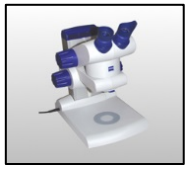
CHECKING THE CO-AXIAL ESCAPEMENT FUNCTIONS

TABLE OF CONTENTS

1. Recommended tools

Image	Description	Use / Remarks
	TOOL FOR CHECK CO-AXIAL 5060002	Calibre 2500 and family
	TOOL FOR CHECK CO-AXIAL 5060004	Calibre 3313 and family
	TOOL FOR CHECK CO-AXIAL 5060055	Calibre 8500 and family
	TOOL FOR CHECK CO-AXIAL 5060119	Calibre 8520 and family
	TOOL FOR CHECK CO-AXIAL 5060154	Calibre 9300 and family

Image	Description	Use / Remarks
	TOOL TO CONTROL THE CALIBRES 5060111	Calibres 3888, 3890 and 3330
	TOOL CHECK CO-AXIAL CALIBRE 8800 AND FAMILY 506W001661	Calibre 8800
	MICROSCOPE STEREO STEMI DV4 STATIF C LED 5059000810	To check escapement function

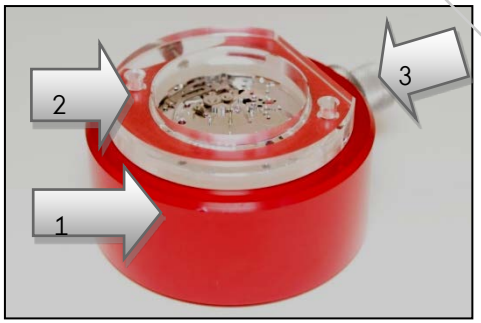
2. General

In 1999 Omega introduced a 2 level Co-Axial escapement, which has been improved by a 3 level Co-Axial escapement in 2007.
Due to the complexity of the escapement design, they both need the special movement holders for checking the escapement functions and some general rules have to be followed:

1. Test the escapement functions at each intervention.
2. Check the escapement function always before cleaning the movement.
3. It is not allowed to change the position of the pallet jewels.
4. Malfunctions can only be fixed by replacing the escapement parts.

3. Use of the TOOL TO CHECK THE ESCAPEMENT

The movement holder must be used **together with a microscope** (Ref. 505 900 0810).
The procedure is as follows:

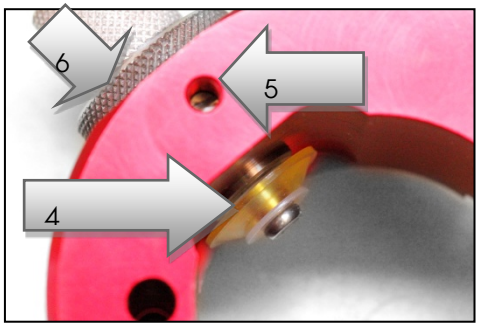


1. Remove the dial and hands as well as all parts of additional functions on the dial side (calendar, GMT etc.) to assure a good view of the movement.

2. Fit the movement on the movement holder (1) (movement side down).

3. Fix the movement on the movement holder with the plastic ring (2).

4. Make sure that the rubber wheel (4) inside the movement holder is in contact with the balance wheel.
   If not:



- Unscrew the blocking screw (5).
- While adjusting the rubber wheel always secure the eccentric wheel (6) against the movement holder
- Turn the eccentric wheel (6) to modify the position of the rubber wheel.
- To avoid damage or any influence on the escapement check, there should be minimal contact between the rubber wheel (4) and the balance rim.
- Fix the blocking screw (5).

5. Turn the handle (3) carefully forwards and backwards and control the following 4 checks under the microscope. **Important: Always complete the full escapement function**

ATTENTION

There may appear to be a malfunction during check no. 1 (locking of the teeth on the entry pallet). Tests and analysis have shown that the vast majority of movements work perfectly.

In fact, the apparent malfunction is due to the slow rotation of the handle on the escapement checking tool and therefore the balance wheel.

Therefore, from now on, checks 1, 3, 4 and 6 must be done with a rapid rotation of the handle ("dynamic" check). This allows for better simulation of the actual operation of the movement.

The following video shows how to proceed.

