Subject:	**Revision of the Operations Manual GROB 2500**
Concerned:	Aircraft Engine GROB 2500 E1/D1, all S/N's
Urgency:	not later than 31 December 1994
Procedure:	A revision of the Operations Manual is required for incorporation of additional information into the Operations Manual GROB 2500.
Actions:	In the Operations Manual GROB 2500 all pages have to be exchanged according to page 1.3 ("Log of revisions"), Revision 1, dated 05.10.94.
Material:	The relevant pages will be submitted as an attachment to this Service Bulletin.
Weight and Balance:	not affected
Remarks:	1. The exchange of the pages may be performed by a competent person. 2. If you have sold your motorglider in the meantime, would you kindly pass this information on to the new owner and forward his name and address and aircraft S/N to us.

Mattsies, 05 October 1994

Dipl.Ing. J. Altmann
(Airworthiness engineer
certification staff)

LBA approved:

This Service Bulletin is originally written in German and approved by the German LBA on the 24 October 1994 and is signed by Mr. M. Borsum.
The translation has been accomplished to the best of our knowledge und judgement. In case of doubt, the German original is authoritative.

1. GENERAL

1.1 Log of revisions

Revision No.	Affected pages	Reference	Date	Signature
1	1-3, 1-4, 2-1, 3-1, 3-3, 3-5, 6-2, 11-2	TM 4601-11	05.10.94	LUFTFAHRT-BUNDESAMT BRAUNSCHWEIG 24. Okt. 1994

1.2 List of effective pages

Section	Page	Date	Reference	Section	Page	Date	Reference
	Title page	July 1994		8	8-1	01.07.94	
1	1-1	01.07.94		9	9-1	01.07.94	
	1-2	01.07.94					
	1-3	05.10.94		10	10-1	01.07.94	
	1-4	05.10.94			10-2	01.07.94	
					10-3	01.07.94	
2	2-1	05.10.94			10-4	01.07.94	
	2-2	01.07.94			10-5	01.07.94	
	2-3	01.07.94					
				11	11-1	01.07.94	
3	3-1	05.10.94			11-2	05.10.94	
	3-2	01.07.94					
	3-3	05.10.94					
	3-4	01.07.94					
	3-5	05.10.94					
	3-6	01.07.94					
4	4-1	01.07.94					
5	5-1	01.07.94					
	5-2	01.07.94					
	5-3	01.07.94					
	5-4	01.07.94					
6	6-1	01.07.94					
	6-2	05.10.94					
	6-3	01.07.94					
	6-4	01.07.94					
	6-5	01.07.94					
7	7-1	01.07.94					
	7-2	01.07.94					
	7-3	01.07.94					
	7-4	01.07.94					
	7-5	01.07.94					
	7-6	01.07.94					
	7-7	01.07.94					

2. SPECIFICATION: GROB 2500

Air-cooled, four-stroke - Otto carburettor engine
Cylinder arrangement: 4 cylinders, horizontally opposed.
Pressure lubrication by gear-type pump
Magneto ignition (single or dual ignition)
Direct propeller drive
Electric starter
Generator
Mechanical fuel pump
2 carburetors

2.1 Type designation

GROB - 2500 - ( ) - ( ) - /( )
1. 2. 3. 4. 5.

1. Manufacturer

2. Information on piston displacement in [cm^3]

3. Model name; includes all model specific equipment

   E = single ignition
   D = dual ignition

4. Information on propeller flange

   1 = flange for variable pitch propeller Hoffmann HO-V 62

5. Information on additional accessories

   V = vacuum pump

NOTE

This manual is valid for **all series** of the GROB 2500. Only if there are differences between the individual series, this will be noted.

3. TECHNICAL DATA GROB 2500

3.1.1. Dimensions and mass GROB 2500 E 1

Bore	100 mm (3.94 in.)
Stroke	78 mm (3.1 in.)
Piston displacement per cylinder	612,61 cm^3 (37.4 $in.^3$)
Total piston displacement	2450 cm^3 (149.5 $in.^3$)
Compression ratio	8.9 : 1
Direction of crankshaft rotation	Counter-clockwise (CCW)
Mass (dry, without fresh air duct panels and exhaust, but with starter, generator, and magneto)	approx. 95 kg (209.44 lbs.)

