

# MAINTENANCE PROGRAMME

in accordance with AMC M.B.301(b)3.  
and Regulation (EC) 2042/2003 Part M, M.A.302 for the

SAILPLANE with the  
registration mark: D - 4040

Official registration mark

(AMC 1.1.1)

dated Mai 2014, issue 1  
month year ser. No.

(AMC 1.1.3)

responsible for airworthiness management:

Operator:

Street / No.:

Postal Code / Place of  
Residence / Country:

Email:

Tel. No. (during the day)

(AMC 1.1.2)

## List of effective pages

page	revision	date	chapter / content
1	0	01.05.2014	cover page, approval
2	0	01.05.2014	1. Utilization, 2. declaration of obligations
3	0	01.05.2014	3. Maintenance
4	0	01.05.2014	3. Maintenance
5	0	01.05.2014	3. Maintenance
6	0	01.05.2014	3. Maintenance
7	0	01.05.2014	4. Limited pilot-owner maintenance (Appendix VIII)
8	0	01.05.2014	4. Limited pilot-owner maintenance (Appendix VIII)
9	0	01.05.2014	5. Supplementary + additional maintenance procedures
10	0	01.05.2014	6. Appendix (not subject to approval)

Note: In case of a change of ownership or of operators and/or when canceling the registration this maintenance programme will no longer be valid and must be applied for again.

(AMC 1.1.5)

Issue 1 / revision 0 has been approved for the above mentioned aircraft.

Braunschweig 18. März 2015  
place date



signature competent authority

## 1. UTILIZATION

optional:

- ☒ The aircraft is only flown non commercially and
- ☒ not used in a training organization. or
- ☐ used in a training organization. Provisions about maintenance specified by the competent authority (i.e. maintenance contract with a maintenance organization, declaration about airworthiness management, etc.) will be complied with.

## 2. DECLARATION OF OBLIGATIONS

The signing operator/s declare/s:

- According to M.A.302 the owner (s) / lessee (s) declare (s) with his / their signature that the aircraft will be maintained exclusively in compliance with this approved programme in accordance with the requirements of Part M of Regulation (EC) 2042/2003, with the documents approved by EASA and with the German national requirements published by the Luftfahrt-Bundesamt in the Nachrichten für Luftfahrer (NFL). Variations (with regard to the contents and/or time) from the maintenance programme are only permitted according to the rules of this programme or the expressive consent by the competent authority.

- All maintenance instructions referred to as „mandatory“ or „urgent“ by the holder of the type certificate, published in addition (e.g. „Alert Service Bulletin“, „Mandatory Service Letter“, „Critical Service Bulletin“ or „Service Information“) will be checked and where appropriate be carried out and documented.


Part M, M.A.801(c), it is applied since the airplane is in the category ELA1, and the complex maintenance in accordance with Annex VII and VIII of the Pilot / Owner, will be carried out, and this released by a qualified personell.

- Access and use of maintenance instructions published by the holder of the type certificate and the competent authority of the aircraft and where applicable equipment, accessories and components are ensured. Scope and frequency are to be performed according to the manuals to be applied unless otherwise stipulated in chapter 5.1 "Permitted extensions and variations to maintenance periods" of this maintenance programme.
- Persons and organizations maintaing the aircraft do have access to and use only applicable current maintenance data in the performance of maintenance including modifications and repairs.  
All maintenance will be performed by qualified personell, following the methods, techniques, standards and instructions specified in the M.A.401 maintenance data. Where necessary, tools and equipment shall be controlled and calibrated to an officially recognized standard.  
For each maintenance work performed a certificate of release to service will be issued in accordance with Part 145.A.50 and M.A.801 in the aircraft logbook / tech log before the next flight.
- All relevant records concerning continuing airworthiness measures will be kept in accordance with M.A.305.
- This maintenance programme shall be examined at least annually and revised if applicable. The verification includes the issue to which extent the programme is further valid in view of the experience gained during operation on the one hand and to which extent it takes account of all new and/or revised maintenance instructions published by the holder of the type certificate and the aviation authority on the other hand.  
Every change of referenced documents specified in the maintenance programme will be incorporated in the maintenance programme, including amendments of airworthiness requirements according to Part 21.A.61 published by the holder of the type certificate.  
For this kind of amendments to the maintenance programme, a new approval needs to be applied for to the Luftfahrt-Bundesamt.

