

Check List for Maintenance

Valid for SF 25 C „Falke“

Motor Glider Type: <u>SF 25 C</u>	Registration: _____
Serial No.: _____	Year of Production: _____
Engine Type: ROTAX 912 A (1), (2), (3), (4)	Serial No.: _____
ROTAX 912 S (2) (3) (4)	
Propeller Type: _____	Serial No.: _____
Owner: _____	

Operation Hours

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

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

Propeller		
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: SF 25 C

Serial No.:

Aircraft checks:

after the first 25 hrs., after the first 100 hrs., then after every 100 hrs., minimum once a year. **Note: extraordinary checks see Pos. E. 4,**

Check list for the aircraft:

A: Cabine

Pos.	Type of Check	100 h	200 h	Remarks
A. 1	Check Canopy, Canopy bearing, lock, escape hatch, emergency window for function and integrity.	0	0	
A. 2	Check fittings and the four wing / fuselage mountings for deformation, cracks, play. (max play 0.1 mm)	0	0	
A. 3	Check bolts for faultless security and play (max play 0.1 mm)	0	0	
A. 4	Check seat belts and their fasteners as well as buckles	0	0	
A. 5	Check steering, controls and spoilers on fuselage, wings and landing gear for easy movability, play and defects.	0	0	
A. 6	Check all connections of steering, controls and spoilers for defects, play and faultless security. Check break lever for easy movability.	0	0	
A. 7	Check control cables (and controls), spoiler cables, wheel brake cables for twists and wear and tear (esp guides).	0	0	
A. 8	Check rudder pedals for play, heavy handling and security.	0	0	
A. 9	Check pedal adjustment (if installed) for function, apply grease if necessary (Teflon or Silicon spray)	0	0	
A. 10	Check cable pulleys and guide connectors for play and wear and tear.	0	0	
A. 11	Check even employment of spoilers (adjust if applicable – see maintenance manual page 21)	0	0	
A. 12	Check effective and right employment of wheel brakes (adjust if applicable – see maintenance manual page 14).	0	0	
A. 13	Check condition, function, markings of instruments incl. compass (by comparing with deviation table) and radio (radio test).	0	0	
A. 14	Check if labelling is complete (see operation manual page 11) and if operation and maintenance manuals are available.	0	0	
A. 15	Replace Suction-Governor-Filter (if installed)	0	0	
A. 16	Replace Suction-Main-Filter (if installed)			500 h
A. 17	Check fuel valve for function. Please note TM 653- 41/ 2: Fuel Valve has to be renewed every 8 years. Has TM 653- 70 been complied with, the renewal every 8 years is not applicable.	0	0	

B: Fuselage

Pos.	Type of Check	100 h	200 h	Remarks
B. 1	Clean and look after your motor glider in accordance with the maintenance manual page 12.	0	0	
B. 2	Check wings, aileron and brake flaps for planking, covering and paint damage.	0	0	
B. 3	Check fuselage for deformation, covering and paint damage (esp on wheel cover and bottom of fuselage).	0	0	
B. 4	Check fin and elevator for planking, covering and paint damage.	0	0	
B. 5	Check wing folding hinge (if installed) including aileron for damage and play (max bolt play 0.1 mm).	0	0	
B. 6	Check folding hinge lock for faultless function and security.	0	0	
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	0	
B. 8	Lubricate aileron connections in fuselage (2 places, Pos 6).	0	0	
B. 9	Lubricate canopy bracket and lock (3 places, Pos. 8)	0	0	
B. 10	Lubricate hinges on air vent (Pos. 9)	0	0	
B. 11	Lubricate engine cooling air vents (2 places) and control cables (Pos.10).	0	0	
B. 12	Lubricate wheel brake bearings (Pos.11)	0	0	
B. 13	Lubricate external brake cables (only for aircraft with a dual main wheel landing gear, Pos.12)	0	0	

Pos.	Type of Check	100 h	200 h	Remarks
B. 14	Lubricate spoiler hinges with spray oil if necessary (Pos. 13)	0	0	
B. 15	Lubricate aileron (6 places, Pos. 14)	0	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	0	
B. 18	Lubricate telescope in trim rudder drive (accessible from the bottom of the elevator Pos 17)	0	0	
B. 19	Lubricate elevator bearing (3 places, Pos. 18)	0	0	
B. 20	Check fuselage frame with landing gear suspension and shock struts for damage and paint cracks	0	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	0	
B. 22	Drain dynamic pressure hose assembly (accessible through bulkhead inspection plate in the tail)	0	0	
B. 23	Check pitot tube for play and hose assemblies for play, condition and tightness	0	0	
B. 24	Check stabilisers and fittings (if installed) for condition, fit and damage	0	0	
B. 25	Check drainage holes for blockage (esp in fuselage / landing gear, spoiler, lower rudder)	0	0	
B. 26	Check aileron bearing for play (axial and radial) and damage, check aileron mounting for damage and security.	0	0	
B. 27	Check aileron for sufficient gap to the wing (also when fully deployed)	0	0	
B. 28	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 TM653-73 for relevant serial numbers. Bearings already reinforced according to TM 653-73 are not subject to this special inspection.	0	0	
B. 29	Check mountings of horizontal stabilisers (3 places) for damage, firm fit, play and security.	0	0	
B. 30	Check elevator bearing and trim rudder for damage and play (axial and radial) and check elevator halves for firm fit.	0	0	
B. 31	Check vertical fin on fuselage for damage and firm fit (visual inspection)	0	0	
B. 32	Check rudder bearing and drive for damage, play (axial and radial) and fuses	0	0	
B. 33	Check rudder and elevator for sufficient gap (also when fully deployed)	0	0	