3.1.2 Equipment GROB 2500 E 1

Magneto	- Slick 4230 or 4330 - Bendix S4RN-21 or S4RSC-21
Firing point	28° B.T.C.
Firing order	1-3-2-4
Spark plugs	- Bosch WC7D(VW No. 100 039.01) - Beru X14L (VW No. 100 040.01) - Champion REN 30S
Electrode spacing	0.4 mm (0.016 in.)
Spark plug thread	M 14 x 1.25 x 19
Ignition harness	- Slick High Temperature Harness mod. - TCM 10-724771-1 - Bendix No. 10-820471/91
Carburettor	Solex 150 CD-3 Jet needle 6 A or B 5 CK
Mechanical fuel pump	Pierburg 7.15252.00
Generator	- Bosch 0120489917/55 A/14 V - Bosch 0120489469/55 A/14 V
Starter	- Bosch DW B 001 111 035 - Bosch 0001 212 204

3.2.1 Dimensions and mass GROB 2500 D 1

Bore	100 mm (3.94 in.)
Stroke	78 mm (3.1 in.)
Piston displacement per cylinder	612,61 cm^3 (37.4 $in.^3$)
Total piston displacement	2450 cm^3 (149.5 $in.^3$)
Compression ratio	8.9 : 1
Direction of crankshaft rotation	Counter-clockwise (CCW)
Mass (dry without fresh air duct panels and exhaust, but with starter, generator and magnetos)	approx. 99 kg (218.26 lbs.)

