

## Check List for Maintenance

Valid for SF 25 B/C/D/E/K „Falke“, SF 28 A „Tandem-Falke“

Motor Glider Type: _____	Registration: _____
Serial No.: _____	Year of Production: _____
Engine Type: Stamo 1500, Limbach SL 1700 Series, Serial No.: _____	
Limbach L 2000 Series, Sauer SE 1800 Series,	
Sauer 2100 Series	
Propeller Type: _____	Serial No.: _____
Owner: _____	

## Operation Hours

<b>Aircraft</b> (see logbook)	Hours	Landings
Since last routine test:	_____	_____
Since last major overhaul:	_____	_____
Since last check:	_____	_____

<b>Engine</b> (see hour meter)	
Since routine test <input type="checkbox"/> major overhaul <input type="checkbox"/>	_____
Since last check	_____

<b>Propeller</b>	
Since routine test <input type="checkbox"/> major overhaul <input type="checkbox"/>	_____
Since last check	_____

please check accordingly

Location, Date

Signature

Motor Glider Maintenance No.:

Motor Glider Type:

Serial No.:

Aircraft checks:

after the first 25 hrs, after 50 hrs and after 100 hrs.,  
minimum once a year/twice a year according the flight- and maintenance manual

**Note: extraordinary checks see Pos. E. 4,  
SF 25 B see also Pos. E. 5**

### Check list for the aircraft:

#### A: Cabine

Pos.	Type of check	50 h	100 h	Remarks
A. 1	Canopy, Canopy bearing, lock, escape hatch, check emergency window for function and integrity.		0	
A. 2	Check fittings and the four wing / fuselage mountings for deformation, cracks, play. (max play 0.1 mm)		0	
A. 3	Check bolts for faultless security and play (max play 0.1 mm)		0	
A. 4	Check seat belts and their fasteners as well as buckles		0	
A. 5	Check steering, controls and spoilers on fuselage, wings and landing gear for easy movability, play and defects.		0	
A. 6	Check all connections of steering, controls and spoilers for defects, play and faultless security. Check break lever for easy movability.		0	
A. 7	Check control cables (and controls), spoiler cables, wheel brake cables for twists and wear and tear (esp guides).		0	
A. 8	Check rudder pedals for play, heavy handling and security.		0	
A. 9	Check pedal adjustment (if installed) for function, apply grease if necessary (Teflon or Silicon spray)		0	
A. 10	Check cable pulleys and guide connectors for play and wear and tear.		0	
A. 11	Check even employment of spoilers (adjust if applicable – see maintenance manual)		0	
A. 12	Check effective and right employment of wheel brakes (adjust if applicable – see maintenance manual).		0	
A. 13	Check condition, function, markings of instruments incl. compass (by comparing with deviation table) and radio (radio test).		0	
A. 14	Check if labelling is complete (see operation manual) and if operation and maintenance manuals are available.		0	
A. 15	Check fuel valve for function. Please note <b>TM 653- 41/ 2</b> : Fuel Valve has to be renewed every 8 years. <b>Has TM 653- 70 been complied with, the renewal every 8 years is not applicable.</b>		0	

### B: Fuselage

Pos.	Type of check	50 h	100 h	Remarks
B. 1	Clean and look after your motor glider in accordance with the maintenance manual.		0	
B. 2	Check wings, aileron and brake flaps for planking, covering and paint damage.		0	
B. 3	Check fuselage for deformation, covering and paint damage (esp on wheel cover and bottom of fuselage).		0	
B. 4	Check fin and elevator for planking, covering and paint damage.		0	
B. 5	Check wing folding hinge (if installed) including aileron for damage and play (max bolt play 0.1 mm).		0	only SF 25 C and E
B. 6	Check folding hinge lock for faultless function and security.		0	only SF 25 C and E
B. 7	Clean and lubricate the wing folding hinge (3 bolt and lock). Clean and lubricate the aileron gear at the wing folding hinge.	0		only SF 25 C and E
B. 8	Lubricate aileron connections in fuselage (2 places, Pos 6).		0	
B. 9	Lubricate canopy bracket and lock (3 places, Pos. 8)		0	
B. 10	Lubricate hinges on air vent (Pos. 9)		0	
B. 11	Lubricate engine cooling air vents (2 places) and control cables (Pos.10).		0	
B. 12	Lubricate wheel brake bearings (Pos.11)		0	
B. 13	Lubricate external brake cables (only for aircraft with a dual main wheel landing gear, Pos.12)		0	



