0 General

0.1 Manual amendments

No.	Page	Description	Date
1	0.1, 0.3 ÷ 0.7, 0.13, 1.5, 1.19, 1.36, 2.1, 3.4, 4.1, 4.2, 4.17, 4.25, 6.2 ÷ 6.4, 7.1, 8.1, 9.3, 9.4, 9.6, diagrams 1, 3, 5, 12, 22, 23	Manual revision TN LS10-02	December 2011
2	0.1, 0.4 - 0.7, 1.28, 4.14, 5.2, 8.1, diagrams 22 and 23	Mechanical fuel pump Manual revision TN LS10-03	October 2015
3	0.1, 0.3, 0.4, 0.6, 0.7, 0.12, 0.13, 3.10, 8.1, diagrams 22 and 23, file working instruction No. 1 for TN LS10-04 at the end of the MM	TN LS10-04 PU fuel hoses, limitation of life-time, replacement by new types of fuel hoses	February 2018

0.2 List of effective pages

Section	page	issued	replaced/	replaced/	replaced/
0	0.0	October 09			
	0.1	see manual amendments			
	0.2	"			
	0.3	"			
	0.4	"			
	0.5	"			
	0.6	"			
	0.7	"			
	0.8	October 09			
	0.9	"			
	0.10	"			
	0.11	"			
	0.12	"	Febr. 2018		
	0.13	"	December 11	Febr. 2018	
	0.14	"			
1	1.1	October 09			
	1.2	"			
	1.3	"			
	1.4	"			
	1.5	"	December 11		
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	1.7	"			
	1.8	"			
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	1.13	"			
	1.14	"			
	1.15	"			
	1.16	"			
	1.17	"			
	1.18	"			
	1.19	"	December 11		
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	1.21	"			
	1.22	"			
	1.23	"			
	1.24	"			
	1.25	"			

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Section	page	issued	replaced/	replaced/	replaced/
	1.26	"			
	1.27	"			
	1.28	"	October 15		
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	1.33	"			
	1.34	"			
	1.35	"			
	1.36	"	December 11		
	1.37	"			
	1.38	"			
2	2.1	October 09	December 11		
	2.2	"			
	2.3	"			
	2.4	"			
	2.5	"			
	2.6	"			
3	3.1	October 09			
	3.2	"			
	3.3	"			
	3.4	"	December 11		
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	3.7	"			
	3.8	"			
	3.9	"			
	3.10	"	Febr. 2018		
4	4.1	October 09	December 11		
	4.2	"	December 11		
	4.3	"			
	4.4	"			
	4.5	"			
	4.6	"			
	4.7	"			
	4.8	"			

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Section	page	issued	replaced/	replaced/	replaced/
5	5.1	October 09			
	5.2	"	October 15		
6	6.1	October 09			
	6.2	"	December 11		
	6.3	"	December 11		
	6.4	"	December 11		
7	7.1	October 09	December 11		
8	8.1	October 09	December 11	October 15	Febr. 2018
"	8.2	"			
	8.3	"			
9	9.1	October 09			
	9.2	"			
	9.3	"	December 11		
	9.4	"	December 11		
	9.5	"			
	9.6	"	December 11		
	9.7	"			

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diagram	issued	replaced/	replaced/	replaced/
1	September 09	December 11		
2	September 09			
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5	September 09	December 11		
6	September 09			
7	September 09			
8	September 09			
9	September 09			
11	September 09			
12	September 09	December 11		
13	September 09			
Diagrams **only for LS10-st**				
14	September 09			
15	September 09			
16	September 09			
17	September 09			
18	September 09			
19	September 09			
20	September 09			
21	September 09			
22	September 09	December 11	October 15	Febr. 2018
23	September 09	December 11	October 15	Febr. 2018

Enclosure

9E2 **LS10-st**	28.11.08
9E4 **LS10-s**	28.11.08
9EP22	25.05.09
9EP24	25.09.09
9R79	11.09.08
9V21	14.09.09
9V96	29.04.09

Working instruction No. 1 for TN LS10-04

Diagrams

1	Elevator control circuit, trim
2	Rudder control circuit
3	Aileron and wing flap control circuit, fuselage side
4	Flaperon control circuit, wing side
5	Airbrake control circuit, fuselage side
6	Airbrake control circuit, wing side
7	Landing gear control circuit
8	Landing gear
9	Tow hooks
10	water ballast system fuselage side
11	water ballast system wing side
12	Static and pitot system
13	Placards

Diagrams only LS10-st

14	Power plant
15	Propeller hub, assembly
16	Propeller stopper
17	Decompression valve
18	Extension-retraction mechanism
19	Extension limit switch unit
20	Retaining cable
21	Engine doors
22	Fuel system up to ser. no. L10-014
23	Fuel system from ser. no. L10-015 on

Enclosures

9E2	Wiring plan LS10-st (DIN A3 in aircraft log)
9E4	Wiring plan LS10-s (DIN A3 in aircraft log)
9EP22	Installation 406 MHz ELT antenna BD3
9EP24	Installation plan ELT or additional battery
9R79	Removable headrest (for tall pilots)
9V21	Tool for measurement airbrake locking force
9V96	Jigs to determine the static moment of the flaperons

Working instruction No. 1 for TN LS10-04

0.4 Airworthiness limitations

0.4.1 Repairs

Repair or replace damaged parts prior to next flight. Follow the instructions of the LS10-S,-ST repair manual for repairs of the airframe. Repairs outside the scope of LS10-s,-st repair manual and major repairs must be accomplished at a certified repair station or by an approved mechanic rated for composite aircraft structure work in accordance with DG repair methods.
Use only genuine spare parts.
For all aircraft under EASA regulations the following applies: According to part 21, subpart M to accomplish major repairs an approved repair instruction is required, see also TN DG-G-01 “Approved repair methods according to EU Commission Regulation 1702/2003 part 21, subpart M”

0.4.2 Life time of the airframe

The maximum allowable operating time for the variants LS10-s and LS10-st is 12000 flight hours. Therefore inspections according to section 2.4 of this manual have to be executed at 3000 h, 6000 h, 9000 h and every 1000 hours following thereafter.