- It is a fact that the approval of this maintenance programme granted by the Luftfahrt-Bundesamt exists under the preconditions that the Luftfahrt-Bundesamt is convinced of the permanent compliance with the described maintenance provisions of the continuing airworthiness. It is further known that the Luftfahrt-Bundesamt has the right to demand revisions or revoke the approval of the maintenance programme, if information about incorrect or incomplete maintenance provisions is available.

Ocana, 01.05.2014  
place, date

Angel Viviente Core  
name (in printed letters)

AMCA 1.1.19  
  
operator's signature

D-4040

Seite 2 von 10

01.05.2014

### 3. MAINTENANCE

#### 3.1 operating documents / maintenance documents / maintenance instructions / TBO and intervals

The determination of maintenance intervals has been carried out with regard to the expected utilization of the aircraft.

##### Sailplane

type/variant: **DG-500 ELAN Trainer** serial no.: **5E112 T46** TCDS: **EASA.A.233**  
 (Please fill in the current, applicable documents.)

document	Issued by	document no	date of issue, approval status, revision status *
<i>Flight-Manual</i>	DG Flugzeugbau GmbH	DG-500 ELAN Trainer	Issue Dez. 1990 Rev. 7 vom Mai 2008
<i>Maintenance Manual</i>	DG Flugzeugbau GmbH	DG-500 ELAN Trainer	Issue Juli 1990 Rev. 2 vom September 2011
<i>Repair Manual</i>	DG Flugzeugbau GmbH	DG-500 ELAN Trainer	Issue Juli 1990 Rev. 1 vom Oktober 1992 * and subsequent revisions

task	document	interval	Release to service acc. to M.A.801
<i>Yearly Inspection</i>	<i>Maintenance Manual</i>	<i>yearly</i>	<i>Pilot/Owner part 66 certif. staff, Subpart F, part 145 organization</i>
<i>Inspection of the Rudder Cables</i>	<i>Maintenance Manual</i>	<i>every 200 h / yearly</i>	<i>Pilot/Owner part 66 certif. staff, Subpart F, part 145 organization</i>

##### Components

(Please list components that do have own maintenance instructions published by the manufacturer of the components and that are not yet part of the documents published by the manufacturer of the aircraft.)

component	issued by	document	date of issue, approval status, revision status *
<i>Safety Belts Gadringer</i>	Gadringer Gurte GmbH, Calden	Betriebsanweisung Nr. 05	dated: 10.10.1989
<i>Safety-Hook Tost G 88</i>	Tost GmbH Tost Flugzeuggerätebau München	Betriebshandbuch Tost und Tost TM 1-2001	dated: Febr. 1989, Rev. 3/2001
<i>Nose tow Hook Tost E 85</i>	Tost GmbH Tost Flugzeuggerätebau München	Betriebshandbuch Tost und Tost TM 1-2001	dated: Febr. 1989, Rev. 3/2001
<i>Compass KI-13A Compensating Instructions for Airpath Compass</i>	Airpath Instrument Company 13150 Taussig Road Bridgeton, Missouri 63044	Compensating Instructions for Airpath Compasses	16.10.2008 Rev. 18.10.2008
<i>Winter Airspeed Indicator 7 FMS 421</i>	Gebrüder Winter GmbH & Co.KG Jungingen	Einbau- und Wartungsanweisung für 6NS3	dated September 2008

Winter Altimeter 4-FGH 10	Gebrüder Winter GmbH & Co.KG Jungingen	Einbau- und Wartungs- anweisung für 4-FGH 10	dated September 2008
Winter Variometer 5 StV 5 "S"	Gebrüder Winter GmbH & Co.KG Jungingen	Einbau- und Wartungs- anweisung für St V 5	dated September 2008
Funkgerät Dittel	Dittel Avionik	Einbau. u. Be- dienungsanleitung 027.HB.00	Dated Rev. 1 Juli 1997