Pos.	Type of check	50 h	100 h	Remarks
B. 14	Lubricate spoiler hinges with spray oil if necessary (Pos. 13)		0	
B. 15	Lubricate aileron (6 places, Pos. 14)		0	
B. 16	Lubricate rudder bearing (2 places) and drive (2 places) (Pos. 15)	0	0	
B. 17	Lubricate trim rudder (3 places, Pos 16) and drive bearing (1 place, Pos 16)		0	
B. 18	Lubricate telescope in trim rudder drive (accessible from the bottom of the elevator Pos 17)		0	Only mech. Trim
B. 19	Lubricate elevator bearing (3 places, Pos. 18)		0	
B. 20	Check fuselage frame with landing gear suspension and shock struts for damage and paint cracks		0	
B. 21	Movability, play and condition of wheels: Air pressure of Two-leg main landing gear (5.00x-5) 2,1 bar Air pressure of spring mounted single wheel landing gear(6.00x6) 2,1 bar Air pressure of fixed single wheel landing gear (8.00x4) 1,8 bar Air pressure of nose wheel (5.00x4) 1,5 bar Air pressure of tail wheel and/or stabilisers 2,5 bar		0	
B. 22	Drain dynamic pressure hose assembly (accessible through bulkhead inspection plate in the tail)		0	
B. 23	Check pitot tube for play and hose assemblies for play, condition and tightness		0	
B. 24	Check stabilisers and fittings (if installed) for condition, fit and damage		0	
B. 25	Check drainage holes for blockage (esp in fuselage / landing gear, spoiler, lower rudder)		0	
B. 26	Check aileron bearing for play (axial and radial) and damage, check aileron mounting for damage and security.		0	
B. 27	Check aileron bearing for cracks, firm fit, axial and radial play. During annual inspections the aileron spar must be checked thoroughly for cracks where the bearing bushings are soldered to the spar. Please note: see <b>TM653-73</b> for relevant serial numbers. Bearings already reinforced according to TM 653-73 are not subject to this special inspection.		0	
B. 28	Check aileron for sufficient gap to the wing (also when fully deployed)		0	
B. 29	Check mountings of horizontal stabilisers (3 places) for damage, firm fit, play and security.		0	
B. 30	Check elevator bearing and trim rudder for damage and play (axial and radial) and check elevator halves for firm fit.		0	
B. 31	Check vertical fin on fuselage for damage and firm fit (visual inspection)		0	
B. 32	Check rudder bearing and drive for damage, play (axial and radial) and fuses		0	
B. 33	Check rudder and elevator for sufficient gap ( also when fully deployed)		0	



Pos.	Type of check	50 h	100 h	Remarks
B. 34	Check guide rods (if installed), tail wheel and tail wheel fork for deformation, play, easy movability and wear and tear <b>(applicable for tail wheel version)</b>		0	
B. 35	Check nose wheel with cowling, fork, axis and drive for damage, play, movability and wear and tear		0	
B. 36	Check for foreign objects		0	
B. 37	All fuel pipes (outside of the engine) have to be renewed every 8 years. Please note <b>TM 653-28</b> , newest version.		0	
B. 38	For models with spring mounted single wheel landing gear: lubricate rocker bearing of main wheel rocker with grease gun with 2 lubricating nipples (accessible from below in wheel house)	0	0	
B. 39	Lubricate tail wheel pivot at lubricating nipple with grease gun (accessible through the lid of the inspection hole or below fuselage) as well as nose wheel pivot (2 lubricating nipples) and nose wheel drive (4 bush bearings with fixed pedals). (in certain Serial numbers maintenance free sinter bushings are installed)	0	0	
B. 40	Maintenance and inspection of the belly hook (if installed)		0	Only SF 25 B,C,D

