

BULLETIN NO 108/94 SWIFT

Date of issue: 20. June 1994

Ref: New pages to the Technical Service Manual

Way of introducing: compulsory

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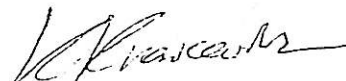
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Civil Aircraft Inspection Board (IKCSP)This is the translation of the original Polish text approved by
the Airworthiness Authority

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1. Grounds for introducing this Bulletin

Due to the users' remarks the manufacturer decided to extend the basic information set about the glider maintenance given in the Technical Service Manual.

2. List of gliders covered with this Bulletin

All gliders up to S.No. 118

3. Description of the change introduced by this Bulletin:

1) Insertion of description of the assembling and disassembling of the canopy
pages: 18, 19A

2) Insertion of description of the control stops adjustment
pages: 21, 23, 24

3) Insertion of description of the wheel brake adjusting
page: 26

4) Insertion of new items to the Routine Maintenance - wheel brake adjusting and checking of the rudder stops state
page: 37

5) Insertion of new item to the Periodic Maintenance after 100 fh.
page: 38

4. List of enclosures:

new pages: 2, 18, 19A, 21, 23, 24, 26, 37, 38 to the Technical Service Manual

5. Final statements:

The old pages in the Technical Service Manual 2, 18, 21, 23, 24, 26, 37, 38 lost their validity.

0. LIST OF REVISIONS

The revisions in this Manual shall be marked with the revision number and with the vertical line on the lefthand side of the text.

Item	Page	Revision	Date	Signature
1/94	18	Description of assembling and dis-assembling of the canopy	20. Jun. 94	
2/94	19A	Description of assembling and dis-assembling of the canopy	20. Jun. 94	
3/94	21	Description of the control stops adjustment	20. Jun. 94	
4/94	23	Description of the control stops adjustment	20. Jun. 94	
5/94	24	Description of the control stops adjustment	20. Jun. 94	
6/94	26	Description of the wheel brake adjustment	20. Jun. 94	
7/94	28	New item to the Routine Maintenance	20. Jun. 94	
8/94	28	New item to the Routine Maintenance	20. Jun. 94	
9/94	38	New item to the Periodic Maintenance	20. Jun. 94	

2.1.5. Assembly of the Ailerons (Fig. 6)

The aileron is assembled to the wing supported, with the lower surface upwards. It is possible, if necessary, to assemble or disassemble the aileron on the wing rigged to the glider.

Dissecure the end of aileron control short push-rod (1).

Put the nose of the aileron, deflected several degrees upwards (downwards when the wing is rigged to the glider), and shifted slightly outwards, into the wing well and mate the hinge line up with the hinge pins (2) and shift inwards, inserting the pins into the bearing holes (3).

Put on the washer (4) and fasten the nut (5) on the central hinge pin. Secure the nut with the safety pin (6).

Connect the aileron control system and secure the push-rod end.

Disassembly requires the sequence in reverse order.

2.1.6. Assembly of Removable Ballast

The place for the removable ballast is in the fuselage nose at the left side of the battery housing. The ballast weight should be installed on the screws anchored in the fuselage shell, fastened with the butterfly nuts and secured with a brass locking wire of 0,8 mm diameter.

Disassembly requires the sequence in reverse order.

Protect the weight against loss.

2.1.7. Disassembly and assembly of the canopy

To disassemble the canopy make the emergency jettison in the fully opened position, protecting against the fall down.

For assembling the following procedures should be performed:

- put the canopy onto the hinge triangular plate, so that the sharpened ends of adjusting screws of hinge (1) are fitted into the drag nests of canopy base (2).

- entering the hand through the front part of instrument panel cover (3) deflect the click lever (4), insert the lock (5) into the hinge bar slot (6) and resolutely push the lock lever (4) to the base when the lever (4) clicks the strong click should occur.

In case of weak or no click the lock (5) should be screwed-off by 1/2 or 1 turn. In case the lever does not click the lock should be screwed-off.

