

M.I.C.M. - C.N.I.A.R.
INTREPRINDEREA DE CONSTRUCTII AERONAUTICE
2200 B R A S O V

MANDATORY SERVICE BULLETIN

IS-28M2/EO-10

APPROVED BY : DEPARTMENT OF CIVIL AVIATION
with no. 19321/07.12.1982

PRODUCT : IS-28M2

OBJECT : ADDITIONAL INSTRUCTIONS CONCERNING THE
FLYING CONTROLS CHECK

COMPLIANCE : REVISION RECORD CARDS no. 412/13.11.1982 and
no. 413/13.11.1982

DATE : the 24th November 1982

IS-28M2/EO-10

Page 1/6

1. PLANNING INFORMATION

A. Applicability

The bulletin is applied to all the IS-28M2 aircraft :
- by the user - to the aircraft under servicing ;
- by the manufacturing plant - to the aircraft under manufacturing or those in stock until delivery.

This bulletin shall be applied by the user not later than the 1st March 1983.

B. Reason

- The detection of some aged and corroded brass wire locks of the control cables turnbuckles for rudder and elevator, in the course of time. If these defects are not detected during the inspections provided in the maintenance manual, they can result, in time, in the lockwires breaking. If the tension loosening within the control cables is not detected during the daily and preflight inspections, the controls elements separation can finally result.

- In case of incorrect ground handling if ailerons are forced, or if during an aerobatic flight following a maneuvering incorrectly carried out, the glider performs a tail slide and the control column is slipped from hand or is suddenly deflected up to the limiter, an additional stress may occur within the ailerons control. In this case the hinge moment created can deflect the ailerons upwards, above the rated deflection of 20° and when an angle of approx. 40° is reached, an additional bending stress occurs on the control rod connected to the ailerons.

C. Description

Check the control cables turnbuckles lock wires for elevator and rudder and replace them if corroded or cracked.

Visually check the control rod actuating the ailerons, after its removing from wing and replace it with a new one if bent.

Enlarge the cut-out in the aileron leading edge (through which the above mentioned rod passes) according to the dimensions on page 6/6 figure 2.

DATE: the 24th November 1982

IS-28M2/EO-10

Page 2/6

In order to increase the aileron control parts strength, in case of stresses such as those presented to heading 1.B, which are not normal cases, but which can however occur due to servicing faults, it is recommended to replace the relevant control rod with another part, made of steel (in lieu of aluminium alloy).

D. Compliance

Revision Record Cards no.412 and 413/13.11.1982.

E. Accomplishment

To the motor gliders serial no.62 and subsequent and to these in stock, the bulletin is applied by the manufacturing plant, including the recommended modification concerning the steel rod replacement. To the gliders under servicing the bulletin is applied by the user, not later than the 1st March 1983.

F. Material - Cost and Availability

The materials are delivered, on request, by the manufacturing plant. The bulletin application as well as the materials used are at the Buyer's expense.

G. Tooling

Tool kit, mill for aluminium alloys.

H. Weight and Balance

Not affected.

I. References

Flight and Maintenance Manual and heading 2.B of this bulletin.

J. Documents Affected

Amendment 6 to the Flight and Maintenance Manual IS-28M2, 3rd issue, amendment 3 to the Flight and Servicing Manual IS-28M2/80H 1st issue and amendment 26 to the Flight and Maintenance Manual IS.28M2, 2nd issue.

2. USING INSTRUCTIONS

A. Work Preparation

Open the inspection covers in order to get access to the control cables.

Remove the ailerons from wing.

DATE : the 24th November 1982

IS-28M2/EO-10

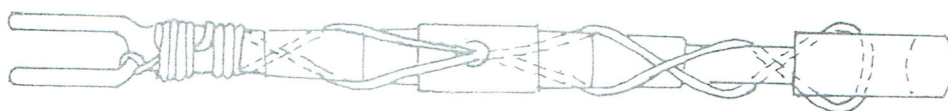
Page 3/6

B. Application

Check the control cables turnbuckles lockwires and remove those showing aging, corrosion or cracks.