\* and subsequent revisions

component	task	document	interval	Release to service acc. to M.A.801
Safety Belts Gadringer	Textil new	Operator Manual	12 years	Manufacturers or Authorized Company
Safety-Hook Tost G 88	Overhaul	Tost TM 1-2001	4 years or 2000 take offs	Manufacturer Tost
Nose tow-Hook Tost E 85	Overhaul	Tost TM 1-2001	4 years or 2000 take offs	Manufacturer Tost
Compass Airpath	Überprüfung der Kompensa- tion	Compensating Instructions for Airpath Compasses	Jährlich/ nach Ver- änderun- gen am Instrumen- tenbrett	Part 66 Certif. Staff, Subpart F, part 145 organization
Winter Airspeed Indicator 7 FMS 421	Prüfung auf Dichtigkeit  Nachprüfung	Winter Einbau- und War- tungsanweisung für 6NS3	Insp. yearly  Inspection every 5 Jahre	Part 66 Certif. Staff, Subpart F, part 145 organization
Winter Altimeter 4-FGH 10	Prüfung auf Dichtigkeit  Nachprüfung	Winter Einbau- und War- tungsanweisung für 4-FGH 10	Insp. yearly  Inspection every 5 Jahre	Part 66 Certif. Staff, Subpart F, part 145 organization
Winter Variometer 5 StV 5 "S"	Prüfung auf Dichtigkeit  Nachprüfung	Winter Einbau- und War- tungsanweisung für ST V 5	Insp. yearly  Inspection every 5 Jahre	Part 66 Certif. Staff, Subpart F, part 145 organization
Funkgerät Dittel	On Condition	Handbuch für Ein- bau- und Bedie- nung	On Condi- tion	Part 66 Certif. Staff, Subpart F, part 145 organization

All life limited parts will be kept in a separate list of life limited parts (refer to appendix 6.2)

(AMC 1.1.6, 1.1.10, 1.1.11, 1.1.16, 1.1.17, 1.1.20)

### 3.2 Permitted variations from requirements published by the manufacturer

component	task / manufacturer's requirement	action when reaching the TBO	interval	Release to service acc. to M.A.801
Safety Belts Gadringer	Textil renew every 12 years	View- and Function-Inspection	yearly	part 66 certif. staff, Subpart F, part 145 organization
		Renew:	on condition	part 145 organization
Safety-Hook Tost G 88	Overhaul 4 years / 2000 take offs	View- and Function-Inspection	yearly	part 66 certif. staff, Subpart F, part 145 organization
		Renew:	2000 take offs	Tost or Authorized company
Nose tow – Hook Tost E 85	Overhaul 4 years / 2000 take offs	View- and Function-Inspection	yearly	part 66 certif. staff, Subpart F, part 145 organization
		Renew:	2000 take offs	Tost or Authorized company
Winter Airspeed Indicator 7 FMS 421	5 years	View- and Function-Inspection	On Condition	part 66 certif. staff, Subpart F part 145 organization
Winter Altimeter 4-FGH 10	5 years	View- and Function-Inspection	On Condition	part 66 certif. staff, Subpart F part 145 organization
Winter Variometer 5 StV 5 "S"	5 year	View- and Function-Inspection	On Condition	part 66 certif. staff, Subpart F part 145 organization

### 3.3 Ageing aircraft system, structural maintenance programmes, damage tolerances, corrosion prevention and control, Repair Assessment, Widespread Fatigue Damage

component	task	document	interval	Release to service acc. to M.A.801
Fuselage Zelle	Lifetime-Extension	Operator Manual	1. Step: 3000 h to 6000 h 2.. Step: 6000h to 9000 h 3. Step: 9000 h – 10000 h 4. Step: 10000 h-11000 h 5. Step: 11000 h-12000 h	part 66 certif. staff, Subpart F, part 145 organization

(AMC 1.1.12, 1.1.13, 1.1.15)



### 3.4 Additional maintenance required due to the utilization of the aircraft

component	task	document	interval	Release to service acc. to M.A.801
N/A				

### 3.5 Additional maintenance required due to variations from the data sheet as a result of:

STC (Supplemental Type Certificate) / EMZ (Ergänzungen zur Musterzulassung) / STC restricted to one individual aircraft, etc.

component	task	document	interval	Release to service acc. to M.A.801
N/A				

All applicable German ADs will be kept in a separate list of ADs/status of Service Bulletins (refer to Appendix 6.3). German ADs with recurrent intervals are marked accordingly.

