TECHNICAL COMMUNICATION 24

14‴ **7733**
7734
7736

31.00 mm

RF 7733

dia. 31.00 mm

Chronograph movement, minute-recorder (30 or 45 m), 2 pushers, cam mechanism, 18,000 vibrations per hour, height 6.00 mm.

Fig. 1

Fig. 2

Derived calibers

RF 7734

Chronograph movement, minute-recorder (30 or 45 m), 2 pushers, cam mechanism, 18,000 vibrations per hour, date shown through an aperture in the dial, height 6.65 mm.

Fig. 3

RF 7736

Chronograph, recorders (30 m and 12 hours), 2 pushers, cam mechanism, 18,000 vibrations per hour, height 7.40 mm.

Fig. 4

EBAUCHES SA
2001 NEUCHATEL SUISSE

1. Introduction

This technical communication is intended for watchmakers who wish to familiarize themselves with the method of repairing these chronograph calibers.

2. Dismantling the movement

2.1. Dismantling the hour-recorder mechanism of caliber 7736.
2.2. Dismantling the date-indicator mechanism of caliber 7734.
2.3. Dismantling the chronograph mechanism of calibers 7733, 7734 and 7736.

Important

Before starting the above operations, remove the hands and the dial. Let down the barrel; for this purpose, set the chronograph mechanism to the return-to-zero position and hold back the click with a small pointed tool or screw-driver (see fig. 5).

