

Maintenance manual DG-500MB

Manual amendments

No.	Page	Description	Date	Signature
1	2, 3, 4, 34, 57, 63, 64, 93, drawing W57	Engine, powerplant drive belt tension, DEI- circuit breaker, manual revision TN 843/13	Oct. 1999	
2	2, 3, 4, 11, 19, 27, 45, 47, 48, 49, 51, 62, 71, 79, 91, wiring diagram 5E101, drawing W40	Greasing schedule, new attachment of the throttle cable from ser.no 5E213 on, manual revision TN 843/16	Jan. 2001	
3	2, 3, 4, 5, 23 - 28, 30 - 34, 36a, 37, 49 - 51, 54, 72, 73, 78, 79, 84, 91, 93, wiring schemes 5E101 issues G and H, 5E218	Engine control, manual extension and retraction control, carburettors, engine doors rubber cord, manual revision TN 843/17	March 2002	
4	2, 4, 24, 91, diagram 13b, wiring scheme 5E101 issue I, drawing 5E218	Extension-retraction unit, TN 843/18 issue 2	June 2003	

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1.3	Rudder control	10	" "
1.4	Aileron and wing flaps control	11	Jan. 01
	" "	12	Nov. 98
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1.5	Airbrake control and wheel brake	14	" "
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	5E101 Wiring scheme issue I	25.06.03
	5E102 Wiring plan DIN A 1 (in aircraft log) or	2.07.03
	5E102 Wiring plan DIN A 1 together with	02.02.99
	5E218 Amendment to the wiring plan 5E102	25.06.03
	Instructions for inspection 500/20	July 1995
	Questionnaire for TN 348/4	" "
	Working instruction No. 1 for TN 348/4	Oct. 1994
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	Tool for airbrake adjustment	14.10.94
	Drawing W40	30.11.99
	Drawing W51	20.11.96
	Drawing W57	10.09.99
	Drawing 8E210	22.05.97
	Drawing 5M110	04.02.98
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1.12. Retraction - extension mechanism

1.12.1 **Layout** see diagram 13b

1.12.2 **The retraction-extension mechanism** (spindle drive) consists of a 12 V electrically driven sealed ball screw shaft type Stross BSA10 special version for DG-500MB.

1.12.3 **Extension time of the spindle drive**

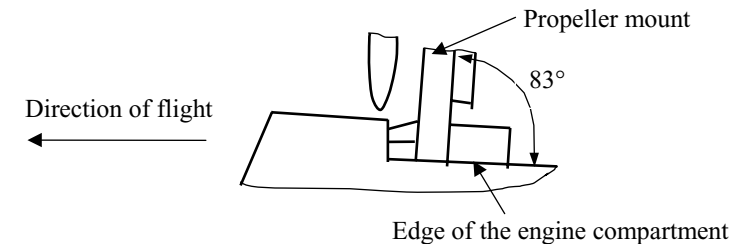
The time for extension is approx. 10 seconds. If the extension takes longer than 15 seconds the spindle drive must be replaced.

1.12.4 **Adjusting the maximum extension of the powerplant**

The maximum extension of the power plant is limited by the length of the retaining cable. When the cable is replaced, the new one has to be stretched with 500 daN (1125 lbs.) before installation. With the cable fully tensioned, the propeller mount should be 83° to the upper edge of the engine compartment, see sketch. For adjustment see also sect. 1.12.6.

For measuring extend the powerplant via the manual switch or the ignition switch. Due to the automatic system the spindle drive stops shortly before the cable is fully tensioned. To reach the fully extended position the propeller mount top must be pressed forward by hand until the cable is tight (you should feel and hear that the cable comes to its stop).

Adjustment of the length of the retaining cable is via the adjustment screw at the rear engine bay bulkhead, see diagram 17.



1.12.5 **Position switches**

Position engine retracted: via a switch actuated by the propeller mount

Position engine extended: via a switch actuated by the muffler frame

8. Partlist

In this list you will find only parts of the powerplant and the electrical system.

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

8.1 Parts for the powerplant

a) necessary for the 25 hours inspection

- 40050360 Spark plugs S36 (Bosch W5AC electrode gap 0.5 mm) with screw cap fastened to the thread by crimping (4 pieces necessary)

Caution: Bosch delivers the W5AC spark plugs with removable caps. It is not allowed to use these spark plugs. Spark plugs S36 can be identified by a dot of red paint on the insulator.