### C: Engine

Pos.	Type of Check	50 h	100 h	Remarks
C. 1	Switch ignition switch to "OFF"!	0	0	
C. 2	Check ignition switch for play	0	0	
C. 3	Dismantle engine covering and check for dirt and loose camlocs.	0	0	
C. 4	Take off valve lid, check valve for play and tighten if applicable (all valves have a play of 0.2mm when the engine is cold – see engine manual).	0	0	Limbach-engines only
C. 5	Take off valve lid, check valve for play and tighten if applicable (intake valve 0,1 mm exhaust valve 0,15 when the engine is cold, see engine manual).	0	0	Sauer 1800 only without hydro tappet
C. 6	Determine valve drive-in depth of all Limbach engines after 500 engine operation hours pursuant to Limbach <b>AD 13</b> (last edition)		500 h	Limbach-engines only
C. 7	Check all visible parts of the valve drive for state. Clean valve lid and re-install with new gasket.	0	0	
C. 8	Take out sparkplugs, clean and check them (gap between electrodes 0.4mm). Do not use a steel or brass brush for cleaning! Lubricate thread with graphite and screw back sparkplugs (starting torque 25 Nm) <b>NOTE!</b> Unscrew sparkplugs only when engine is cold! (see engine manual). Tighten after 1-2 h	0	0	Limbach-engines only
C. 9	Take out sparkplugs, clean and check them (gap between electrodes 0.7mm). Do not use a steel or brass brush for cleaning! Lubricate thread with graphite and screw back sparkplugs (starting torque 20 Nm) <b>NOTE!</b> Unscrew sparkplugs only when engine is cold! (see engine manual).	0	0	Sauer 1800, 2100 only
C. 10	Do the sparkplugs have to be renewed? (it is recommended to renew sparkplugs every 150-200hrs of engine operation).			
C. 11	Warm up engine (at 1800 U/min oil temperature ca. 50°C).	0	0	
C. 12	Check compression ( <b>we advise the differential pressure method</b> ).  Test pressure _____ hPa (PSI) Loss of pressure (%) Cyl. 1 _____% Cyl. 2 _____%  Cyl. 3 _____% Cyl. 4 _____%	0	0	
C. 13	Drain oil, take out the oil filter, check for swarf and clean, re-install the filter, secure oil drain valve! Use new gaskets and washers! (see engine manual).	0	0	
C. 14	Renew oil filter	0	0	Sauer 2100 only
C. 15	Top up oil, oil quantity 2,5 l, type of oil used ..... Do not use engine oil with or without oil additives. Only use oil marked with "SE" according to the API- System which is approved for Otto engines.	0	0	Limbach-engine only

Pos.	Type of check	50 h	100 h	Remarks
C. 16	Top up oil, oil quantity 2,5 l, (for type of oil see engine manual page 6) 3.0 litre with oil filter change, 2,5 litre without oil filter change.	0	0	Sauer 2100 only
C. 17	Close fuel valve, take off filter glass, take out and clean fuel filter, reinstall fuel filter. Clean filter glass, reinstall and secure it. Reopen fuel valve.	0	0	
C. 18	If the fuel filter WK 31/2 ( <b>TM 653-85</b> ) is fitted, check it for contamination (visual inspection). Replace the filter if contaminated, if it contains water or after 500hr.	0	0	
C. 19	Clean fuel pump every 100hr (see engine manual).		0	
C. 20	Drain fuel pipes and tank through drainage at the bottom of the fuselage if installed (push button).	0	0	
C. 21	Check fuel and oil pipes for tightness and check hose clamps for scouring marks and play.	0	0	
C. 22	Check fuel tank and filler neck for leak-tightness.	0	0	
C. 23	Check tank lid for air permeability, on the bottom of the tank lid it should say "with air vent" and a <b>blue gasket</b> must be installed.	0	0	
C. 24	For the inspection of the tank and the hose clamps the back of the rear seat has to be taken out.	0	0	SF 28 only
C. 25	Check intake manifold, oil cooler and carburettor for tightness.	0	0	
C. 26	Clean air filter (see engine manual).	0	0	Limbach-engines only
C. 27	Renew air filter every 100 h in the manifold (see engine manual).	0	0	Only Sauer 1800, 2100
C. 28	Check carburettor oil, top up if necessary. (use Zenith lube oil only!).	0	0	Limbach-engines only
C. 29	Check carburettor membrane for tears every 100 hours. If porous or torn re-new membrane.		0	
C. 30	Check exhaust, heating and carburettor heater for tightness and check the screws for play.	0	0	
C. 31	Check ignition system for damage (scouring marks, bends) and for play.	0	0	
C. 32	Check ignition time and adjust if applicable (see engine manual).	0	0	
C. 33	Check mounting of alternator as well as state and tension of fan belt (see engine manual).	0	0	
C. 34	Check mounting of starter motor. Clean and lubricate pinion and pinion bearing.	0	0	
C. 35	Check gear rim for damage.	0	0	
C. 36	Check bowden cable, spring tension, cable guide and bearing mounting of manual starter motor.	0	0	Nur SF 25 B mit Stamo
C. 37	Check acid level and density of battery.	0	0	
C. 38	State of battery: remove corrosion residues and lubricate contacts with acid proof grease.	0	0	