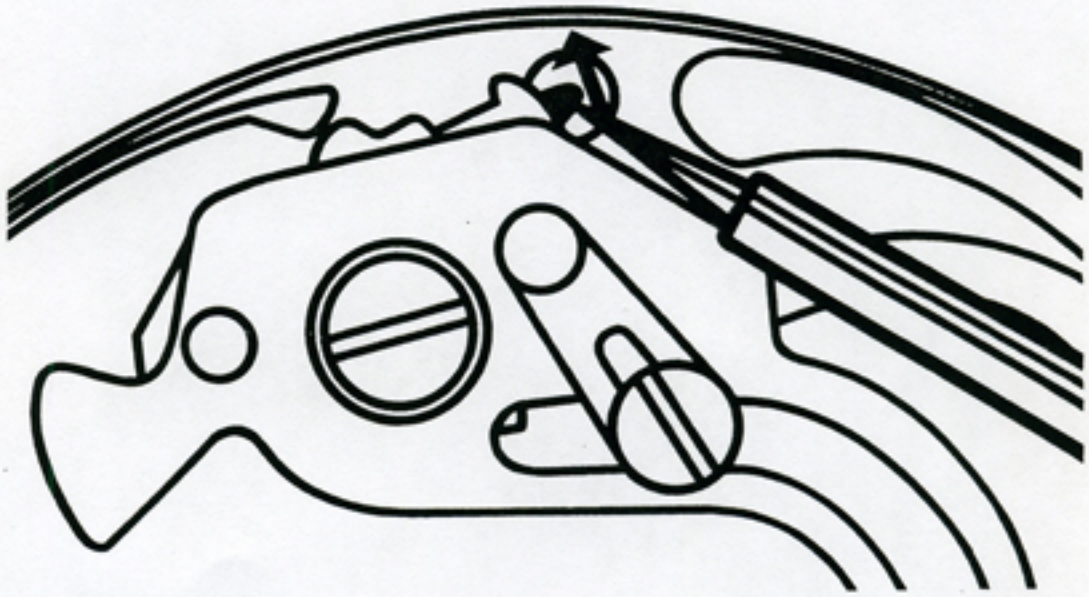


Fig. 5

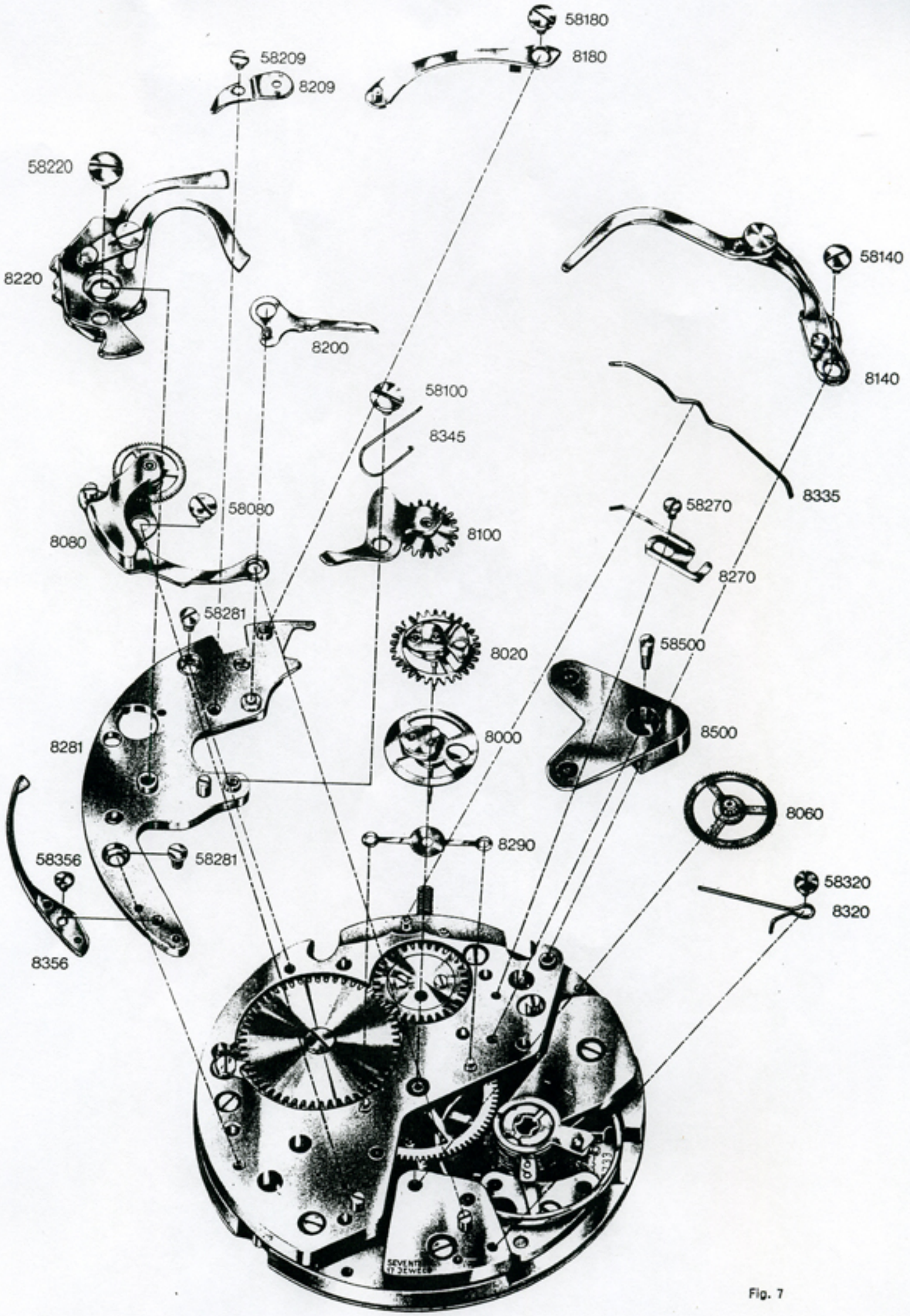
2.1. Dismantling the hour-recorder mechanism of caliber 7736