0.4.3 Life time of components

1. The **fabric straps of the safety harness** have to be exchanged after 12 years.
2. **Other components**
   All other components like tow hook, wheels, gas struts, control system parts, bolts, pins etc. have no life time limitation, but should be replaced when worn, damaged or disqualified by excessive corrosion.

Only LS10-st

3. All **nuts and bolts** (part No. 39001044) at the powerplant have to be exchanged after 200 h, together with the engine overhaul.
4. The **rubber mounts** (part No. 45002079 and 45002080) at the powerplant have to be exchanged after 200 h, together with the engine overhaul.
5. All **fuel lines** and the gasket for the drainer valve (part No. 60504402) have to be exchanged after 6 years.
   TN LS10-04: When instructions 3 of this TN have been accomplished the life time of the fuel lines (part. No. 39001065) is 10 years, the life time of the FPM fuel lines (part. No. 30092047 and 30092048) at the carburettors is 5 years.
6. The **spark plugs** (part No. 40050360) have to be exchanged after 25 engine hours.

3.5.2 Every 5 years

Every **5 years** a special engine inspection is due, which may be performed by either the engine manufacturer, an appropriately certified repair shop or an appropriately certified maintenance technician.
The FPM fuel hoses at the carburettors must be exchanged with this inspection, they are part of the SOLO material kit for this inspection.

3.5.3 After 200 engine hours

After **200 engine hours** an overhaul is due.
Apart from work described in section 3.5.1 the following steps are required:

1. Dismount engine and send to engine manufacturer.
2. Use new bolts, nuts and rubber elements during re-installation of engine to tower.

3.5.4 After a forced engine stop

After a **forced stop** a special inspection of the engine must be performed either by the engine manufacturer or an appropriately certified repair shop.

3.5.5 Every 6 years

1. Replace the gasket of the drainer valve.
2. Replace all fuel lines
   TN LS10-04: When instruction 3 of this TN has been accomplished the rubber fuel lines must not be exchanged after 6 but after 10 years. To allow this after 6 years all fuel hoses are to be inspected visually thoroughly and completely for any damage especially fissures, kinks or leaks. For the check switch on the ignition to run the electric fuel pump to demonstrate operating fuel pressure. Repeat this inspection every following year.

Note: The FPM fuel hoses at the carburettors must be exchanged every 5 years, they are part of the material kit for the inspection every 5 years, see 3.5.2..
Caution: New fuel lines must be flushed thoroughly with fuel after assembly.

3.5.6 When required

If the fuel tank is excessively dirty a thorough flushing of the fuel tank is required, exchange in addition the fuel filters.
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8 Partlist

Please find the part no's of the control-system parts and of the metal fittings of the power plant in the following diagrams.

8.1 Parts for the power plant (only LS10-st)

a) necessary for the 25 hours inspection

40050360	Spark plug S36 (Bosch W5AC Electrode gap 0,5 mm <0,02 in>) with pressed on screw cap, marked by red dot on insulator.
60507571	Fuel filter

b) necessary for the inspection every 5 years

60500204	„Maintenance instruction for the engine SOLO 2 350 after 5 years of operation" with material kit including the fuel hoses at the carburettors

c) Spare parts

45002085	Spark plug cap Denso, 5kOhm
60510601	Ignition coil for SOLO 2350
45002081	Exhaust gasket, 1.5mm thick (2 units required)
45002071	Decompression valve (2 units installed)
45002088	Lift cylinder for LS8-t, HG7000-12-225-30, modified
45002038	Gas strut 600N for extension-retraction mechanism
45002039	Gas strut 100N for propeller stopper
45002074	Propeller stopper rubber stop

Shock mounts for engine installation

45002079	Upper engine shock mounts (2 units installed)
45002080	Lower engine shock mounts (2 units installed)

Fuel system

60507608	Fuel quick connector KL-006-2-SL007 (Coupling for re-fuelling line)
60507550	Drainer CAV 110 (1/8" NPT)

Caution: Exchange O-ring (Avgas type) as delivered with drain valve against part No. 60504402 !

60504402	O-Ring for Drainer CAV 110 (Mogas type)
39001065	Material kit fuel lines (every 10 years)
30092048	Fuel hose 3x1,5 FPM black
30092047	Fuel hose 5x1,5 FPM black
60507561	Electric fuel pump Facet 40106 (engine fed and re-fuelling)
60500164	Mechanical fuel pump Bing 8080 (no more available)
60500257	Mechanical fuel pump Mikuni DF44-18 from ser. no. T57 on and as spare part (for installation follow TN LS10-03)
45000162	Fuel cock 4M1-034

Propeller attachment

45002052	Rubber stop for propeller