Pos.	Type of Check	100 h	200 h	Remarks
B. 34	Check guide rods (if installed), tail wheel and tail wheel fork for deformation, play, easy movability and wear and tear (applicable for tail wheel version)	0	0	
B. 35	Check nose wheel with cowling, fork, axis and drive for damage, play, movability and wear and tear	0	0	
B. 36	Check for foreign objects	0	0	
B. 37	All fuel pipes (outside of the engine) have to be renewed every 8 years. Please note TM 653-28 , newest version.	0	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	0	0	

C: Engine

Pos.	Type of Check	100 h	200 h	Remarks
C. 1	Check ignition switch if the key can be removed in either of the positions „L“, „R“ or „BOTH“	0	0	
C. 2	Switch ignition switch to „OFF“ and remove key	0	0	
C. 3	Check ignition switch for play	0	0	
C. 4	Clean fuel filter. Close fuel valve – remove filter glass – remove and clean filter element – put filter back in place – clean filter glass – remount and secure – turn fuel valve back on.	0	0	
C. 5	If the fuel filter WK 31/2 (TM 653-85) is fitted, check it for contamination (visual inspection). Replace the filter if contaminated, if it contains water or after 500hr.	0	0	
C. 6	Drain fuel pipes and tank through the drainage at the bottom of the fuselage (push button)	0	0	
C. 7	Check fuel tank and filler neck for leak tightness	0	0	
C. 8	Check tank lid for air permeability, on the bottom of the tank lid it should say “with air vent” and a blue gasket must be installed.	0	0	
C. 9	Dismantle engine covering and check for dirt and loose camlocs.	0	0	
C. 10	Check intake manifold, oil cooler and carburettor for tightness. Intake manifold cyl. 2 on the left front must have at least 8 mm distance to the coolant hose!	0	0	
C. 11	Check exhaust and heating for leak-tightness and the screws for play	0	0	
C. 12	Clean water and oil cooler. Check cooler mounting for damage. Clean sump tank and check for damage and play	0	0	
C. 13	Check acid level of battery. Check state of battery, remove corrosion residues and lubricate contacts with acid proof grease	0	0	
C. 14	Check exhaust pipes of the battery for play, state and blockage (acid batteries only). Check battery mounting for thightness	0	0	
C. 15	Check intake silencer and hose connections for play and damage. 912 A: red Aeroduct hose SCEET 8 (double walled) 912 A/S: inside Ø 50 mm rubber hose	0	0	
C. 16	Check tachometer drive shaft for play and damage. Install red Aeroquip fire sleeve cover near exhaust manifold.	0	0	
C. 17	Check all engine joints and connections for leaks	0	0	
C. 18	Check operation of throttle, choke, heating, cooling air valve and ventilation (carburettor pre heating if applicable) for unobstructed movement and full deployment, lubricate all sliding elements.	0	0	