2.1.1. Remove the hour wheel No. 255 and the cannon pinion No. 245.
2.1.2. Loosen and take out the screw No. 58710 of the driving-pinion friction spring; remove the driving-pinion friction spring No. 8710 and the winding-pinion guard No. 470.
2.1.3. Loosen and take out the hour-hammer screw No. 58680 and remove the hour hammer No. 8680.
2.1.4. Loosen and take out the screw No. 58690 of the hour-recorder stop lever and remove the hour-recorder stop lever No. 8690.
2.1.5. Loosen and take out the switch-lid screw No. 58641 and remove the switch lid No. 8641.
2.1.6. Loosen and take out the conveyor screw No. 58609 and remove the conveyor No. 8609.
2.1.7. Loosen the conveyor-spring screw No. 58720 and remove the conveyor spring No. 8720.
2.1.8. Remove the switch No. 8640.
2.1.9. Loosen and take out the 2 screws No. 58620 of the hour-recorder bridge and remove the hour-recorder bridge No. 8620, with the hour-recorder stop lever still in position.
2.1.10. Remove: the driving pinion No. 8630
the hour-recorder runner No. 8600.
For cleaning the movement, it is unnecessary to remove the dial rest No. 145.

2.2. Dismantling the date-indicator mechanism of caliber 7734

2.2.1. Remove the date-jumper spring No. 2575 (fig. 6).
2.2.2. Loosen and take out the screw No. 52556/1 of the date-indicator driving-wheel and remove the date-indicator driving-wheel No. 2556/1.
2.2.3. Loosen the two screws No. 52535 of the date-indicator guard.
Remove:
the date-indicator guard No. 2535,
the date jumper No. 2576,
the date-indicator No. 2557,
the double-toothing hour wheel No. 2558,
the cannon pinion No. 245.
2.2.4. Loosen the three dial-rest screws No. 5145 and remove the dial rest No. 145.

Fig. 6


58180
8180
58209
8209
58220
8220
8200
58140
8140
58100
8345
58080
8080
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58270
8335
8270
58281
8020
58500
8281
8000
8500
8060
58356
58281
8290
58320
8320
8356

Fig. 7

nism of calibers 7733, 7734 and 7736

2.3.1. Loosen and take out the screw No. 58356 of the hammer-cam jumper and remove the hammer-cam jumper No. 8356.

2.3.2. Loosen and take out the hammer screw No. 58220 and remove the hammer No. 8220.

2.3.3. Loosen and take out the screw No. 58180 of the fly-back lever and remove the fly-back lever No. 8180.

2.3.4. Loosen and take out the operating-lever screw No. 58140 and remove:
- the operating-lever No. 8140.

2.3.5. Loosen and take out the screw No. 58209 of the blocking-lever lid and remove the blocking-lever lid No. 8209, the blocking-lever No. 8200 and the blocking-lever spring No. 8345.

2.3.6. Loosen and take out the sliding-gear screw No. 58100 and remove the sliding-gear No. 8100.

2.3.7. Loosen and take out the coupling-clutch screw No. 58080 and remove the coupling-clutch No. 8080.

2.3.8. Loosen and take out the screw No. 58270 of the minute-recording jumper and remove the minute-recording jumper No. 8270.

2.3.9. Loosen and take out the chronograph-bridge screw No. 58500 and remove:
the chronograph bridge No. 8500,
the minute-recording runner No. 8020,
the chronograph-runner No. 8000,
the chronograph-runner friction spring No. 8290.

2.3.10. Loosen the two screws No. 58281 of the chronograph-mechanism plate; remove the chronograph-mechanism plate No. 8281, the operating and fly-back lever spring No. 8335.

2.3.11. Remove the driving-wheel No. 8060, using a suitable tool.
For cleaning the movement, it is unnecessary to remove the coupling-clutch spring No. 8320.

Cleaning

This movement can be cleaned in a suitable machine, with the usual solutions. During the cleaning process, it is however advisable to avoid damaging the teeth of the chronograph and coupling-clutch wheels.

