**DG Flugzeugbau GmbH**
**76646 Bruchal**

# Service Info
Nr. 93-15



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| Gegenstand<br>Subject | : | Bekanntgabe der EASA Emergency AD No. 2015-052-E betreffend Triebwerk Solo 2350C<br><br>Introducing EASA Emergency AD No. 2015-052-E concerning power plant Solo 2350C |
| Betroffen<br>Applicability | : | DG-1000<br>Baureihe/variant DG-1000T |
| Dringlichkeit<br>Effectivity | : | 31. März/March 2015 |
| Vorgang | : | Es wurde ein Motorwellenbruch und die daraus entstandene Propellerablösung bei einem Solo 2350 C Motor gemeldet. Aufgrund dieses unsicheren Zustandes hat die EASA die Emergency AD 2013-0217-E herausgegeben um den Betrieb des Motors zu verbieten. Nachdem diese EAD herausgegeben wurde hat Solo Kleinmotoren GmbH Anweisungen entwickelt wie eine modifizierte Exzenterachse zu installieren ist um den Betrieb wieder aufnehmen zu dürfen. Diese Änderung wurde durch EASA AD 2013-0217R1 bestätigt. Nach Herausgabe dieser AD wurde ein weiterer Motorwellenbruch mit Propellerablösung an einem Solo 2350 C Motor gemeldet der entsprechend der Solo Kleinmotoren Service Anweisungen (SB) 4603-14 angepasst wurde. Aufgrund der oben genannten Gründen ersetzt die EAD 2015-052-E die EASA AD 2013-0217R1 und bis zur Verfügbarkeit der durch die EASA zugelassenen geänderten Anweisungen ist der Betrieb aller Solo 2350 C Motoren, einschließlich derer die durch die Solo Kleinmotoren SB 4603-14 angepasst wurden, verboten. Diese AD erfordert eine einmalige Inspektion um Risse an der Propellerwelle zu erkennen und eine Berichterstattung der Ergebnisse. Diese AD ist eine vorübergehende Maßnahme und eine weitere AD wird folgen. |
| Reason | : | An occurrence of engine shaft failure and consequent propeller detachment was reported on a Solo 2350 C engine. To address this unsafe condition, EASA issued Emergency AD 2013-0217-E to prohibit operation of the engine. After that AD was issued, Solo Kleinmotoren GmbH developed instructions to install a modified excenter axle-pulley assembly, allowing to resume operation of the engine. This optional modification was introduced through EASA AD 2013-0217R1. Since that AD was issued, another occurrence of engine shaft failure and propeller detachment was reported on a Solo 2350 C engine which had been modified in accordance with Solo Kleinmotoren Service Bulletin (SB) 4603-14. For the reasons described above, the EAD 2015-052-E supersedes EASA AD 2013-0217R1 and, pending the availability of EASA approved modification instructions, prohibits operation of all Solo 2350 C engines, including those engines which have been modified in accordance with Solo Kleinmotoren SB 4603-14. This AD also requires a one-time inspection of the propeller shaft to detect cracks and the reporting of findings. This AD is considered to be a temporary measure and further AD action will follow. |
| Massnahmen | : | (1) Ab dem Inkrafttreten der EAD (31. März 2015) darf das Triebwerk nicht mehr benutzt werden, bis es nach neuen EASA anerkannten Anweisungen (zu erstellen von der Fa. Solo) geändert wurde.<br>(2) Anpassungen am Motor entsprechend der Anweisungen durch Solo Kleinmotoren SB 4603-14 sind laut Paragraf (1) dieser AD nicht zulässig.<br>(3) Innerhalb 30 Tagen nach Inkrafttreten der AD ist eine einmalige Inspektion an der Propellerwelle durchzuführen (Magnetpulver- oder Farbeindringprüfung, lt. Solo Anleitung zur Inspektion 4603-1). Auch ist ein Bericht an Solo Kleinmotoren GmbH (Adresse siehe unten) zu erstatten, auch wenn keine Auffälligkeiten aufgetreten sind. Keine Auffälligkeiten während der Inspektion ersetzten nicht die Beschränkungen die durch Paragraf (1) dieser AD verhängt wurden. |
| Instructions | | (1) From the effective date of the AD (March 31st, 2015), do not operate the |

engine, unless the engine is modified in accordance with new instructions approved by EASA (instructions to be issued by the Solo company), which remove the operational restriction imposed by this AD.

(2) Modification of an engine in accordance with the instructions of Solo Kleinmotoren SB 4603-14 is not acceptable to comply with paragraph (1) of this AD.

(3) Within 30 days after the effective date of this AD, accomplish a one-time inspection (magnetic particle or dye penetrant, refer to Solo Inspection Instruction 4603-1 as an acceptable procedure) of the propeller shafts and report the results, also if there are no findings, to Solo Kleinmotoren GmbH (see address below). No findings during the inspection do not remove the operational restriction imposed by paragraph (1) of this AD.