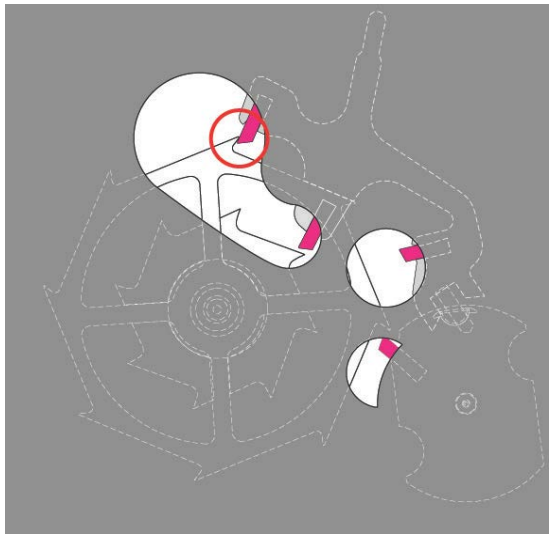
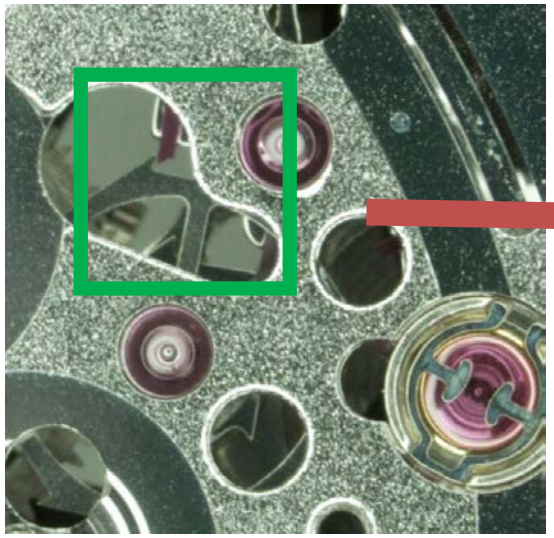
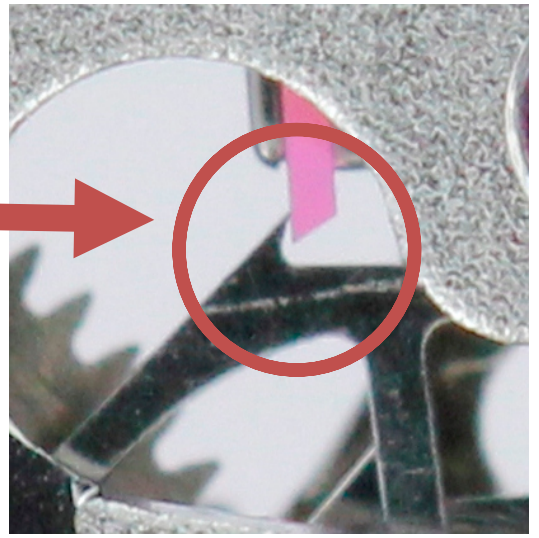
If one of the functions is not working correctly during the dynamic control (rapid rotation), the escapement components must be replaced until all functions work correctly, as done until now.

4. Video: "Speed of Co-Axial escapement function checks"

WATCH VIDEO	Video: "Speed of Co-Axial escapement function checks"