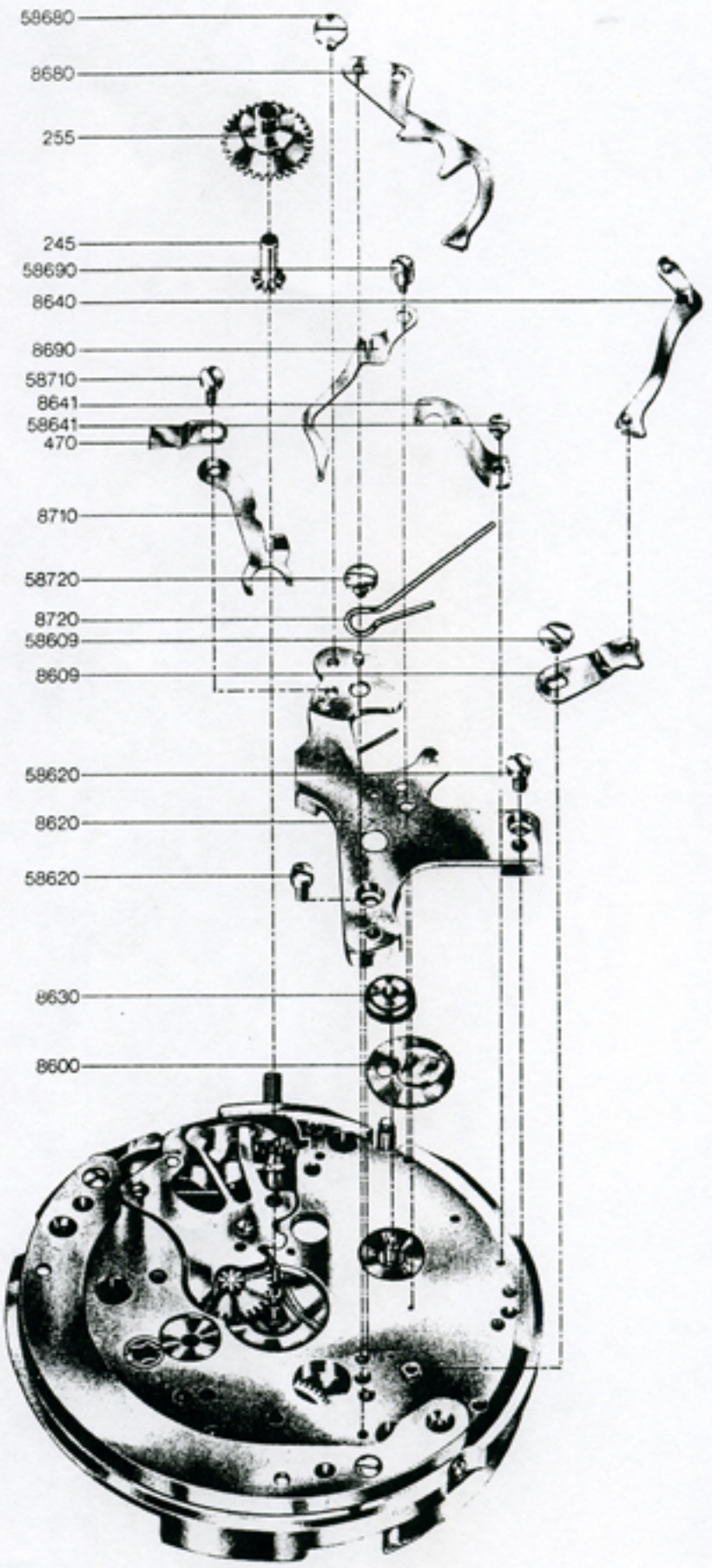


Fig. 8

3. Assembling

3.1. Assembling the chronograph-mechanism of calibers 7733, 7734 and 7736.

3.2. Assembling the hour-recorder mechanism of caliber 7736.

3.3. Assembling the date-indicator mechanism of caliber 7734.

3.1. Assembling the chronograph-mechanism of calibers 7733, 7734 and 7736

Important

When assembling the train of caliber 7736, the following parts must first be fitted on the dial side:

the driving-pinion, taking care first of all to lubricate the portion of the barrel arbor with which it works;

lubricate the pivot of the hour-recorder runner on the plate side and fit the runner in position;

fit the hour-recorder bridge and tighten its two screws.