Pos.	Type of Check	100 h	200 h	Remarks
C. 19	General visual inspection of the engine for damage or abnormalities. Check cooling air ducts and cooling fins of the cylinder for obstructions, cracks, wear and good condition. Take note of changes caused by temperature influence. (see maintenance manual Rotax 12-20-00 sec. 3)	0	0	
C. 20	Visual inspection of the temperature sensor and the oil pressure sensor. Inspect for tight fit and good condition.	0	0	
C. 21	Inspect all coolant hoses for damage, including leakage, hardening from heat, porosity, loose connections and secure attachments. Verify routing is free of kinks and restrictions. (see maintenance manual Rotax 12-20-00 sec. 9.1)	0	0	
C. 22	Carry out visual inspection of leakage bore at the base of the water pump for signs of leakage. (see maintenance manual Rotax 12-20-00 sec. 4)	0	0	
C. 23	Inspect the expansion tank for damage and abnormalities. Check coolant level, replenish as necessary. Inspect radiator cap. Inspect protection rubber on expansion tank base for correct fit. (see maintenance manual Rotax12-20-00 sec. 9.1)	0	0	
C. 24	Inspect the overflow bottle for damage and abnormalities. Verify coolant level, replenish as necessary. Inspect line from expansion tank to overflow bottle for damage, leakage and clear passage. Inspect venting bore in cap of overflow bottle for clear passage. NB SB 912-039 newest edition (see maintenance manual Rotax 12-20-00 sec. 9.5)	0	0	
C 25.	Inspect all oil lines for damage, leakage, hardening from heat, porosity, security of connections and attachments. Verify routing is free of kinks and restrictions. (see maintenance manual Rotax 12-20-00 sec. 4)	0	0	
C. 26	Inspect all fuel lines for damage, leakage, hardening from heat, porosity, security connections and attachments. Verify routing is free of kinks and restrictions. In the case of steel fuel lines (912 S and/or optional), also check for any cracks and/or scuffing marks. (see maintenance manual Rotax 12-20-00 sec. 4).	0	0	
C. 27	Inspect the wiring and its connections for secure fit, damage and signs of wear. (see maintenance manual Rotax 12-20-00 sec. 14.1)	0	0	
C. 28	Inspect engine suspension and fasteners for secure fit, including damage from heat, deformation and cracks. Torque of the engine mount screws on firewall (to the shimmy dampers) 25 Nm (See maintenance manual Rotax 12-20-00 sec. 3.1)	0	0	
C. 29	Inspect screws and nuts of all external parts for tight fit. Inspect safety wiring, replace as necessary.	0	0	



Pos.	Type of Check	100 h	200 h	Remarks
C. 30	Check the friction torque in free rotation on gearboxes with overload clutch. Actual friction torque _____ Nm (in.lbs) (See maintenance manual Rotax 12-20-00 sec. 15)	0	0	
C. 31	Gearboxes of series 3 (with overload clutch) and use of leaded fuel more than 30 % of operation. Inspect overload clutch (see maintenance manual Rotax 05-50-00 sec. 2 and SB 912-033 newest edition)			600 h
C. 32	Checking the propeller gearbox. (see maintenance manual Rotax 12-20-00 sec. 15.2) Only applicable for engine Rotax 912 S			1000 h
C. 33	Remove oil drain screw from oil tank. Drain old oil and dispose as per environmental regulations.	0	0	(1
C. 34	Remove old oil filter from engine and install new oil filter. Lubricate mating sealing ring of new oil filter with engine oil. Screw new oil filter with ¾ turn (270° - see SB-912-055 newest edition). After the engine test run, check the filter for a compact hub. (see maintenance manual Rotax 12-20-00 sec. 11.3, 11.4)	0	0	(1
C. 35	Cut old oil filter without producing any metal chips and inspect filter mat. Findings: _____ (see maintenance manual Rotax 12-20-00 sec. 11.5)	0	0	(1
C. 36	Replace gasket ring of drain screw on oil tank. Put back drain screw and tighten with 25 Nm torque.	0	0	(1
C. 37	Check oil tank. Refill oil tank with approx. 3 litres of oil. For oil quality, see Operators Manual and Service Instruction SI-912-016 , latest edition. (see maintenance manual Rotax 12-20-00 sec. 11.2, 11.6)	0	0	(1
C. 38	Check the magnetic plug (see maintenance manual Rotax 12-20-00 sec. 12) (1 if operated with leaded fuel e.g. : AVGAS 100LL See Service Instruction SI-912-016	0	0	
C. 39	Before check oil level, turn propeller over several times counter clockwise (looking from the front at the propeller) to ensure that oil in the crankcase has been returned to the oil tank. This process is finished when air is returning back to the oil tank and can be noticed by a murmur from the open oil tank. NB SB 912.040 newest edition (see maintenance manual Rotax 12-10-00 sec. 4.1)	0	0	
C. 40	Flushing the cooling system where conventional coolants are used. (see maintenance manual Rotax 12-20-00 sec. 9.3) NB SB 912-043 newest edition Only use water/glycol mix (50:50)			When replacing the coolant (all 5 Year)
C. 41	Checking the air filter (see maintenance manual Rotax 12-20-00 sec. 2)	0	0	