Rev. 1/94

FIGURE 6A

ASSEMBLY OF THE CANOPY

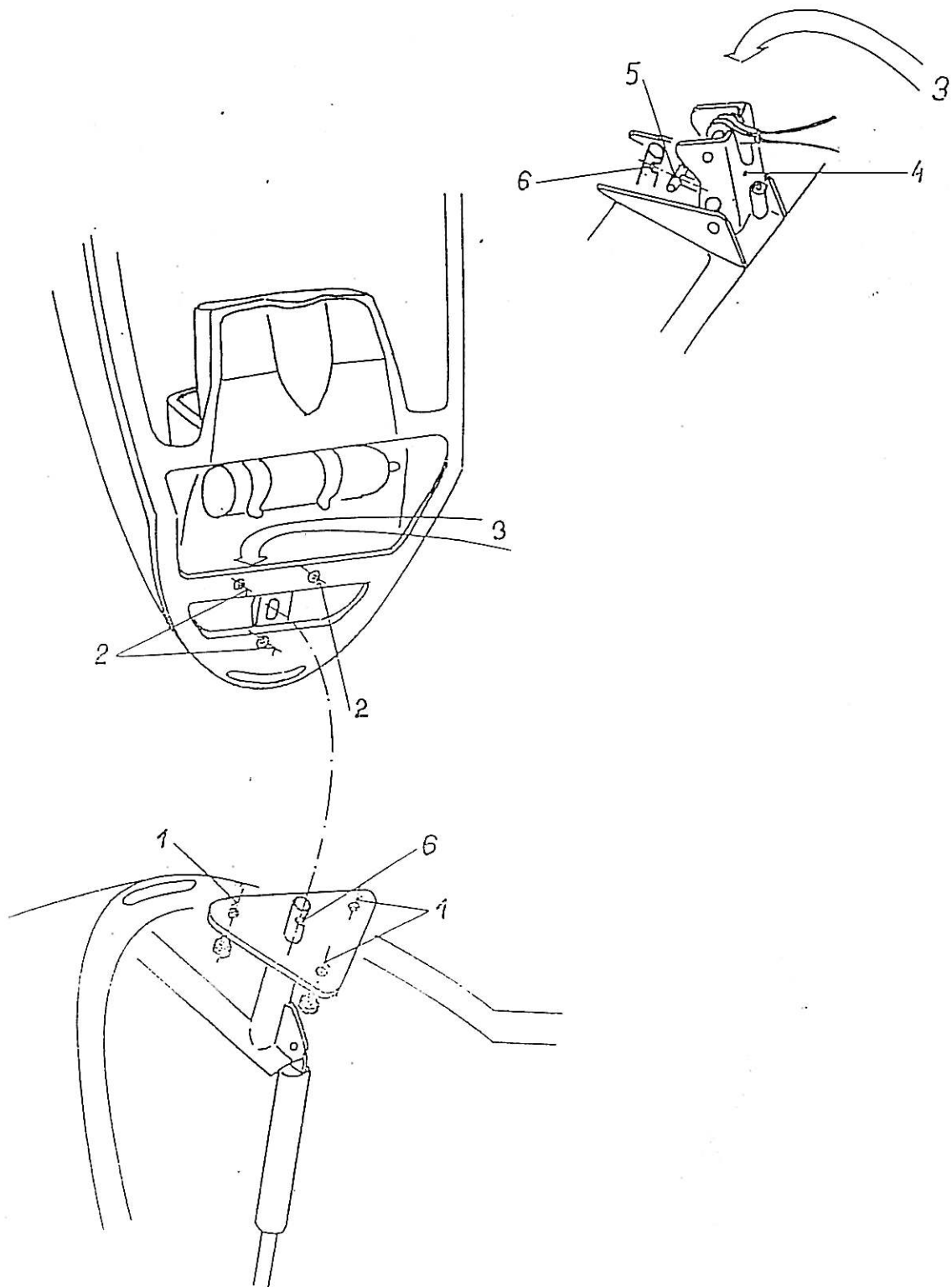
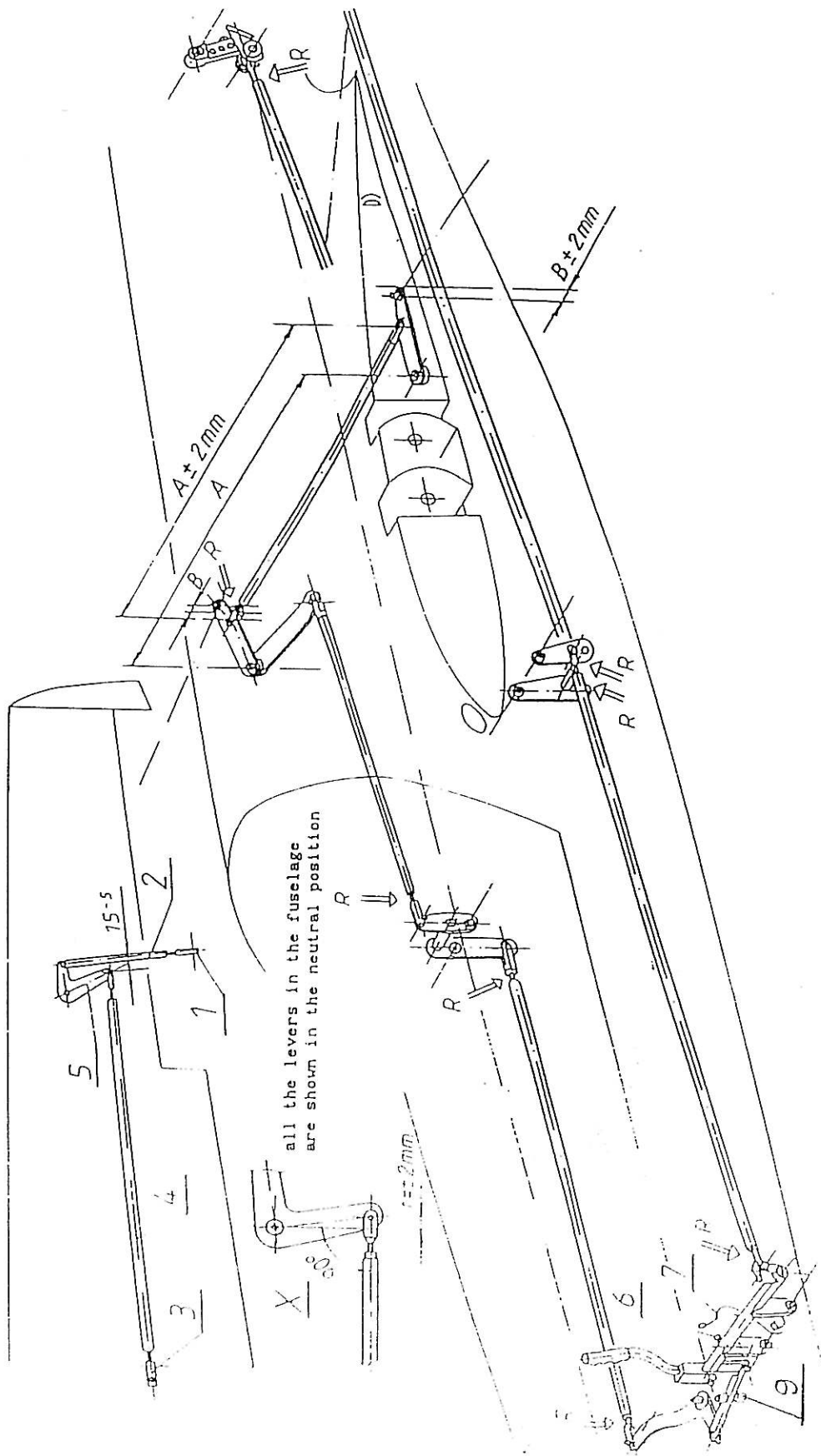