Pos.	Type of check	50 h	100 h	Remarks												
C. 39	Check mounting and state of exhaust pipes. Check mounting of battery for play.	0	0	Only acid battery												
C. 40	Check connections and mounting of all electrical wires for play. Check for chafe marks.	0	0													
C. 41	Check engine cowling shroud for cracks and play.	0	0													
C. 42	Check drive shaft for damage and play.	0	0													
C. 43	Check screws and connections as well as engine mounts for play and safety. Slotter nuts of the lower engine mount bolts behind the firewall have to be secured with safety wire.	0	0													
C. 44	Check engine for leakage.	0	0													
C. 45	Check actuation of accelerator, choke, heating, cooling air flow control valve, ventilation, carburettor heating for function, movement and secure connections. Lubricate all sliding elements.	0	0													
C. 46	Change float needle valve every 500 hours.		500 h	Only Limbach and Sauer												
C. 47	Visual checks of magneto according to Slick <b>SB 1-89B</b> (newest edition): No leaking oil from the magneto case vent! Ignition point must not be displaced by more than 3mm (measured from flange) from original installation point ( <b>See also Pos. E. 6</b> )	0	0													
C. 48	Lubricate magnet catches with approximately 10 drops of oil.	0	0	Only Sauer 1800, 2100												
C. 49	Renew oil pressure hoses and fuel pipes in the engine compartment every 5 years.	0	0	Only Limbach-Engines												
C. 50	Renew all other fuel pipes (of tank, filter, fuel nozzle) every 8 years (see <b>TM 653-28</b> , newest edition)	0	0													
C. 51	12 years after production or major overhaul all Teflon oil pressure hoses and fuel pipes have to be checked and renewed if applicable.	0	0	Only Sauer 1800, 2100												
C. 52	Renew engine fuel shut off valve every 8 years. This is not applicable if <b>TM 653-70</b> has been complied to.															
C. 53	Check crankcaseventilation hose.	0	0													
C. 54	Clean engine.	0	0													
C. 55	Check engine compartment for contaminants.	0	0													
C. 56	Mount engine cowling and check for play.	0	0													
C. 57	<table border="0" style="width: 100%;"> <tr> <td style="width: 30%;">Engine test run</td> <td style="width: 30%; text-align: center;">RPM</td> <td style="width: 30%;"></td> </tr> <tr> <td></td> <td style="text-align: center;">Max</td> <td style="text-align: center;">True</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 5px;">Idle speed</td> <td style="text-align: center;">700 rpm</td> <td style="border-left: 1px solid black; text-align: center;">Rpm</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 5px;">Full throttle</td> <td style="text-align: center;">2600 rpm ± 100 rpm</td> <td style="border-left: 1px solid black; text-align: center;">Rpm</td> </tr> </table>	Engine test run	RPM			Max	True	Idle speed	700 rpm	Rpm	Full throttle	2600 rpm ± 100 rpm	Rpm	0	0	
Engine test run	RPM															
	Max	True														
Idle speed	700 rpm	Rpm														
Full throttle	2600 rpm ± 100 rpm	Rpm														
C. 58	Look for engine smoothness and general operating performance. Observe function of instruments.	0	0													



### D: Propeller

#### With fixed propeller:

Pos.	Type of check	50 h	100 h	Remarks
D. 1	Take off propeller spinner and check for cracks	0	0	
D. 2	Clean propeller thoroughly	0	0	
D. 3	Check bonding of leading edge and intactness of self adhesive PU edge protection. <b>Comply with TM8 newest edition of MT-Propeller</b>	0	0	TM 8 only for MT-Propeller
D. 4	Before annual inspection or after 300 hours, take off propeller and check inner side of hub bore hole for cracks.		300 h or before annual inspection	
D. 5	Thinly paint over cracks in paintwork.	0	0	
D. 6	Check screws of propeller mounting for damage. Check starting torque of propeller screws <b>15-17 Nm</b> . Check torque of propeller adapter plates – mounting nuts <b>45-47 Nm</b> .	0	0	
D. 7	Remount spinner.	0	0	
D. 8	Finally check propeller drive (HOCO and MT max. 3 mm of 10cm are permitted within the blade tip of the outlet edge)	0	0	