Pos.	Type of Check	100 h	200 h	Remarks																																				
C. 55	<p>Start the engine and run to operating temperature. Limits see Operators Manual 912 series. Ignition check at 4000 RPM engine speed. Speed drop without ignition circuit: A _____ RPM B _____ RPM</p> <p>Inspect carburettor heat system (if installed). Hit the preheating and make a note of speed drop. Speed drop _____ RPM.</p> <p>Preheating "OFF", engine idle running and make a note idle speed running. _____ RPM.</p> <p>After engine test run, re-tighten the oil filter by hand. (only at cold engine). Checks for leaks. (see maintenance manual Rotax 12-20-00 sec. 8)</p>	0	0																																					
C. 56	<table border="1"> <thead> <tr> <th>Engine idle run</th> <th>Idle run</th> <th>ideal</th> <th>1400 RPM</th> <th>actual</th> <th>RPM</th> </tr> </thead> <tbody> <tr> <td>MT165R130-2A</td> <td>Full load run</td> <td>ideal</td> <td>min. 5000 RPM</td> <td></td> <td></td> </tr> <tr> <td>MT170R135-2A</td> <td></td> <td>$\pm 100 U_{min}$</td> <td>min. 5500 RPM</td> <td>actual</td> <td>RPM</td> </tr> <tr> <td>MT175R130-2A</td> <td></td> <td></td> <td>min. 5500 RPM</td> <td></td> <td></td> </tr> <tr> <td>Engine idle run</td> <td>Idle run</td> <td>ideal</td> <td>1400 RPM</td> <td>actual</td> <td>RPM</td> </tr> <tr> <td>(pitch prop.)</td> <td>Full load run</td> <td>ideal</td> <td>min. 5750 RPM</td> <td>actual</td> <td>RPM</td> </tr> </tbody> </table>	Engine idle run	Idle run	ideal	1400 RPM	actual	RPM	MT165R130-2A	Full load run	ideal	min. 5000 RPM			MT170R135-2A		$\pm 100 U_{min}$	min. 5500 RPM	actual	RPM	MT175R130-2A			min. 5500 RPM			Engine idle run	Idle run	ideal	1400 RPM	actual	RPM	(pitch prop.)	Full load run	ideal	min. 5750 RPM	actual	RPM	0	0	
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C. 57	Check for foreign particles	0	0																																					
C. 58	<p>Before check oil level, turn propeller over several times counter clockwise (looking from the front at the propeller) to ensure that oil in the crankcase has been returned to the oil tank. This process is finished when air is returning back to the oil tank and can be noticed by a murmur from the open oil tank. NB SB 912.040 newest edition (see maintenance manual Rotax 12-10-00 sec. 4.1)</p>	0	0																																					
C. 59	Mount engine cowling and check for tightness. Check that all locking bolts are complete.	0	0																																					

D: Propeller

Propeller: MT165R130-2A
 MT170R135-2A
 MT175R130-2A
 HO 11A HM-165 130

Serial-No.: _____

Pos.	Type of Check	100 h	200 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. Comply with TM8 newest edition of MT-Propeller	0	0	
D. 4	Check propeller for radial cracks, cracks in the propeller hub and for stone nicks (see propeller manual HOCO page 13-16, MT page 12-13)	0	0	
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 15-17 Nm . Check torque of propeller adapter plates – mounting nuts 45-47 Nm .	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)	0	0	

Propeller: MTV1A/175-05
MTV21A-C-F/(CF)175-05

Serial-No.: _____

Pos.	Type of Check	100 h	200 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. Comply with TM8 newest edition of MT-Propeller	0	0	
D. 12	Check all hub parts for cracks and correct fixing.	0	0	
D. 13	Check cable laying, state and connections of the carbon brush holders. Renew brushes of brush block if less than 7mm long (MTV1A only)	0	0	
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	Check flange bolts and stop nuts for tightness (torque of 45-47 Nm)	0	0	
D. 17	Clean slip ring and brushes (oil + grease free)	0	0	
D. 18	Blades shake max 3 mm, blade ankle play max. 2°; applicable to MTV1A and MTV21A-C-F	0	0	
D. 19	Check propeller blades for cracks, cracks in the joint to the blade ferrule of up to 0.25mm are acceptable; check adhesive of leading edge and that PU-tape is not damaged.	0	0	
D. 20	Cracks in the GRP coat of the blades and on the blade erosion sheath are not permitted.	0	0	
D. 21	Check propeller blades for radial cracks (see propeller manual)	0	0	
D. 22	Check propeller hub connection to the propeller shaft for oil leakage (MTV21A-C-F only)	0	0	
D. 23	Check balance weights for tightness (MTV21A-C-F only), remount spinner.	0	0	
D. 24	Check function of pitch propeller with non-running engine.	0	0	

E. General

Pos.	Type of Check	100 h	200 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	<p>All recorded repairs have to be carried out within the indicated period of time.</p> <p>The intervals between the maintenance and inspection works are subject to a tolerance of ± 10hr. 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 $200\text{hr} \pm 10\text{hr}$ not after $210\text{hr} \pm 10\text{hr}$. 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.</p> <p>These lists have to be photocopied and filled out for each case of maintenance.</p> <p>On each page of the checklist, the current inspection (eg 100hr inspection) has to be noted on the top of the list.</p> <p>All maintenance and repair works have to be signed by the supervisor with their initials.</p> <p>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.</p> <p>Faults and their repair have to be recorded in the work / maintenance report.</p>			
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

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