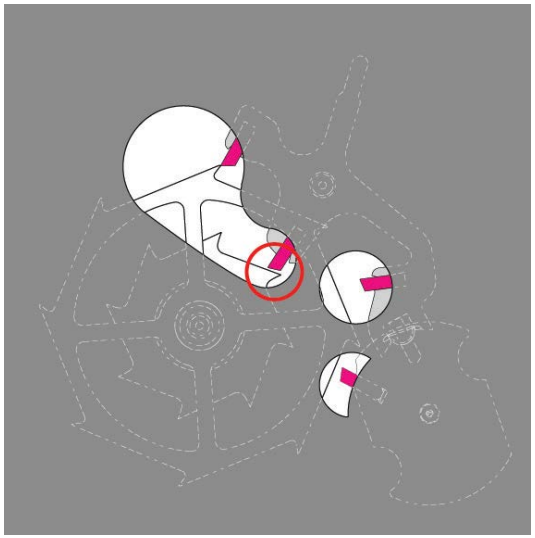
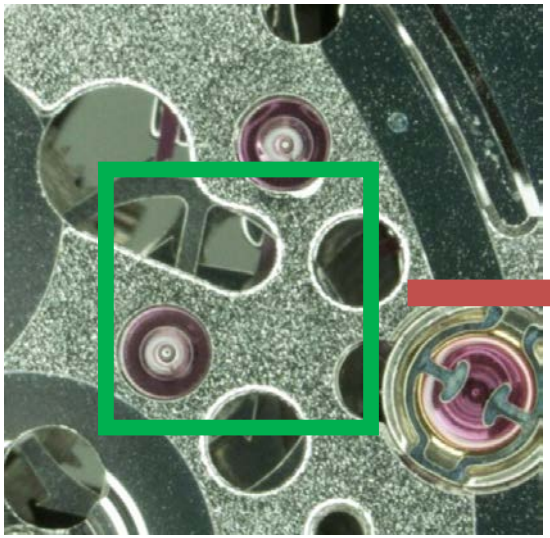
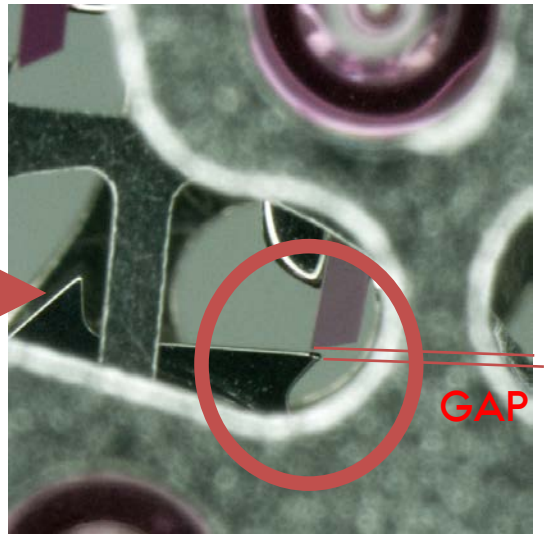
5. Check No 1

Locking position entry side: All 8 teeth of the escape wheel must fall directly on the locking face of the pallet.

Check		
		

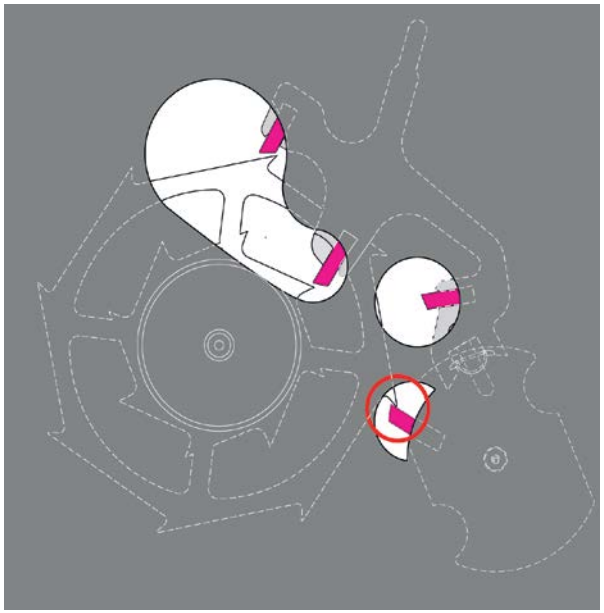
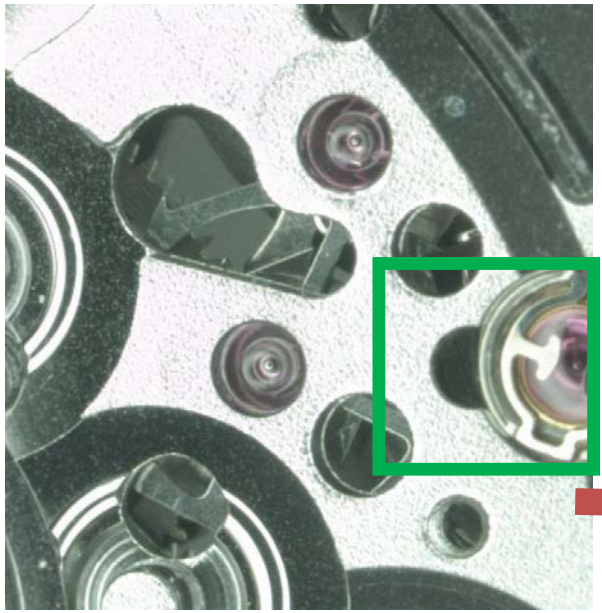
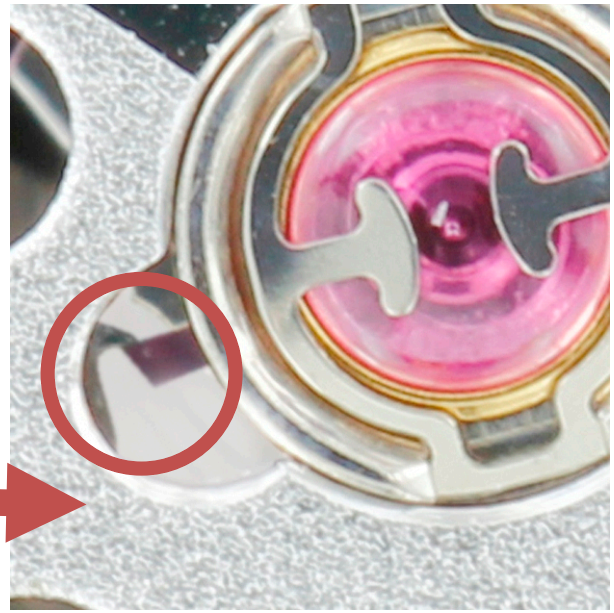
6. Check No 2