To replace the control cables turnbuckles lockwires for elevator dismount the fuel tank, if need be.

Lock the turnbuckles by one of the methods specified by the FAA TECHNICAL STANDARD ORDER TSO-C21. The simple wrapping is recommended, according to the solution below :



Visually check the control rod, proceeding as follows; (see Figure 1, page 6/6).

- (a). Remove the control rod from the wing lever by unlocking and by removing the nut and screw (item 1);
- (b). Measure the control rod length between the attachment pins axes at ends (size "1") - to avoid some possible later adjustments ;
- (c). Unlock the nut (item 2) and remove the eye (item 3).
- (d). Visually check the eye: if bent replace it with a new one.
- (e). Reassemble the parts, in reverse order, adjusting the rod length to size "1".

Enlarge the cut-out in the ailerons leading edge to the dimensions indicated on page 5/6, figure 2, by using a mill. Check the doubler item 4 (fig.2) riveting to the skin. The number of rivets item 5 (fig.2) shall not be reduced by milling to less than 2 (if required, a new rivet shall be driven in). One of the rivets fastening the binding nut item 5 (fig.2) can be removed by milling. If the recommended modification is also applied to point C, third paragraph, the original rod is replaced with a new one (made of steel), after having been adjusted to the length "1". If, applying the point (d) above, the eye is found distorted and the Buyer does not possess a spare part, on request, all the rods (made of steel) shall be delivered, applying thus directly the recommended modification.

DATE: the 24th November 1982

IS-28M2/EO-10

Page 4/6

C. Using Instructions

None.

3. MATERIAL INFORMATION

A. Material List

Use wires made of stainless steel, galvanized steel or soft brass (certified aviation materials) of 0.8 to 1.0 mm dia., according to the FAA TSO-C21 indications.

The eye part no.30.AD.02.063 of the user's spare parts stock, need be.

If necessary, the manufacturing plant delivers the steel rod assembly.

B. Tooling List

- Tool kit

- End mill for aluminium alloy of 10 to 12 mm dia.

C. Supply indications

The spare parts are delivered by the manufacturing plant, on request, at the Buyer's expense.

4. IDENTIFICATION

The present bulletin application will be mentioned in the glider log card.