(AMC 1.1.17)

### 3.6 List of national requirements published by the competent authority or European requirements published by the Agency

component / task	document	interval	Release to service acc. to M.A.801
Weighing and determination of the centre of gravity	NfL II-41/09	4 yrs	part 66 certif. staff, Subpart F, part 145 organization
Inspection of the electronical equipment and the Pitot Static system and the altitude measurement system in aircraft	NfL II-25/09	1 / 2 yrs	part 66 certif. staff, Subpart F, part 145 organization

#### **4. PILOT-OWNER MAINTENANCE TASKS FOR SAILPLANES IN ACCORDANCE WITH PART M APPENDIX VIII: "LIMITED PILOT-OWNER MAINTENANCE"**

Within the scope of the limited pilot-owner maintenance

- ☒ all tasks addressed in the table below that are applicable for the aircraft **or**  
☐ only those tasks not crossed out in the table below that are applicable for the aircraft

will be performed and released by the pilot/owner in accordance with M.A.803 and Appendix VIII to Part-M.

*[Only for operator communities]*

*As this aircraft is being operated by an operator community, all members of the operator community being certified for the performance and release of the limited pilot-owner maintenance have to be recorded with their name, pilot licence number and scope of authorization in a list attached to this maintenance programme.*

ATA	Area	Task
08	Weighing	Recalculation – Small changes of the Trim plan without needing a reweighing.
09	Towing	Tow release unit and tow cable retraction mechanism – Cleaning, lubrication and tow cable replacement (including weak links). Mirror – Installation and replacement of mirrors.
11	Placards	Placards, Markings – Installation and renewal of placards and markings required by AFM and AMM.
12	Servicing	Lubrication – Those items not requiring a disassembly other than of non-structural items such as cover plates, cowlings and fairings.
20	Standard Practices	Safety Wiring – Replacement of defective safety wiring or cotter keys, <b>excluding those in engine controls, transmission controls and flight control systems.</b> Simple Non-Structural Standard Fasteners – Replacement and adjustment, <b>excluding the replacement of receptacles anchor nuts requiring riveting.</b> Free play – Measurement of the free play in the control system and the wing to fuselage attachment including minor adjustments by simple means provided by the manufacturer.
23	Communication	Communication devices – Remove and replace self contained, instrument panel mount communication devices with quick disconnect connectors.
24	Electrical power	Batteries and solar panels – Replacement and servicing. Wiring – Installation of simple wiring connections to the existing wiring for additional non-required equipment such as electric variometers, flight computers but <b>excluding required communication, navigation systems and engine wiring.</b> Wiring – Repairing broken circuits in landing light and any other wiring for non-required equipment such as electrical variometers or flight computers, <b>excluding ignition system, primary generating system and required communication, navigation system and primary flight instruments.</b> Bonding – Replacement of broken bonding cable. Switches – This includes soldering and crimping of non-required equipment such as electrical variometers or flight computers, but <b>excluding ignition system, primary generating system and required communication, navigation system and primary flight instruments.</b> Fuses – Replacement with the correct rating.
25	Equipments	Safety Belts – Replacement of safety belts and harnesses. Seats – Replacement of seats or seat parts not involving disassembly of any primary structure or control system. Non-essential instruments and/or equipments – Replacement of self contained, instrument panel mount equipment with quick disconnect connectors. Removal and installation of non-required instruments and/or equipment. Wing Wiper, Cleaner – Servicing, removal and reinstallation not involving disassembly or modification of any primary structure, control. Static Probes – Removal or reinstallation of variometer static and total energy compensation probes. Oxygen System – Replacement of portable oxygen bottles and systems in