Security entry side: The tip of the impulse pallet must pass all 8 teeth of the pinion without touching.

Check		
		

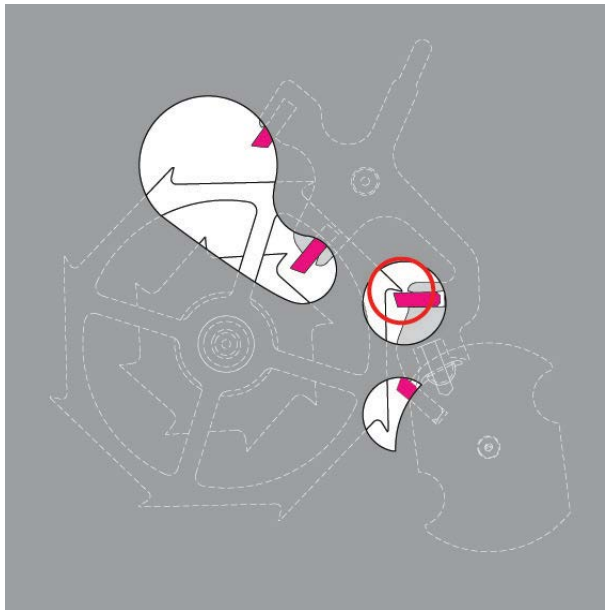
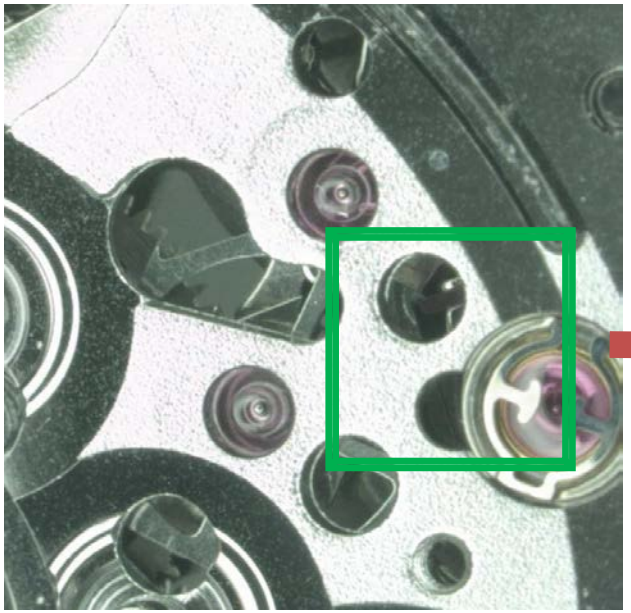
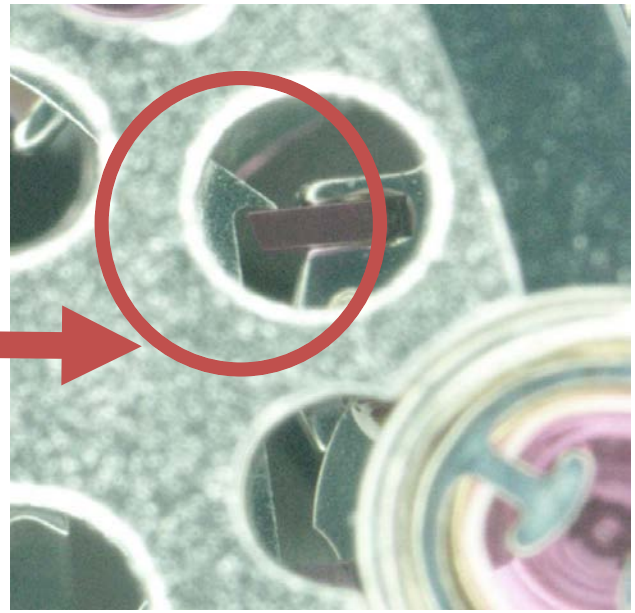
7. Check No 3