Anlagen/Attachments : SOLO Inspection Instruction 4603-1, EASA emergency AD No. 2015-052-E

Bruchsal 31.03.2015

Bearbeiter/Author:
J.B. Wassenaar



| EASA | EMERGENCY AIRWORTHINESS DIRECTIVE |
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| | **AD No.: 2015-0052-E**<br><br>**Date: 27 March 2015**<br><br>Note: This Emergency Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation. |

This AD is issued in accordance with EU 748/2012, Part 21.A.3B. In accordance with EU 1321/2014 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [EU 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].

| **Design Approval Holder's Name:** | **Type/Model designation(s):** |
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| SOLO Kleinmotoren GmbH | Solo 2350 C engines |

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| TCDS Number: | EASA.E.219 |
| Foreign AD: | Not applicable |
| Supersedure: | This AD supersedes EASA AD 2013-0217R1 dated 05 May 2014. |

| **ATA 72** | **Engine – Operation Restriction** |
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| Manufacturer(s): | Solo Kleinmotoren GmbH |
| Applicability: | Solo Model 2350 C engines, all manufacturer serial numbers equipped with a non-foldable propeller.<br><br>These engines are known to be installed on, but not limited to:<br><br>DG-Flugzeugbau Model DG-1000T powered sailplanes. |
| Reason: | An occurrence of engine shaft failure and consequent propeller detachment was reported on a Solo 2350 C engine.<br><br>This condition, if not corrected, could lead to additional cases of release of the propeller from the engine, possibly resulting in damage to the sailplane, or injury to persons on the ground.<br><br>To address this unsafe condition, EASA issued Emergency AD 2013-0217-E to prohibit operation of the engine.<br><br>After that AD was issued, Solo Kleinmotoren GmbH developed instructions to install a modified excenter axle-pulley assembly, allowing to resume operation of the engine. This optional modification was introduced through EASA AD 2013-0217R1.<br><br>Since that AD was issued, another occurrence of engine shaft failure and propeller detachment was reported on a Solo 2350 C engine which had been modified in accordance with Solo Kleinmotoren Service Bulletin (SB) 4603-14.<br><br>For the reasons described above, this AD supersedes EASA AD 2013-0217R1 and, pending the availability of EASA approved modification instructions, |

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| | prohibits operation of all Solo 2350 C engines, including those engines which have been modified in accordance with Solo Kleinmotoren SB 4603-14. This AD also requires a one-time inspection of the propeller shaft to detect cracks and the reporting of findings.<br>This AD is considered to be a temporary measure and further AD action will follow. |
| Effective Date: | 31 March 2015 |
| Required Action(s) and Compliance Time(s): | Required as indicated, unless accomplished previously:<br>(1) From the effective date of this AD, do not operate the engine, unless the engine is modified in accordance with EASA approved instructions which remove the operational restriction imposed by this AD.<br>(2) Modification of an engine in accordance with the instructions of Solo Kleinmotoren SB 4603-14 is not acceptable to comply with paragraph (1) of this AD.<br>(3) Within 30 days after the effective date of this AD, accomplish a one-time inspection (magnetic particle or dye penetrant, refer to Solo Inspection Instruction 4603-1 as an acceptable procedure) of the propeller shafts and report the results, also if there are no findings, to Solo Kleinmotoren GmbH (see address below). No findings during the inspection do not remove the operational restriction imposed by paragraph (1) of this AD. |
| Ref. Publications: | Solo Inspection Instruction 4603-1, dated 26 March 2015. |
| Remarks: | 1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.<br>2. The results of the safety assessment have indicated the need for immediate publication and notification, without the full public consultation process.<br>3. Enquiries regarding this AD should be referred to the Safety Information Section, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu.<br>4. For any question concerning the technical content of the requirements in this AD, please contact:<br>Solo Kleinmotoren GmbH, Postfach 600152,<br>71050 Sindelfingen, Germany<br>Telephone: +49 7031 301-0, Fax: 49 7031 301-136,<br>E-mail: aircraft@solo-germany.com. |

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| Motortyp:<br>Engine type: | Solo 2350C<br>Solo 2350C |
| Gegenstand: | Kontrolle der Achse 20 31 216 auf Risse und gegebenenfalls Austausch des Teils. Eingebaut in Flugzeuge DG 1000T |
| Subject | Inspection of the axle 20 31 216 for cracks and if necessary replacement of the part. Installed in aircrafts DG 1000 T |
| Dringlichkeit<br>Urgency | Innerhalb eines Monats nach Veröffentlichung der AD<br>Within one month after release of AD |
| Vorgang<br>Condition | In zwei Fällen trat ein Bruch der Exzenterachse (Nr. 20 31 216) des Riemengetriebes auf.<br>In two occasions the eccentric axle (No. 20 11 316) of the reduction gear broke. |
| Maßnahmen<br>Actions | Es ist eine Rissprüfung an der im Bild 1 gekennzeichneten Stelle der Achse durchzuführen, und der Befund ist der Fa. SOLO Kleinmotoren GmbH per Mail (aircraft@solo-germany.com) unter Angabe der Werknummer des Motors und der Betriebszeit seit Austausch der Achse mitzuteilen. Dazu ist es erforderlich, die Achse komplett mit der Riemenscheibe auszubauen. Als Rissprüfungsverfahren können eine Magnetpulver Rissprüfung nach DIN EN ISO 9934 oder das Farbeindringverfahren nach EN ISO 3452 angewendet werden.<br>A crack detection has to be carried out in the area described in picture 1 and the result has to be sent to SOLO Kleinmotoren GmbH by Mail (aircraft@solo-germany.com) adding the serial number of the engine and operational time since change of the axle. The crack detection can be magnetic particle crack detection according to DIN EN ISO 9934 or dye penetrant crack detection according to EN ISO 3452. |
| Material<br>Material | Je nach Prüfverfahren<br>According to the test method |
| Hinweis<br>Note | Die Prüfung ist in einem genehmigten Instandhaltungsbetrieb durchzuführen.<br>The inspection has to be accomplished by a certified maintenance organization |

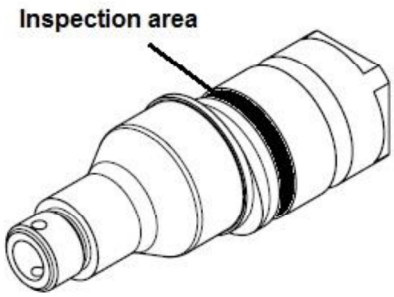



Bild 1 / picture 1