

- Subject:**
- A) Measures to prevent the power-plant from remaining retracted
 - A1) Software modification of the power-plant instrument
 - A2) Installation of a harder stop
 - A3) Modification of the spiral spring in the engine compartment
 - B) Further modifications in this respect
 - B1) Modification of the gas-spring
 - B2) Modification of the bushing on top of the spindle

Applicability: All ASW 27-18E („ASG 29E“), TCDS EASA.A.220

Classification: Minor Change

Urgency: Optional
Measure A1 through A3 strongly recommended.
Standard on new production.

Reason: The electric spindle, which retracts and extends the engine, can seize, when the spindle is parked in the retracted position under high tension.

Measure A1 retracts the engine more gently. As a result, even a badly misadjusted limit switch does not lead to a serious bracing of the spindle. The adjustment of the limit switch is not so critical any more. Measure A2, the harder stop prevents the vane of the limit switch from deforming under dynamic loads. Measure A3, the softer spiral spring, reduces the loads on the spindle in the retracted position.

Through measure B1 the gas-spring is damped in the direction of retraction. Thus, gusts and positive load factors have less influence on the speed retraction. Measure B2 makes the bushing somewhat more smooth-running.

Action: A1) The power-plant instrument must be updated with a new software version. The new version-numbers are:

	without TN4 Propeller Ø1,2m	With TN4 Propeller Ø1,0m
Software-Version	S1.07	S1.07c

A2) Replacement of the stop for the crank case in the engine bay. A stop made from PE replaces the one previously installed, which was made from PUR-foam.
see drawing 298.67.9002, issue 01.09.09
drawing 298.11.1011 is also affected, new issue 01.09.09

A3) Spiral spring according to drawing 298.67.0020, issue 01.09.09
Retrofit or Exchange according to drawing 298.67.9001

B1) If the gas spring in the engine compartment is labelled with a production date before June 2009, it is replaced with AS-part number 298.67.1004.

The replacement of the gas spring is described in Maintenance Instruction E of the ASW 27-18E. Introduction of Maintenance Instruction E makes it necessary to replace page 12.11 of the maintenance manual with a page of revision TN 06 / 01.09.09

B2) The bushing on top of the spindle is replaced with a part according to drawing 298.67.0009, issue 01.09.09.

Material and Drawings:

A)

<i>qty</i>	<i>part name</i>	<i>part-nr</i>
1	Drawings 298.67.9001 and 298.67.9002	
1	Bottom stop for engine	298.67.0204
1	Blind rivet nut M6x9x18, splined, steel	
1	Countersunk screw M6x40 DIN 7991 8.8	
1	Spiral spring	298.67.0020
2	Cable tie, long, black	

B)

<i>qty</i>	<i>part name</i>	<i>part-nr</i>
1	Maintenance Instruction E of the ASW 27-18E	
1	Gas spring engine compartment ASW 27-18E	298.67.1004
1	Bushing	298.67.0009

Mass and C.G.:

The differences in weight are so small that a weight and balance procedure is not necessary.

Notes:

In the last part of the retraction, the modified software moves the power-plant stepwise. Due to the hard stop, the noise at the end of the retraction is louder,

Changes of the software/hardware-version may only be accomplished by Messrs Alexander Schleicher GmbH & Co. (AS) or by the manufacturer of the engine control unit, ILEC. Therefore, the engine control unit must be sent to Messrs AS or the manufacturer, Messrs ILEC. Please declare the version number needed (either S1.07 or S1.07c, see action).


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To display the version numbers, switch on the power-plant instrument and retract the engine. A after a short latency a text moves across the display. The software-version is marked with a 'S' and the hardware-version is marked with a 'H' (i.e.: H1.03 S1.07c).

All actions are to be inspected by certifying staff according to Commission regulation (EC) 2042/2003 Part M / Part 66¹ in the scope of a modification, and have to be certified in the sailplane inspection documents and in the sailplane logbook. The change of the manual pages can be done by the operator of the sailplane himself. und must be entered on the page „Record of Revisions“ and in the „List of effective pages“.

Poppenhausen, on the 09.09.2009

Alexander Schleicher
GmbH & Co.

i.A. 
(M.Greiner)

The German original has been approved by the EASA at the date of the 28.10.09 with the Minor Change Approval 10027752.

¹ As long as no provisions for certifying staff for sailplanes and powered sailplanes were laid down, relevant legislation of the member states is applicable (§66.A.100).