Impulse by balance: All 8 teeth of the escape wheel must give a clear impulse to the roller impulse pallet.

Check		
		

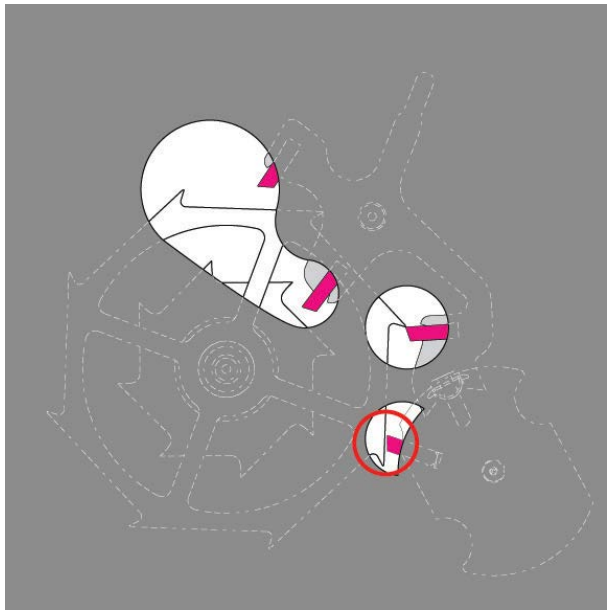
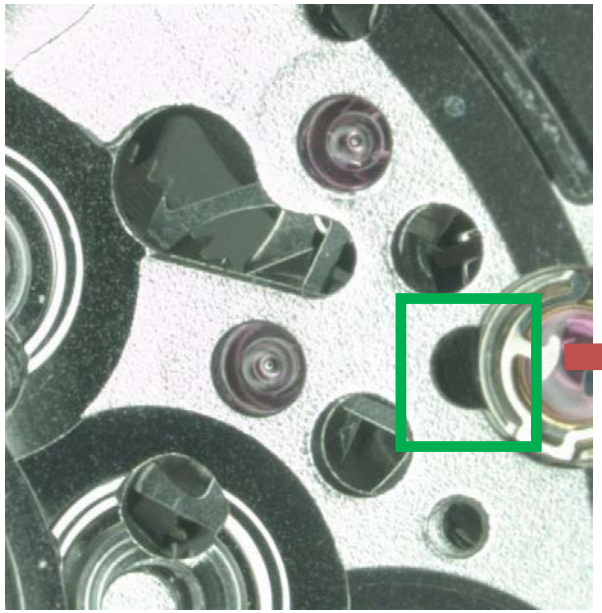
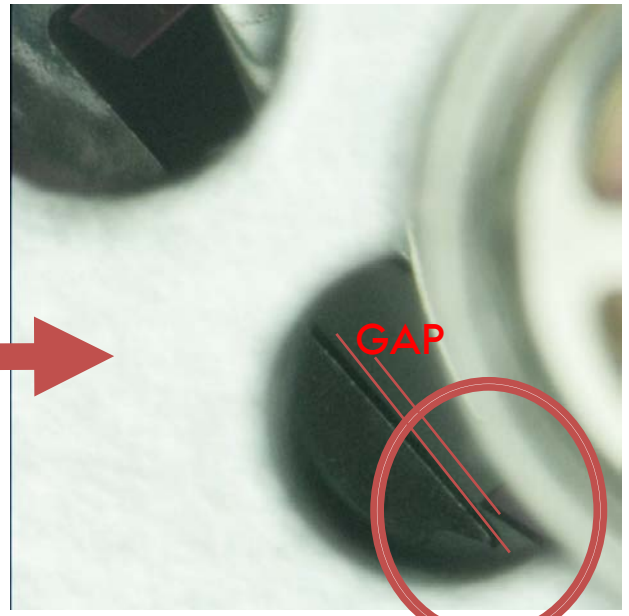
8. Check No 4

Locking position exit side: All 8 teeth of the escape wheel must fall directly on the locking face of the pallet.

