

M 1232/84

SERVICE BULLETIN December 9, 1982 M20 - 26

**SUBJECT** Rudder bottom hinge bracket.

**EFFECTIVITY** PIK-20, B and -D all serial numbers.

**COMPLIANCE TIME** Procedure 1 before next flight and after that during every annual inspection or until the repair according to procedure 2 has been completed.

Procedure 2 if fractures are found during the procedure 1 inspection.

Procedure 3 commended to be completed as soon as possible.

**DESCRIPTION** Due to a too small bending radius of the hinge bracket suspension flange, fractures have been found on the corners of the hinge suspension flange. The vibration caused by a hard rubber tail dolly wheel may in some cases assist in the formation of the fractures. It is possible that when the fractures get large enough the bottom hinge could peel off and jam the rudder control.

**INSTRUCTIONS** Procedure 1

Inspect the corners of the suspension flange of the rudder bottom hinge bracket as follows:

- 1) Loosen the rudder control cables from the brackets.
- 2) Loosen the M8-Nyloc lock nut on the rudder bottom hinge through the hole on the bottom of the rudder. Lift up the rudder so that the hinge taps of the rudder come off from the ball bearings.
- 3) Remove the sealing cloth which is glued with contact glue.
- 4) Inspect the corners of the hinge bracket with at least 5 x enlarging magnifying glass in good lighting. If no fractures are found, fasten the rudder and control cables and mark the inspection executed in the sailplanes log book. If fractures are found, make the repair according to the procedure 2.

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Procedure 2

If fractures are found, repair them as follows:

- 1) Measure the distance of the ball bearing center from the spar, note the measuring result, open the lock nut and loosen the ball bearing. Loosen the hinge bracket from the rear spar of the vertical stabilizer, the hinge has been attached with six hexagon screws and epoxy-glue. A sharp downward knock on the head of the hinge will loosen the gluing. Note that the nuts and large washers of the hexagon screws on the other side of the spar have to be removed first through the setting hole on the spar.
- 2) Remove the paint and coating from the area that will be welded by sand blasting (cf. item 3). Coating has to be removed carefully by removing bath. The coating material can be identified as follows:
  - cadmium, yellow colour
  - zinc, clear
- 3) Make and weld the bracings on the suspension flange according to the drawing. NOTE! Weldings can be done only by a person who has an aircraft welding licence. Before assembling the hinge bracket has to be sand blasted, the attaching holes has to be drilled and the whole bracket has to be coated (cadmium or zinc) and painted.
- 4) Attach the hinge bracket with epoxy-glue and attaching screws to the original tightness. Turn the ball bearing to its original position and tighten the lock nut.
- 5) Glue the rudder sealing cloth. Attach the rudder. Fasten the control cables.

Procedure 3

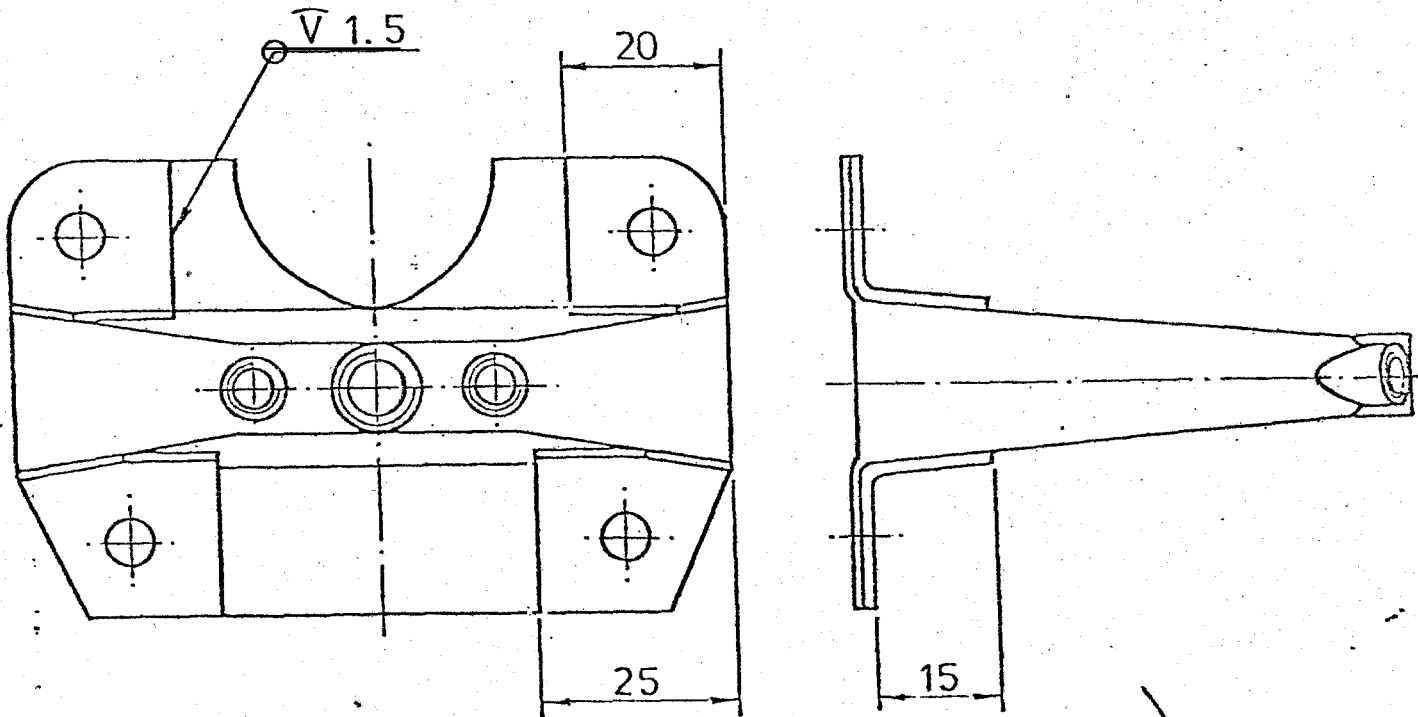
Change the hard rubber tail dolly wheel for a soft air filled tire to reduce the vibration.

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MATERIALS CrMo Steel sheet LNi.7214.4  
SAE 4130 or equivalent.  
S = 1,5 20 x 35 mm 4 pcs.

WEIGHT AND BALANCE No effect.



APPROVED BY THE NATIONAL BOARD OF AVIATION IN FINLAND

11.3.1983 *Jouko Porttila*


 Jouko Porttila  
 HELSINKI  
 National Board of Aviation