

AEROPRAKT INFORMATION BULLETIN

INSPECTION OF CARDAN RINGS AND AMMENDMENT TO AIRCRAFT FLIGHT MANUALS OF A-22 AND A-22L AIRPLANES.

IB A-22-13

MANDATORY

Repeating symbols:

Please, pay attention to the following symbols throughout this document marking important information.

- ▲ **WARNING:** Identifies an instruction, which if not followed may cause serious injury or even death.
- **CAUTION:** Denotes an instruction, which if not followed, may cause severe damage.
- ◆ **NOTE:** Information useful for better handling.

1) Planning information

1.1) Aircraft affected

All versions of Aeroprakt-22 and Aeroprakt-22L aircraft serial No. 1-344, 346-349, 351, 354, 355, 360, 360.

1.2) Reason

It was found out that an excessive tightening of the nut on the bolt joining the cardan ring to the flaperon shaft results in a significant deformation of the cardan ring and of the flaperon shaft end which causes cracks in the cardan ring. To avoid this excessive deformation of the joint the nut must be tightened with a torque of 2 Nm.

1.3) Subject

Inspection of the cardan rings and ammendment to the AFM of A-22 and A-22L aircraft.

1.4) Compliance

For all aircraft in operation the inspection is to be done immediately. If cracks are detected in the cardan rings, the work described in this bulletin is to be carried out before resuming flights. AFM ammendment must be made for the aircraft mentioned in 1.1.

1.5) Approval

The technical content of this Information Bulletin has been approved by Aeroprakt

1.6) Manpower

Estimated man-hours:

Work per 3.2 is performed within 3 hours.

1.7) Mass data

Mass change – none.

1.8) Revision of other documents

Aircraft Flight Manual.

1.9) Spare parts

Cardan rings with detected cracks must be removed from operation and delivered to the local dealer.

2) Spare parts information

2.1) Spare parts cost

Price of new parts: Cardan ring (1 pc.) – 75 Euro, delivery – at the expense of customer.

2.2) Special tools

Calipers, 12 mm wrench, torque wrench, vice.

3) Instructions

3.1) Inspection and measurement of cardan rings

1. Inspect the cardan rings of the right and left flaperon for cracks (see fig. 1). Replace the cardan ring if any crack is detected.
2. If “S” dimension exceeds 55.0 mm check the nut tightening using torque wrench. If there is a gap between the flaperon shaft and cardan ring then the flaperon shaft deformation must be removed.
3. If “S” dimension is less than 55.0 mm then the flaperon shaft deformation must be removed and the cardan ring must be replaced.

◆ **NOTE:** Inspection and measurement of the cardan rings must be done on both right and left sides, although fig. 1 shows only the right side.

3.2) Removal of the flaperon shaft deformation and replacement of the cardan ring

1. Remove the locking pin and undo the nut from the vertical bolt joining the flaperon shaft with the cardan ring. Remove the bolt.
2. Disconnect the vertical control pushrod from the flaperon shaft arm.
3. Move the flaperon shaft towards the flaperon and draw the inner shaft end out of the bearing in the FEM lever while pressing the lever away from the shaft. If necessary change position of the FEM lever.
4. Remove the split pin and undo the nut of the horizontal bolt, joining the cardan ring with the flaperon. Put down the trailing edge of the flaperon and remove the bolt and the cardan ring.
5. Removal of the deformation of the flaperon shaft must be done in vice with protecting pads. To ensure the required dimension of 42 mm between the outer faces of the bushings apply the squeezing force "P" (see fig. 3) to the shaft tube at right angle to the bushing axis.
6. Installation of the cardan ring and flaperon shaft must be performed in order reversed to the one described in steps 1-4. The nuts on bolts of the cardan ring must be done with torque 2 Nm (see 1.2).

3.3) Ammendment to the AFM of A-22 and A-22L aircraft

3.3.1) In section "Airplane assembly" insert:

"The torque for tightening bolts and nuts (unless specified otherwise) are as follows:

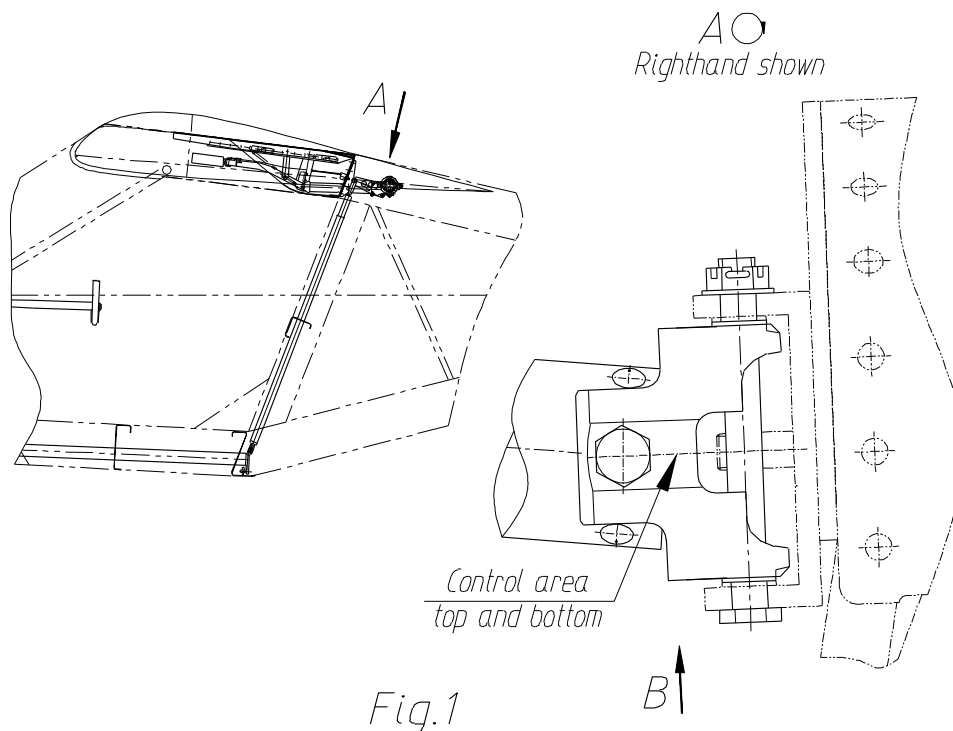
1. For the static joints joints with spacing inserts (spacers, spherical bearings, etc.) according to the table:

Metric fasteners	Torque, N·m (lb·ft)
M5	6 (4.4)
M6	10 (7.4)
M8	15 (11.0)
M10	25 (18.4)

2. For the movable joints where bolts serve as hinge axle the nuts tightening must be done only to remove the axial play (gap) while preserving the rotational freedom in the joint.
3. Torque for tightening the nuts on bolts joining the cardan rings of the aileron control system – 2 Nm. If there is an axial gap between the shaft and cardan ring with the specified load applied, remove the shaft deformation.

Appendix:

Pictures below contain additional information.



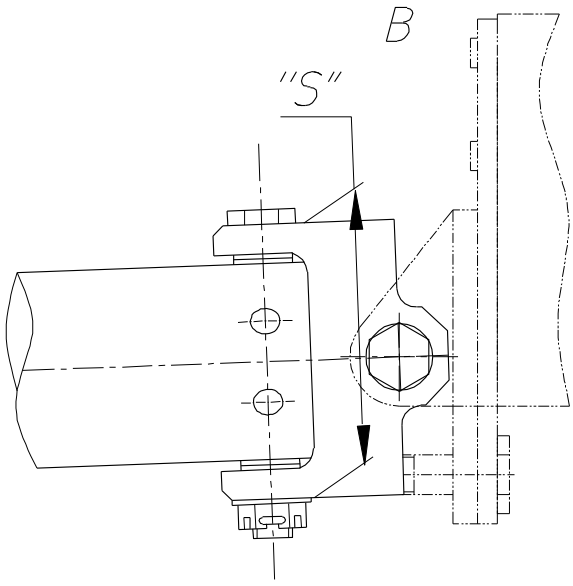
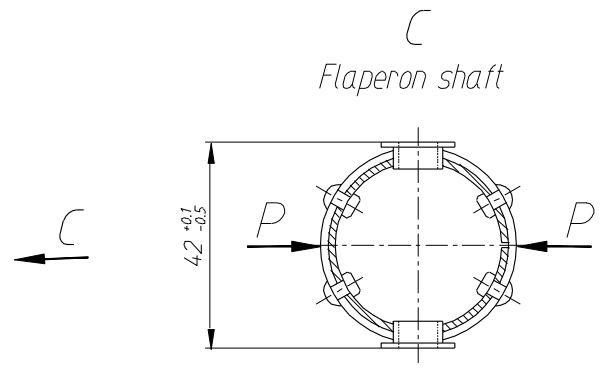


Fig.2



C
Flaperon shaft

Fig.3