		approved mountings, <b>excluding permanently installed bottles and systems.</b> Air Brake Chute – Installation and servicing. ALT – Removal/Reinstallation.
27	Flight Control	Gap Seals – Installation and servicing if it does not require complete flight control removal. Control System – Measurement of the control system travel without removing the control surfaces. Control Cables – Simple optical Inspection for Condition. Gas Dampener – Replacement of Gas Dampener in the Control of Air Brake System. Co-pilot stick and pedals – Removal or reinstallation where provision for quick disconnect is made by design.
31	Instruments	Instrument Panel – Removal and reinstallation provided this is a design feature with quick disconnect, <b>excluding IFR operations.</b> Pitot Static System – Simple sense and leak check. Instrument Panel vibration damper/shock absorbers – Replacement. Drainage – Drainage of water drainage tapes or filters within the Pitot static system. Flexible tubes – Replacement of damaged tubes.
32	Landing Gear	Wheels – Removal, replacement and servicing, including replacement of wheel bearings and lubrication. Servicing – Replenishment of hydraulic fluid. Shock Absorber – Replacement or servicing of elastic cords or rubber dampers. Shock Struts – Replenishment of oil or air. Landing gear doors – Removal or reinstallation and repair including operating straps. Skis – Changing between wheel and ski landing gear. Skids – Removal or reinstallation and servicing of main, wind and tail skids. Wheels fairing (spats) – Removal and reinstallation. Mechanical brakes – Adjustment of simple cable operated systems. Brake – Replacement of worn brake pads. Springs – Replacement of worn or aged springs. Gear Warning – Removal or reinstallation of simple gear warning systems.
34	Navigation	Software – Updating self contained, instrument panel mount navigational software databases, <b>excluding automatic flight control systems and transponders</b> and including update of non-required instruments/equipments. Navigation devices – Removal and replacement of self contained, instrument panel mount navigation devices with quick disconnect connectors, <b>excluding automatic flight control systems, transponders, primary flight control system.</b> Self contained data logger – Installation, data restoration.
51	Structure	Fabric patches – Simple patches extending over not more than one rib and not requiring rib stitching or removal of structural parts or control surfaces. Protective Coating – Applying preservative material or coatings where no disassembly of any primary structure or operating system is involved. Surface finish – Minor restoration of paint or coating where the underlying primary structure is not affected. This includes application of signal coatings or thin foils as well as Registration markings. Fairings – Simple repairs to non-structural fairings and cover plates which do not change the contour.
53	Fuselage	Upholstery, furnishing – Minor repairs which do not require disassembly of primary structure or operating systems, or interfere with control systems.
56	Windows	Side Windows – Replacement if it does not require riveting, bonding or any special process. Canopies – Removal and re-fitment. Gas dampener – Replacement of Canopy Gas dampener.
57	Wings	Wing Skids – Removal or reinstallation and service of lower wing skids or wing roller including spring assembly. Water ballast – Removal or reinstallation of flexible tanks. Turbulator and sealing tapes – Removal or reinstallation of approved sealing tapes and turbulator tapes.



## **5. SUPPLEMENTARY AND ADDITIONAL MAINTENANCE PROCEDURES**

### **5.1 permitted extensions of time limits and variations from maintenance intervals in accordance with NfL II-44/09**

- basic intervals dependent on operating hours

scheduled maintenance according to MP with a basic interval of <b>up to 100 operating hours</b>	<b>10%</b>
scheduled maintenance according to MP with a basic interval of <b>over 100 up to 1000 operating hours</b>	<b>5%</b>
scheduled maintenance according to MP with a basic interval of <b>over 1000 operating hours</b>	<b>50 hrs</b>

- basic intervals dependent on the calendar

scheduled maintenance according to MP with a basic interval of <b>up to 2 months</b>	<b>5 days</b>
scheduled maintenance according to MP with a basic interval of <b>more than 2 months up to 1 year</b>	<b>15 days</b>
scheduled maintenance according to MP with a basic interval of <b>more than 1 year</b>	<b>30 days</b>

(AMC 1.1.7)

### **5.2 Additional maintenance instructions**

#### **Aircraft defects**

In case of aircraft defects the determination of corrective actions before any further flight and the determination which defects can be deferred, will only be carried out in accordance with M.A.403 by the authorized certifying staff using applicable maintenance documentation.

Aircraft defects are e.g.:

- external damage,
- lightning strike,
- hard landing,
- overweight landing

and other special occurrences.

## 6. APPENDIX TO THE MAINTENANCE PROGRAMME

(not subject to approval)

6.1 List of life limited parts

6.2 List of ADs/status of Service Bulletins/record of performance for ADs with non-recurrent as well as recurrent intervals.

6.3 Test programme for electrical equipment NfL II 25/09

6.4 Checklists

name	first name	scope of authorization	Pilot/licence no.
Viviente Core	Angel	Pilot/Owner – Complete in accordance with item 4	...
Munoz	Pilar	Pilot/Owner – Complete in accordance with item 4	...
...	...	...	...

[Note: In case the authorization for pilot-owner maintenance does not apply to all persons named above in the same way, the applicable sequential number of maintenance tasks according to Appendix 1 is to be entered in the column "scope of authorization" for each person.]