DATE: the 24th November 1982

IS-28M2/EO-10

Page 5/6

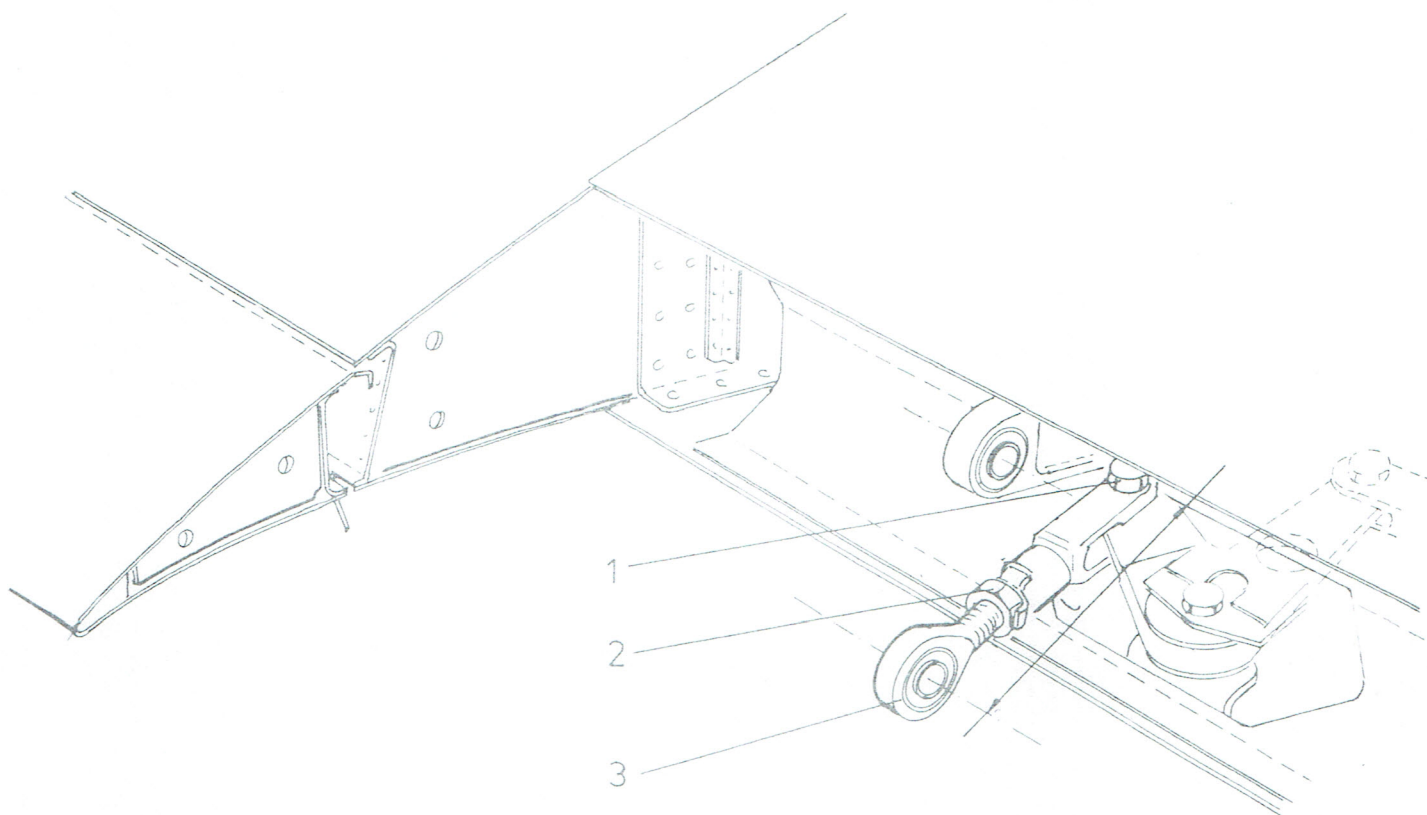


Fig. 1

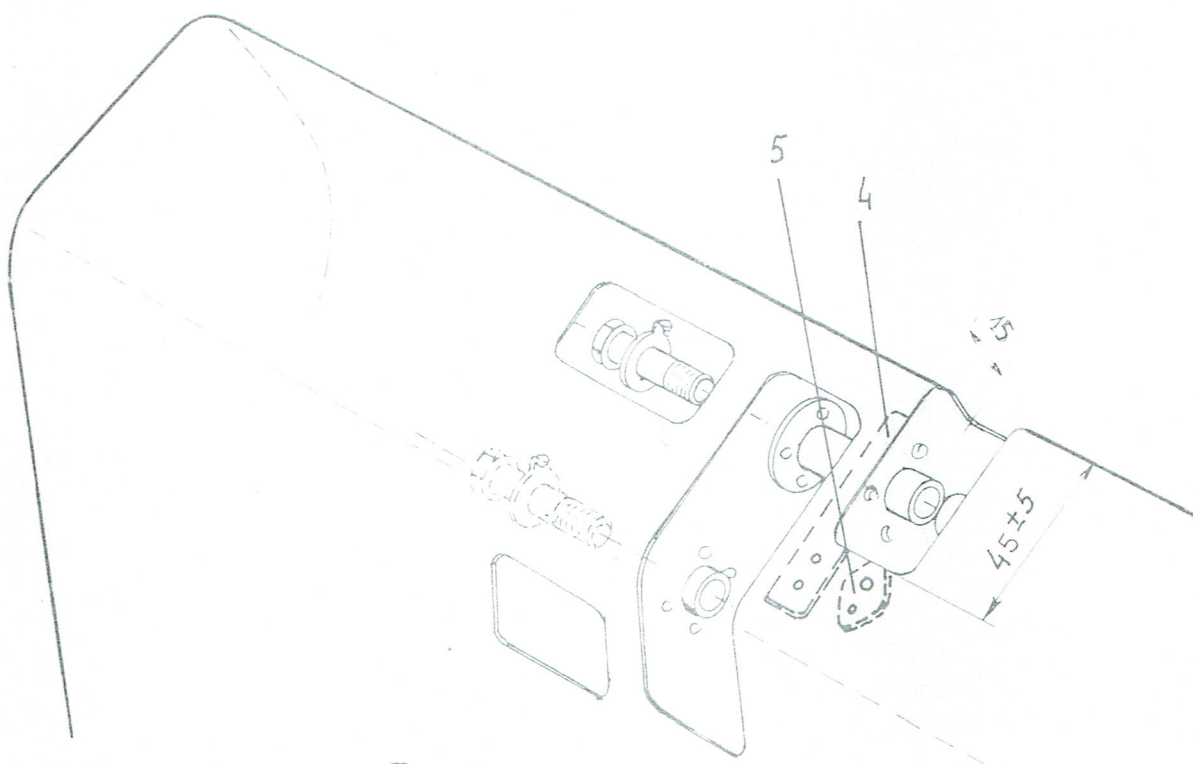


Fig. 2

REVISION RECORD CONTINUATION SHEET

All Revisions in the text are indicated by a marginal vertical line and the revision number.

Rev. No.	No. of Pages	Description of Revision	Revision Date	Date Incorporated	Signature
Am. SEL No.1	P.V.1.A; PV1.1.A; 1.2.A; 1.3.A; 2.2.A; 2.6.A; 2.11.A; 2.12.A; A.7.1.A; 4.31.A; 4.38.A.	Modifications available only for serial numbers 04,07,09,23 and 33	04.81.		
1.	P.V.1 4.14.A 4.38.B	Fuel tank purging cock (for the serial no.44 and subs.)	14.09.81.		
2.	P.V.1.B; 4.18.A; 4.42.A; 4.43.A; 4.44.A; 4.45.A;	Time between two major overhaul increase	23.10.81		
3.	5.9.1	Trim tabs fitting on ailerons (optional)			
4.	5.10.1 5.10.12	Dittell FSG 60 M Radio installation (optional)			
5.	P.V.1.C II.4, 3.26.A	Landing overshoot			
6.	P.V.1.D 3.21.A 4.4.A	Flying controls inspection			

3.1.16.4. Spinning (cont'd)

The delay in terminating the spin depends on C of G position. With aft C of G positions and up to 3-4 turns the delay will be 1/4 turn. With additional turns the delay is 3/4 turn.

With forward C of G positions the spin termination is under 1/4 turn or may occur suddenly.

The spin may be carried out in any configuration, but with the flaps out, do not exceed 1/2 turn, as during the pull-out the flap deflection limit speed of 140 Km/h (75 Kts) is exceeded. In this case the spin termination is abrupt.

7 | With the flap in -5° position, all considerations of smooth configuration remain valid.

The spin with the dive brakes out causes a pronounced nose drop with an increase in speed particularly at forward C of G positions.

It is not, therefore, recommended to make more than one turn of the spin with the dive brakes out. Spin termination with the dive brakes out also depends on the C of G position, and has the same values as in the smooth (dive brakes closed) configuration.

7 | The controlled spin is performed with engine off.
In case of spin with engine running, the behaviour does not substantially change, the engine being a low power-one.

3.1.17. Post-Flight Check

Check the following minimum points :

- All the electric switches, OFF.
- Inspect the battery, neutralise any electrolyte leaks.

CAUTION !

6 | In case of carrying out a tail slide as a result of an incorrect aerobatic manoeuvring, if during the descent the control column was kept near the neutral position, the control rod item 20 and 36, page 4.25. shall be checked before the next flight. If the rod is distorted (bent) it shall be replaced.

4.1.1.3 Wings Fig. 4.1.1.3

Rigging may commence with either wing and requires a minimum of three persons, two at the wing root and one at the wing tip. The wing is to be kept horizontal at all times. Simultaneous matching of the main fuselage/wing fitting and the rear fuselage/wing fitting is controlled by the three persons.