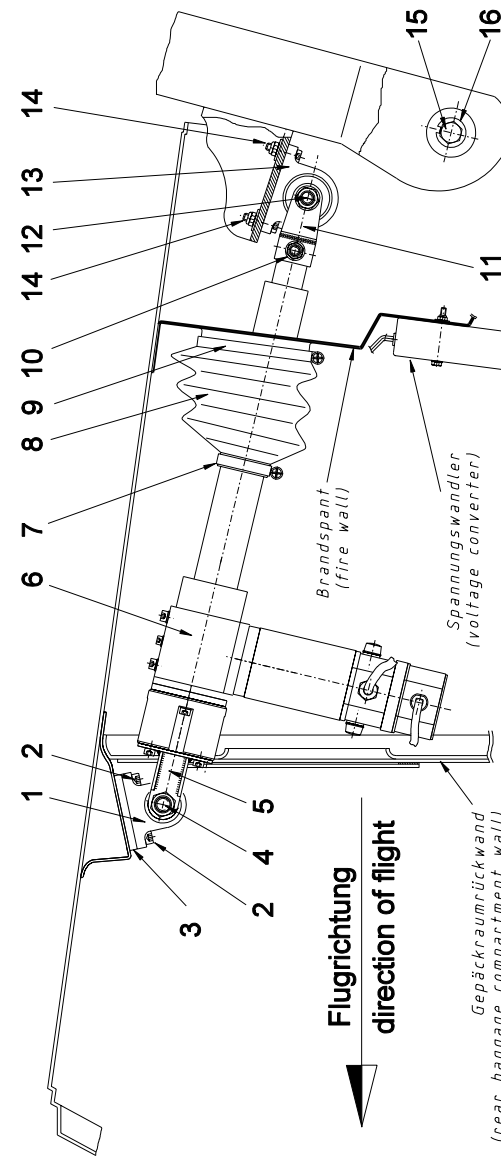
- 60507570 Fuel filter Entrata IN straight CH27
- 60507569 Fuel filter Entrata IN 90° elbow CH28
- 60500150 Gaskets for exhaust manifold (2 pieces needed)
- 60500142 Airfilter
- 70002200 Oil for airfilters with cottonfabric K&N 99-05046

b) Spare parts

- 60510821 Spark plug connector Bosch 0356351032 1kΩ
- 60500127 Nut for spring coupling M 8 for exhaust muffler (Rotax 842330)
- 60500128 Spring for spring coupling M 8 (Rotax 239628)
- 60502500 Starter motor: DENSO 128 000-1671 12 V or DENSO 12 000-1679 12 V
- 60500155 Gasket for coolant outlet
- 60504013 Drive belt Poly Chain GT 8 M 2520-45
- 59332050 Front bearing for upper pulley 32205B
- 59320320 Rear " " " " 320/32X
- 52200054 Securing washer 20 DIN 462 for upper pulley front bearing
- 30002028 Special grease for upper pulley bearings SKF LGMT3
- 39001026 Exchange kit nuts and bolts for 400 h overhaul
- 60000182 Gas strut for muffler frame E1 E1-76-040-130/150N
- 60507561 Electric fuel pump Facet 40106
- 60001200 Electric water pump Webasto U4810 modified
- 60504049 Radiator KTM VW 00425
- 60504045 Extension-retraction spindledrive type Stross BSA 10 special version for DG-500MB
- 60504046 Voltage transformer for BSA 10
- 40872873 Brake pad for propellerbrake (glued to mounting bracket)
- 40050350 Screw nipple S35 (Attachment of the throttle cable to the carburetors, omitted from ser.no 5E213 on)

Ein-Ausfahrmechanismus Stross BSA10
Extension-retraction mechanism Stross BSA10

Diagramm 13b
diagram



10	Schraube (bolt) M8x4,5 LN9037 Scheibe (washer) 2 x 8,4 DIN125 Stzn Mutter (nut) M8 DIN985-8zn
11	Gabel (fork) 8M233/1
12	Schraube (bolt) M10x58 LN9037 Buchse (bush) 8M228 Scheibe (washer) 2x10,5 DIN125Stzn Mutter (nut) M10 DIN 985-8zn
13	Lagerbock (shock mount) 8M229 mit Ultrabuchse S34
14	Schraube (bolt) M6x25 DIN984-8-8zn Scheibe (washer) 6,4 DIN9021Stzn Mutter (nut) M6 DIN985-8zn
15	Schraube (bolt) M12x1,5x100 DIN960-8-8zn gekürzt auf 90mm (shortened to 90mm)
16	Scheibe (washer) 13 DIN432Stzn

1	Lagerbock (shock mount) 8M184
2	Schraube (bolt) M6x30 DIN912-8-8zn
3	Distanzplatte (spacer) 5M200
4	Schraube (bolt) M12x70 DIN931-8-8zn gekürzt auf 55mm (shortened to 55mm)
5	Scheibe (washer) 13 DIN125Stzn Mutter (nut) M12 DIN 985-8zn
6	Gabel (fork) 5M203
7	Spindeltrieb (spindle-drive) Stross BSA 10
8	Schlauchschelle (hose clamp) 32-50
9	Faltenbalg für Spindeltrieb V6 191 (rubber boot for spindle-drive)
9	Schlauchschelle (hose clamp) 80-100