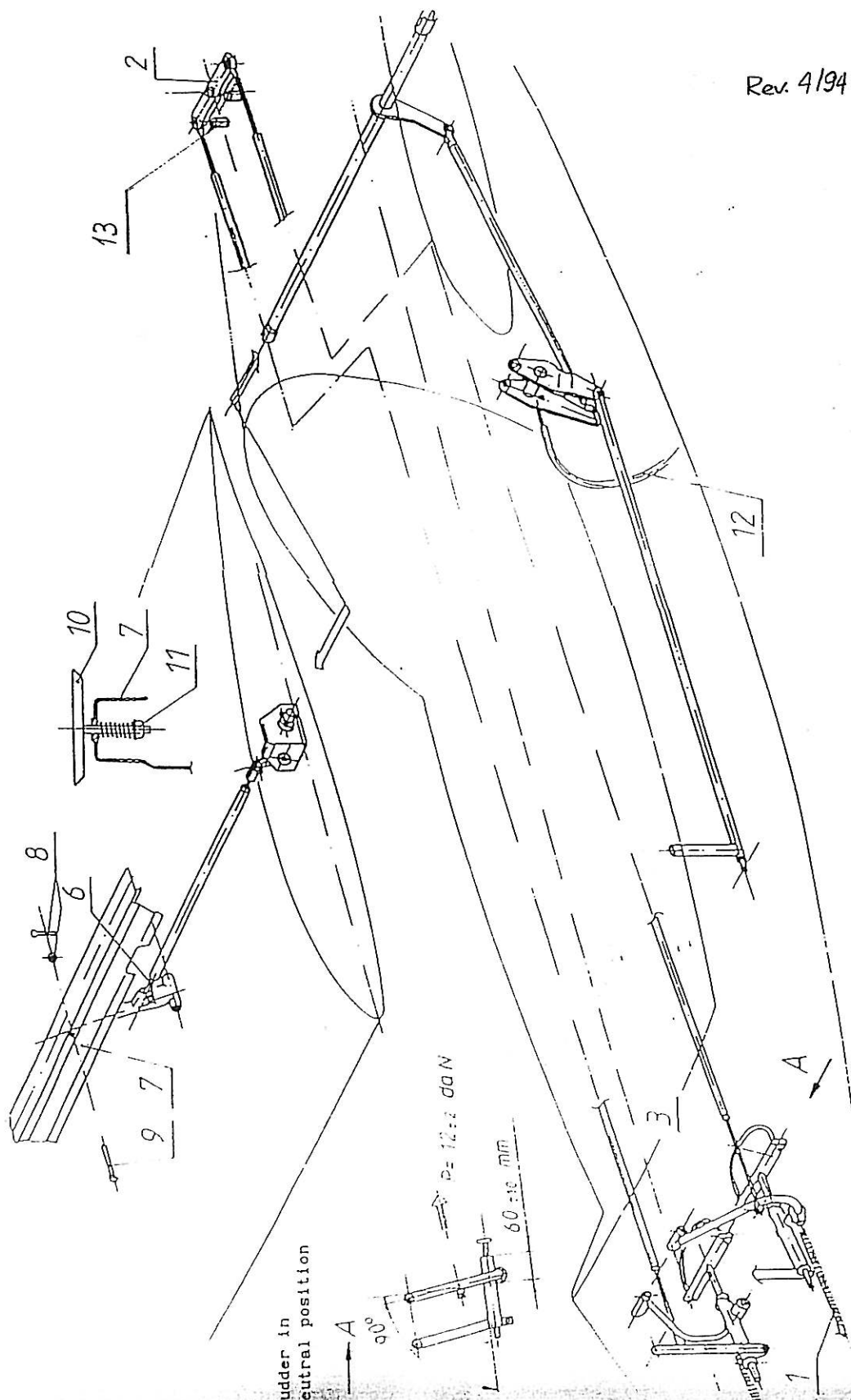
FIGURE 7

CONTROL SYSTEMS OF AILERONS AND ELEVATORS



Rev.
3/34

FIGURE 8
CONTROL SYSTEMS OF RUDDER AND AIR- BRAKE



2.2.5. Allowable Plays on the Control Stick

The allowable play measured at the end of the control stick:-

- with the elevator locked

$$\delta_h = \pm 3 \text{ mm}$$

- with the aileron locked

$$\delta_1 = \pm 3 \text{ mm}$$

2.2.6. Allowable Friction Forces in the Control Systems

The allowable friction forces in the control systems, measured at the center of the stick hand-grip (pedal footplate) for the control surfaces in the neutral position are:

- for the aileron 0,2 ÷ 1,0 daN
- for the elevator 0,2 ÷ 1,8 daN
- for the rudder 5,0 daN

2.2.7. Control stops adjustment

The way of adjusting of the control systems is described in 2.2.2 and 2.2.3 and normally there is not a need to change the stops setup for this purpose.

If such a need occurs the stops may be easily replaced with new ones, of different dimension. The spare stops will be delivered with the glider. For the aileron control system there is a set of stops (item 9 on Fig.7) of the diameter 10,12,14,16 mm provided.

The rudder stops (item 13 on Fig. 8) are eccentric. The eccentricity should not be greater than 2 mm. In case of wear out the stops may be easily turned to provide the proper limitation of rudder deflection, or replaced by new ones, delivered by the manufacturer. (Look page 38, "Periodic Maintenance").

Rev.5/94

2.3.2. Undercarriage Adjustment (Fig. 9)

The undercarriage push-rod is adjusted by means of the adjustable end piece (1). For both the extended and retracted positions of the undercarriage the push-rod should be in tension and the undercarriage handle push-button (2) shifted up to the sign. The undercarriage wheel should retract and fit flush to its housing. In the event that there is clearance between the wheel and the wheel well, the height of the buffer in the undercarriage well should be changed to cancel the clearance.