**With pitch propeller:**

Pos.	Type of check	50 h	100 h	Remarks
D. 9	Take off propeller spinner and check for cracks	0	0	
D. 10	Clean propeller thoroughly	0	0	
D. 11	Check bonding of leading edge and intactness of self adhesive PU edge protection. <b>Comply with TM 8 newest edition of MT-Propeller</b>	0	0	TM 8 only for MT-Propeller
D. 12	Check all hub parts for cracks and correct fixing.	0	0	
D. 13	Check thrust ring (max 0.2mm worn off).	0	0	Only Hoffmann-Propeller
D. 14	Check propeller spinner and ground plate for cracks.	0	0	
D. 15	Check all safety means for correct installation.	0	0	
D. 16	Lightly lubricate bearing track.	0	0	
D. 17	Clean and lightly lubricate guide rod of thrust ring.	0	0	Only Hoffmann-Propeller
D. 18	Check governor bearings for free movement and check if worn out.	0	0	Only Hoffmann-Propeller
D. 19	Check play between thrust ring and bearings.	0	0	Only Hoffmann-Propeller
D. 20	Check stop nuts of the flange joint – without loosening – by applying a fastening torque of <b>45 Nm</b> .	0	0	
D. 21	Check pitch stops of model H0-V62R for free movement.	0	0	
D. 22	Check blades for tightness (blade shake not permitted, blade ankle play upto 1° permitted).	0	0	
D. 23	Check pitch change for free movement.	0	0	
D. 24	Check the joint between propeller blade and ferrule (max. permitted crack width 0,2 mm).	0	0	
D. 25	Check blades for cracks and stone nicks (see propeller manuals MT or HOCO).	0	0	
D. 26	Paint thinly over little cracks in the paint.	0	0	
D. 27	Check all safety means to be intact.	0	0	
D. 28	Remount spinner.	0	0	
D. 29	Check propeller drive (max. 2 mm of 10cm are permitted within the blade tip of the outlet edge).	0	0	
D. 30	Lubricate blade actuator (pitch propeller only)	0	0	
D. 31	Check brushes for wear and tear, replace if applicable	0	0	only MTV 1 Propeller

### E. General

Pos.	Type of check	50 h	100 h	Remarks
E. 1	Check carried out and recorded in the log book on page .....: All faults repaired	0	0	
E. 2	Have all Ads been complied with?	0	0	
E. 3	All recorded repairs have to be carried out within the indicated period of time. The intervals between the maintenance and inspection works are subject to a tolerance of $\pm 10$ hr. These tolerances are not to be added up. Therefore, even if the 100hr inspection hasn't have taken place after 100hr but after 110hr, the 200hr inspection is due after 200hr $\pm 10$ hr not after 210hr $\pm 10$ hr. If the interval goes below the tolerance (eg the 100hr inspection is carried out after only 87hr), the following inspection date will be calculated from the last inspection (in above example the next inspection would therefore be already due at 187hr). The inspections are carried out by following maintenance check lists, in which type and method of the maintenance works are briefly recorded. These lists have to be photocopied and filled out for each case of maintenance. On each page of the checklist, the current inspection (eg 100hr inspection) has to be noted on the top of the list. All maintenance and repair works have to be signed by the supervisor with their initials. After the inspection, the completed check lists have to be filed in the aircraft file. The inspection has to be confirmed and recorded in the log book with date and motor glider maintenance number. Faults and their repair have to be recorded in the work / maintenance report.			
E. 4	Tighten all connections (screws on engine mount, hose connections / clamps, cable pulls, etc) in new motor gliders, after an engine change and after every de- and installation of the engine			5 h
E. 5	<b>Pos C. 1 to C. 48 and D. 1 to D. 8 all 25 h</b>			only SF 25 B with Stamo
E. 6	The Slick magneto has to be inspected after every <b>250hr</b> or every <b>2 years</b> . The Bendix magneto has to be inspected after every <b>500hr</b> or every <b>4 years</b> .			
E.7	For flight manuals, in which maintenance of the fuselage after 100 launches or 25 flight hours is anticipated, the item B.7 to B.19 perform according to this list			

In case of translation differences between the English and the German version of this Check list for Maintenance the German version is legally relevant.