Check		
		

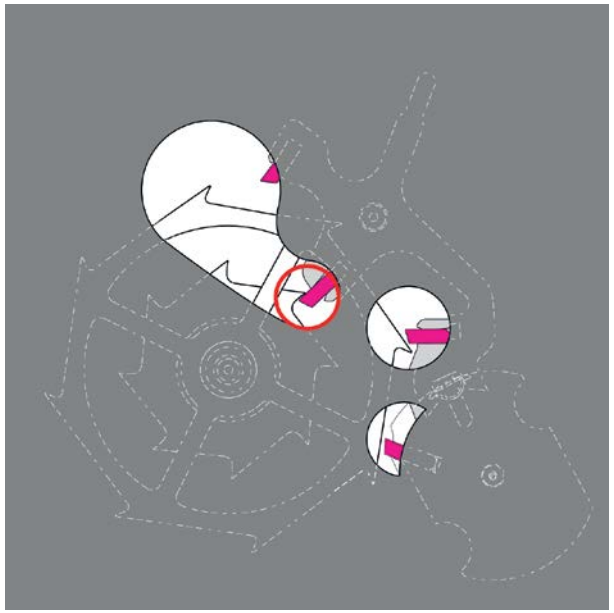
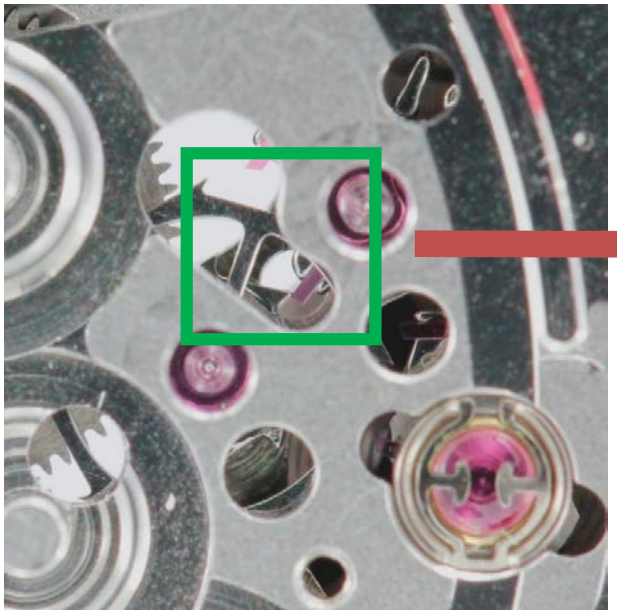
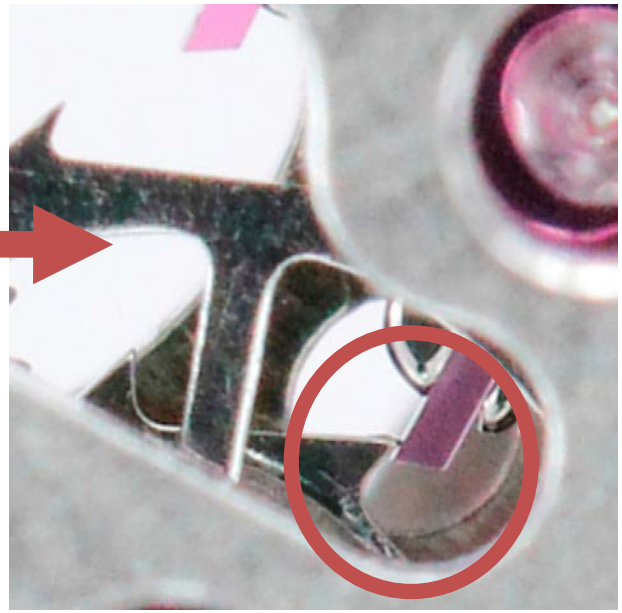
9. Check No 5

Security exit side: The tip of the impulse pallet must pass all 8 teeth of the wheel **without** touching.

Check		
		

10. Check No 6

Impulse by pallet fork: All 8 teeth of the escape pinion must give a clear impulse to the pallet fork impulse jewel.

Check		
		

11. History of modifications

CHANGES OF THE DOCUMENT		
Date	Made	Modifications
03.08.2017	selrom	All modifications are highlighted in cyan. The document has been adapted at the new layout