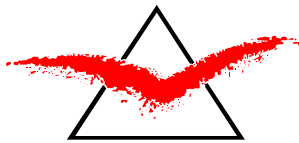


# **Trim Tab Spring Modification**

**CTSW2006**



**FLIGHT DESIGN**

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## **2 Type of Maintenance**

Heavy

## **3 Minimum Level of Certification Required**

Repairman, Light Sport Aircraft-Maintenance (RLSA-M). Task Specific: can be completed only by a responsible individual, which has received Flight Design Airplane Operation Training.

## **4 General**

Set the plane on parking brake and ensure good access to the tail of the aircraft. Ensure only new self-locking nut DIN 985 are used. Please, read all document before start working.

**Pay attention all using here spring are under big forces – BE CAREFULL!**

## **5 Used drawings**

KA 6060000-01 ASSY o.i.

KA 6060040 ASSY o.i.

## **6 New parts**

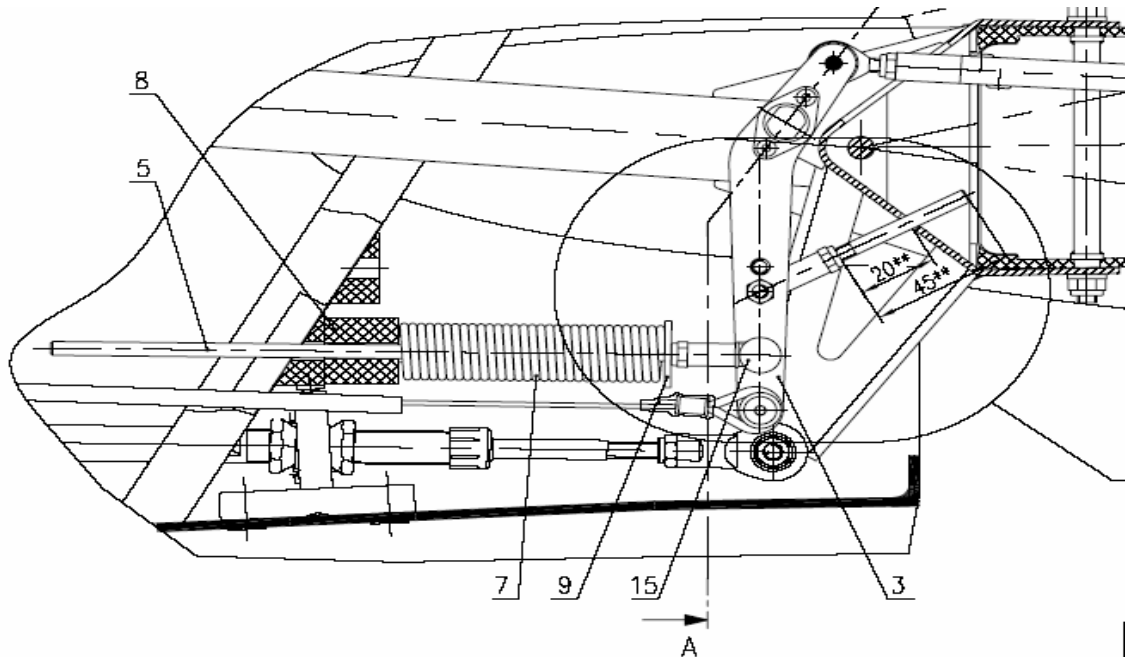
Telescopic Guide (KA 6060040 ASSY o.i.)

Spring with 37 turns 260 mm length (like KA 6060007)



## 7 Removing of old spring

1. Remove safety pin of the Angle Ball Joint M5 (pos 15)
2. Carefully disconnect head of Angle Ball Joint M5 (pos 15) from the ball head (screwed to the Rocker Arm pos. 3), by moving it to the left side. Attention, the spring is under high force (approx. 250 N) and releases to a length of approx. 250 mm.



Drawing 1

**Note:**

A tool like shown on the pictures 1 and 2 is of good use to hold the spring, when pressed against the Angle Ball Joint (pos. 15) while relasing the joint.