The wheel brake control system is adjusted by means of:

a) tension member threaded end (3)

- release the locking nut, screw in or out the end and screw up the nut

b) adjusting nut (4) in the righthand brake disc (see view "A" on Fig.9):

- release the locking screw and shift off the locking plate out of the sleeve teeth,
- rotate the sleeve in respect to the brake disc by 1/4 or 1/2 of rotation to the left (to decrease the play) or to right (to increase the play).
- shift in the locking plate into the sleeve teeth and tighten the screw.

Rev.
6/94

2.3.3. Disassembly and Assembly of the Main Wheel (Fig. 9)

Disconnect the springs of the housing doors.

Disconnect the spring (8) of the wheel brake lever.

Remove the nuts (9) and screws (10) which fasten the wheel axle (11).

Take out the wheel axle and remove the wheel out of the frame.

Disconnect the brake discs (12).

Release the air out of the wheel tube (13).

Remove the nuts (14) of the three screws (15) which join the hub halves (16).

Separate the hub halves, remove the tyre and tube.

Assembling of the wheel requires the inverted sequence.

Note: Before assembling both hub parts, the tube should be slightly filled with air.

2.3.4. Tail Wheel

The \emptyset 200 x 50 tail wheel has an integral hub. The pressure in the tail wheel of 0,15 MPa corresponds to a tyre deflection of $1,0 \div 1,5$ cm (the length of the chord of the wheel's trail - about 10 cm).

After flight in rain:

- Drain the drainage units, removing their drainage plugs.
- Disconnect the total, static and controlling pressure ducts.
- Blow-out the ducts, if necessary, with air, by means of a hand pump (AFTER DISCONNECTING THE INSTRUMENTS).
- When the ducts are dried, connect them back into the installation and CHECK THE TIGHTNESS OF THE CONNECTION.

3.3. Routine Maintenance

- 1) Check the condition of the glider's structure. Pay special attention to the elements which are heavily loading during take-off, flight and landing.
- 2) Check the condition of the surface of the main fittings and bolts as well as the assembly plays.
- 3) Check the sure locking of the assembly elements of the glider's principal components and control systems.
- 4) Check the sure locking and emergency jettisoning of the canopy.
- 5) Check the condition and correct operation of the towing hook(s) pulling the towing cable by hand.
- 6) Check the condition of the surface and the hinges of the control surfaces and air-brakes and the correct operation of the control systems.
- 7) Check the frictional forces of the control systems and devices.
- 8) Check the condition of the undercarriage - main and tail wheels and operation of the wheel brake. Adjust the wheel brake if necessary.
- 9) Check the condition and correct operation of the on-board instruments.
- 10) Check the condition of the protective coats on the metal elements especially those exposed to mechanical damage and corrosion (cables, undercarriage elements).
- 11) Clean and grease the bearings and assembled elements with the proper grease according to the Lubrication Plan (Fig. 15).
- 12) Check the deflection angles of the control surfaces (Fig. 1).
- 13) Check and adjust, if necessary, the operation of the stall warning indicator (see Chapter 2.4.5., page 30).
- 14) Check the condition of the rudder stops
(see chapter 2.2.7, page 24)

Rev.
7/94

Rev
8/94

3.4. Periodic Maintenance

TABLE 2

Time of Maintenance Work	Maintenance Task
At the beginning of the flying season	1 ÷ 13
After each 100 flying hours	1 ÷ 11, 14
After damaging the undercarriage on landing	1 ÷ 10
After heavy landing	1, 2, 7, 9
After the flying season or before prolonged storage	according to item 3.6

Rev.
9/943.5. Glider Life-Time

Allowed (preliminary) glider life-time is 500 flying hours.

The above does not concern:

- tow hooks,
- on-board instruments,

since their life-time is defined in their individual certificates.

3.6. Storage and Transportation

In the event of a prolonged break in the use of the glider, it is recommended to disassemble the glider into its major components.

All fittings and metal elements should be greased.

The major components should be protected by dust sheets.

The fuselage should be put into supports located under the undercarriage housing and under the fin. The wings should be supported on the leading edge at 2/3 of their span and on the spar extensions at the root of the rib, in the vertical position.

Release the air pressure in the wheel tube.

Note: Only store in dry covers.