Care is to be taken at all times to ensure no undue force is exerted on the following: aileron, flap or dive brake control systems.

The main rigging pin (5) is introduced from the top and the rear rigging pin (4) from front to rear.

Lock main rigging pin (5) with locking pin (6) and rear rigging pin with locking pin (12).

Trestle wing,

Rig second wing as first wing.

Remove trestle from first wing.

6 | DO NOT GRASP THE AILERONS OR FLAPS DURING THE WING LIFTING

4.1.1.4 Ailerons Fig. 4.4.2

Connect and lock with locking pin (44) aileron circuit at each wing/fuselage break. Check clearance at rigging point and ensure full, free and normal operation of control system.

4.1.1.5 Flaps Fig. 4.4.4

Connect and lock with locking pin, flap circuit at

Ref. No.	Revised pages	Description of revision	Date of approval	Date of insertion	Sign.
19.	Appendix 12	Anticollision Lamps Installation (ACL900-DITTEL) OPTIONAL	12.11.1980.		
20.	Appendix 13	Position Lights Installation (OPTIONAL)			
21.	0.7.F; 4.13.2.B	Landing gear warning system microswitch mounting (for serial no.40 and subs.)			
22.	07.G; 3.17.A; 4.7.C	Additional inspection for the landing gear.	15.04.81.		
23.	Appendix 14	Landing gear microswitches mounting (optional)	14.03.1981.		
24.	4.11.C.; 4.11.1.B; 4.11.2.B; Appendix 15	Time between two major overhaul increase.	22.10. 81.		
25.	Appendix 16	TRIM. TABS FITTING ON ALERONS (OPTIONAL)			
26.	3.15.A 4.4.A	Flying controls inspection			

3.1.17.- After Flight Check

Check at least the points below:

- If all the electric contacts are off
- Check the storage battery lest any acid leakages should occur
- Check the cell general condition, observing particularly if after flight some over stressing or fatigue marks occur (local distortions, loose rivets cracks, etc.)
- Check the surface condition and clearance.
- Check the landing-gear, damper, wheel and tyre condition
- Check if oil leakages occur under the engine compartment. If yes, remove the cowl and detect the cause.
- Check the propeller condition (appearance, clearances) and rotate the propeller in order to detect any possible engine troubles.

CAUTION: Before rotating the propeller, check if the magneto contact is 'cut' (0 or OFF position). Carry out the propeller rotation so that the propeller rotation plane be protected.

CAUTION

26 In case of carrying out a tail slide as a result of an incorrect aerobatic manoeuvring, if during the descent the control column was kept near the neutral position, the control rod item 20 and 36, page 4.15 shall be checked before the next flight. If the rod is distorted (bent) it shall be replaced.

Put in the main longeron double bolt from top to bottom and then set the rear fitting precisely and put in its bolt by moving the wing tip fore and aft gently.

When the wing is brought near the fuselage take care of the aileron, flap and diving brake control rods, lest should be forced and, after wing setting, to permit a proper coupling. After immersing the wing fastening bolts, set a trestle against the wing limit in order to prevent a possible fuselage overturning.

In the same way mount the second wing, taking care that, immediately after fastening the second wing in bolts, the trestle set under the first wing, should be removed, thus preventing any distortions of the wing skin during the next handling operations.

Couple the aileron control rods, flaps and diving brakes of both wings .

Secure the wing junction main bolts by clips.

Before mounting, the sheet bands (fixed by springs) between the wings and the fuselage central plane check if the controls operation is proper and smooth (free of jammings). Check the wing fastening fitting clearance.

26 | DO NOT GRASP THE AILERONS OR FLAPS DURING THE WING LIFTING.

4.1.2.- Dismounting

Dismounting shall be carried out in the mounting reverse order.

When uncoupling the diving brakes, it is desirable that the control should be unlocked in the cockpit, thus preventing the rod stress and the bolts removal.

All bolts (which should be not lost) shall be left in the fitting on the fuselage.

The last dismantled component shall be the stabilizer.