Picture 1



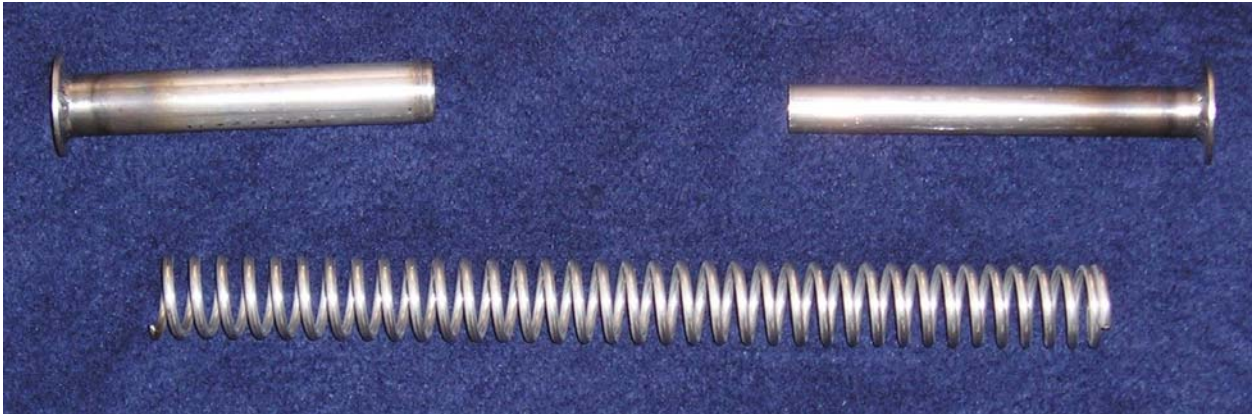
Picture 2

3. Remove the following parts from the Assembly:  
Washer (pos 8);  
Washer (pos 9);  
Spring (pos. 7).



## **8 Install telescopic guide with new spring**

The telescopic guide consists of two tubes with washer welded to one end of each, that slide one in the other. The telescope supports the new spring from inside and is itself guided by the 5mm diameter rod (pos. 5 in drawing 1). The parts are shown in picture 3. The new spring has 37 windings and a length of approx. 260mm (the old spring had 35 windings).



Picture 3

To install the spring with telescopic guide, compress the spring and hold it in compressed state using safety wire or ty-raps. Carefully grease the outside of both telescopic tubes and the flanges, where the spring will have contact. This is to ensure smooth operation of the telescopic guide itself and of the spring guided by it, when installed. Insert the telescopic tubes to the pre-tensioned spring. Insert the 5mm diameter rod (pos. 5 in drawing 1) to the telescopic guide.

Insert the telescopic system with spring and rod to the lower hole in the shear wall of the fin (same position than the old spring. Caution, do not use the upper hole / attachment area!)

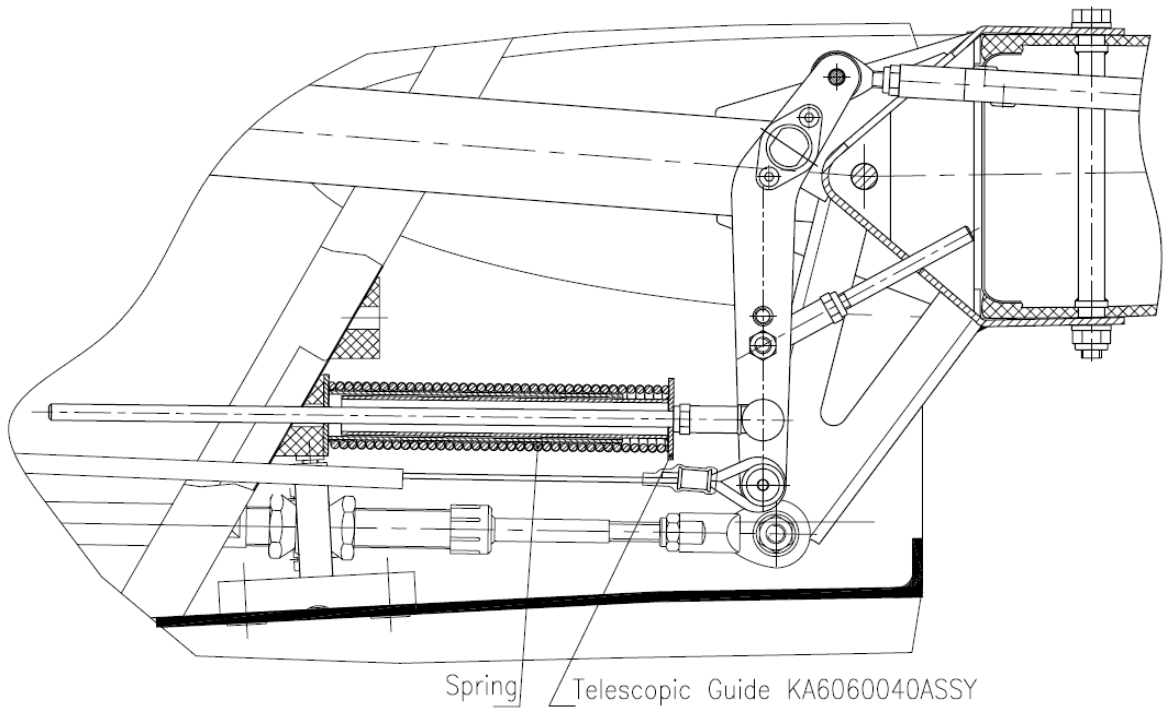
Snap the Angle Ball Joint to the Ball Head attached to the Rocker Arm. And secure the ball head with the safety pin.

Release the spring by removing the safety wires or ty raps, whatever was used. Be careful to fully remove the complete safety wire or ty raps used as tool.

Depending from the overall adjustment of the elevator the free length between the spring attachment points might vary for the individual plane. The telescope is designed as to deliver maximum possible guidance in the design operation point. If at your airplane the unlikely case happens and the telescope comes to a block when trimmed to max. fast speed, the inner tube of the telescope can be shortened carefully. In this case take care, that the cutting edges are properly deburred as to allow smooth operation of the telescope.

Drawing 2 shows the new installation.

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Drawing 2

Check deflection angles of trim tab & stabilator following the maintenance manual of the aircraft and adjust deflections if necessary.

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## 9 Revisions

The Revisions pages are updated by Flight Design each time revision is issued. They contain a list of all revisions made to the document since its original issue.

Revision No.	Date Released	Affected Chapters	Affected Pages	Approved By
Original Issue	13.10.2006	N/A	N/A	