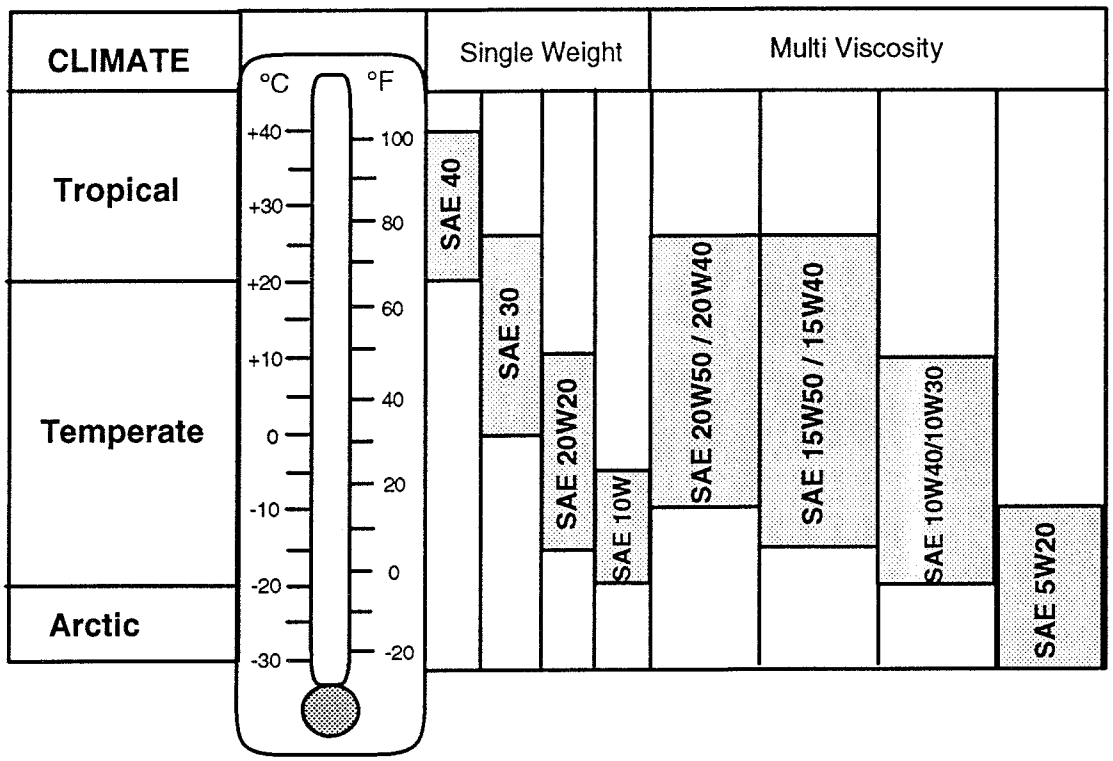
3.2.2 Equipment GROB 2500 D 1

Magnetos	- Slick · upper 4230 or 4330 · lower 4231 or 4331 or 4230-TM5 - Bendix S4RN-21 or S4RSC-21
Firing point	28° B.T.C.
Firing order	1-3-2-4
Spark plugs	- Bosch WC7D (VW No. 100 039.01) - Beru X14L (VW No. 100 040.01) - Champion REN 30S
Electrode spacing	0.4 mm (0.016 in.)
Spark plug thread	M 14 x 1.25 x 19
Ignition harness	- Slick High Temperature Harness mod. - TCM 10-724771-1 - Bendix No. 10-820471/91
Carburettor	Solex 150 CD-3 Jet needle 6 A or B 5 CK
Mechanical fuel pump	Pierburg 7.15252.00
Generator	- Bosch 0120489917/55 A/14 V - Bosch 0120489469/55 A/14 V
Starter	- Bosch DW B 001 111 035 - Bosch 0001 212 204

3.3 Information about fuels and lubricants

Fuel: Automobile fuel, leaded premium according to DIN 51600-S (MOGAS, min. grade ROZ 98.0 Octane) or aviation fuel "AVGAS 100 LL"
Fuel additives must not be used!

Lubricant: Do **not** use aircraft engine oils. Use **only** brand-name oils for automobile engines, according to API-classification (API SF/CC and API SF/CD).
Take the viscosity of the oil named with SAE dependant from temperature.
For the RAF Vigilant TMK 1 (as of S/N 6500) engine oil type OMD80 may be used (oil change intervall 75 flight hours or 6 months).



Lubricant volume:	max. 3.5 l (0.77 Imp.gal., 0.92 U.S.gal.) min.1.75 l (0.38 Imp.gal., 0.46 U.S.gal.)
of that in the oil filter	approx. 0.5 l (0.11 Imp.gal., 0.13 U.S.gal.)
Volume difference between max. and min. mark	1.75 l (0.38 Imp.gal., 0.46 U.S.gal.)
Oil pressure:	
at 2500 RPM	max. 5 bar
at idle running	min. 3 bar min. 1 bar
Oil temperature:	min. 50°C max. 120°C
most favorable operating oil temperature	70 - 90°C

6.2. Periodical checks

After the first 25 hours of operation the checks listed in 6.2.1 have to be performed. The following check is at 50 hours and thereafter every 50 hours. Every 100 hours the additional checks according to 6.2.3 and every 500 hours the additional checks according to 6.2.4 have to be performed.

6.2.1 First 25-hour-check

The "Inspection List" in Section 11 contains all required checks/ inspections and working steps for the first 25-hour-check.

6.2.2 50-hour-check

The "Inspection List" in Section 11 contains all required checks/ inspections and working steps for the 50-hour-check.

6.2.3 100-hour-check

The "Inspection List" in Section 11 contains all required checks/ inspections and working steps for the 100-hour-check.

6.2.4 500-hour-check

- Perform 100-hour-check.
- Perform check of magneto/ magnetos (SLICK or TELEDYNE CONTINENTAL) according to the manufacturers instructions.
- Exchange float needle valves.
- Remove choke assembly and check for wear.
- Check play of throttle shafts. If the radial play exceeds 0.8 mm (0.031 in.), the relevant carburettor has to be repaired.
- Check rubber inserts of the toothed ring of the magnetos and, if necessary, exchange (refer also to Service Bulletin TM 4601-6).
- Check cylinder head valve seats according to Service Bulletin TM 4601-8

Repairs must be performed only by authorized aviation workshops or authorized inspectors in accordance with our instructions.

Kind and object of checks	first 25 h	every 50 h	every 100 h
25. Clean oil strainer, exchange sealings and seal ring		X	X
26. Check starter toothed ring gear for any damage			X
27. Check crankcase for leakage	X	X	X
28. Check crankcase breather line for tight fit and drain receptacle if necessary	X	X	X
29. Check cooling ribs for fractures, cracks and cleanliness	X	X	X
30. Perform engine ground run according to 6.1	X	X	X
31. If BENDIX - magnetos are installed: - check interrupter distance - check clearance between stop pin and flyweights according to Service Bulletin TM 817-34/2			X