follows:
  - a. Remove all bolting angle covers.
  - b. Support mainplane using correct wing stands.
  - c. Remove top bolting angle securing bolts retaining Qty 5 at front and Qty 5 at rear top.
  - d. Remove all paint on complete bolting angle.
  - e. Carry out dye penetrant crack detection on bolting angle.
  - f. Check top bolting angle for condition and security of rivets.
  - g. If no defects are found replace nuts and bolts. Nuts and bolts to be checked as in Para (D)2. k. i. and ii. before replacement (AL346/3).
  - h. Remove Qty 5 front and Qty 5 rear top nuts and bolts and carry out crack detection following same procedure.
  - j. Carry out crack detection and visual inspection on the bottom bolting angles in same sequence as for the top bolting angles.
  - k. Mainplane attachment bolts may be inserted into the bolting angle from either the inboard or outboard side of the bolting flange provided that the majority of the bolts on the upper surface and the majority of the bolts on the lower surface are inserted from the other. This arrangement will enable ease of torque in all bolts.

- I. Only nuts, bolts and torque values as laid down in handbook erection and maintenance AN01-60FFA-2 to be adhered to when installing new nuts and bolts. Torque value for 1/4" bolts to be 60-65 inch/lb and for 5/16" bolts 100-105 inch/lb.
- D.2. At each 3rd Minor (every 600 hrs) 6th Minor (every 1200 hrs) equalized servicing and at Minor (600 hrs) and Major (1200 hrs) Minor and Major-servicing, proceed as follows:
- a. Remove all bolting angle covers.
  - b. Support mainplane using correct wing stands.
  - c. Following the procedure as laid down for removal of mainplane, remove the mainplane from the aircraft.
  - d. Remove all paint on complete bolting angles on mainplane and center section.
  - e. Carry out dye penetrant crack detection on bolting angles on outside and On inner side of angle, pay particular attention to area between bolting holes for cracks, as it was found that most cracks initiated on the inner side at those areas.
  - f. Check the bolting angle for condition and security of rivets.
  - g. Remove inspection cover plates on centre section at location of support assy P/N 77-33106 LH and support assy No 77-33106-1 RH checking locating nuts and bolts and support assy for serviceability. Support assy to be cleaned and crack detected.
  - h. If no defects are found, replace mainplanes.
  - j. Replacement of mainplane attachment bolts can be carried out as per (D) 1, para. k. and 1.
  - k. When re-using existing nuts and bolts only applicable to para. (D) 2., proceed as follows before re-using.
    - i. Check bolts for over torque or any deterioration.
    - ii. Check nuts for structural failure, test lock ability of nuts by turning nut into bolt with fingers. If nut can be turned through locking inserts, nut must be replaced.

- I. Where the flying controls have been disturbed carry out a dual inspection of the controls in accordance with LMU 81 Vol. 2 Part 2 Airframe A1, Issue 4.

D.3. Sequence of operation for repainting of items being crack detected:

- a. Ensure that the surface is clean and thoroughly dry.
- b. Apply one coat of primer to SPEC SABS 723/1962 Saaf Stock No 8010-18-401-9017.
- c.
  - i. Mainplane Top. After replacing bolting angle cover plates apply two coats of paint (SAAF Stock No 8010-18-401-9004) lacquer Dark Sea Grey. BS 381C/638 SPEC BSX29 for a length of 30 cm to outboard side of plate to eliminate stains on Day-glo caused during crack detection operation.
  - ii. Mainplane Underside. Use lacquer Aluminum paint (SAAF Stock No 8010-18-401-9003) SPEC BSX29 for a length of 30 cm to eliminate stains on Day-glo materials amended paint scheme drawing AD5845 refers.
- d. The paint scheme is only for protection against corrosion and is not to be overcoated with Day-glo materials.

*NOTE: Where the previous issue of this SI has been embodied on aircraft at any stage that does not correspond with the servicing cycle, the following steps are to be taken:*

- 1) Where it has been embodied on a aircraft more than 100 hrs before the next minor 200 hrs inspection, part (D)1.a. - 1. of this SI is to be embodied at the first minor inspection without replacing of nuts and bolts as per para. (D) 1. g.
- 2) Where it has been embodied less than 100 hrs before the next minor, part (D) 1. a. – 1. is to be carried out on the aircraft at the second minor (200 hrs) inspection without replacement of nuts and bolts with new AGS as per para. (D) 1. g.
- 3) If the first minor as per para 1. or 2. at which this SI is to be carried out is the minor 600 hrs para. (D) 2. a. - 1. is to be carried out and if the next servicing as per para. 1 or 2, is the major 1200 hrs servicing, para. (D) 2. a. - 1. is to be carried out.
- 4) At the first instance that this SI has been carried out on an aircraft, it must be entered in the form 700 and thereafter the schedule as per para 1, 2, and 3 must be repeated.

5) All nuts and bolts are to be replaced with new AGS every 1200 hrs irrespective of conditions (AL348/9).

- E. Record on the Supplementary Record Sheet of the Servicing Schedule.
- F. Report any defects found to HAIS by signal.
- G. Nil.
- H. Nil.

*Note: Original was missing i. lettering on the first and second page.*