3.1.1. Fit:
- the chronograph-runner friction spring, taking care to lubricate the portion that rubs against the chronograph-runner finger;
- the chronograph-runner;
- the minute-recording runner;
- the chronograph bridge and screw it tight.

3.1.2. Fit the chronograph-mechanism plate and screw it tight.
3.1.3. Fit the operating-lever spring (fig. 9).

Fig. 9

3.1.4. Fit the fly-back lever on to its stud and screw it tight.
3.1.5. With the reverser in the working position, fit the operating-lever (fig. 10) and screw it tight.

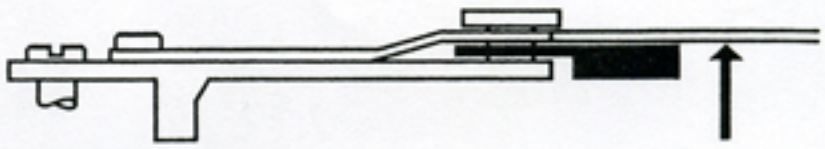


Fig. 10

3.1.6. Fit:
- the sliding gear on to its stud and screw it tight;
- the blocking-lever on to its stud;
- the blocking-lever lid and screw it tight;
- the blocking-lever spring (fig. 11).

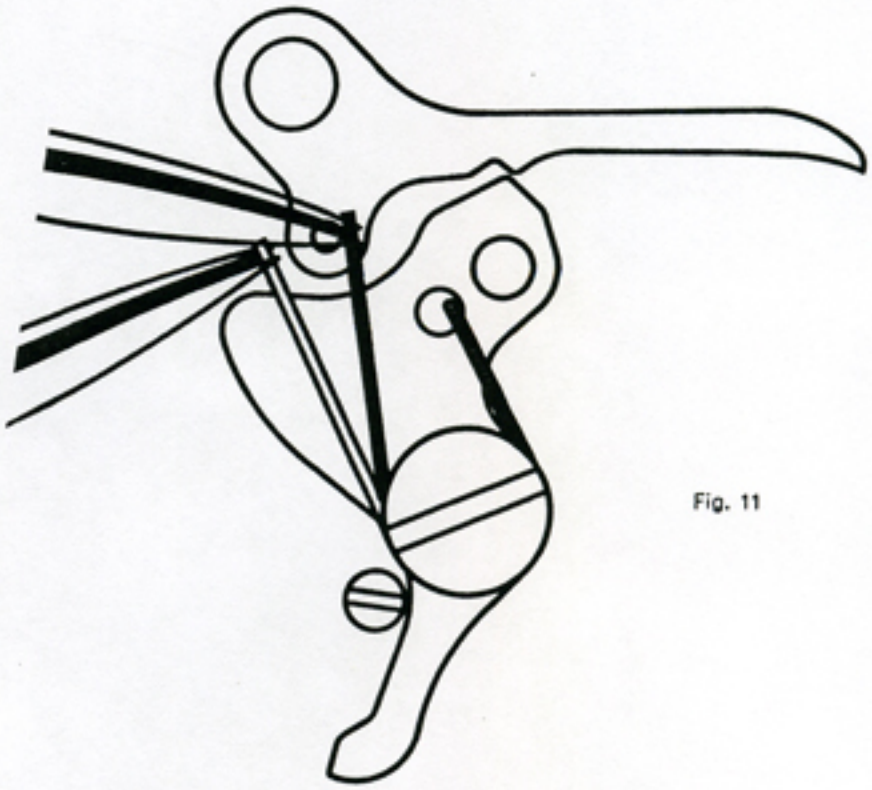


Fig. 11

3.1.7. Fit the minute-recording jumper and screw it tight.
3.1.8. Check:
Regulate the penetration of the finger by means of the eccentric No. 8406 and the position of the minute-recording jumper by means of the eccentric No. 8407 (fig. 12).
(In the case of caliber 7736, fit the detent No. 8660).

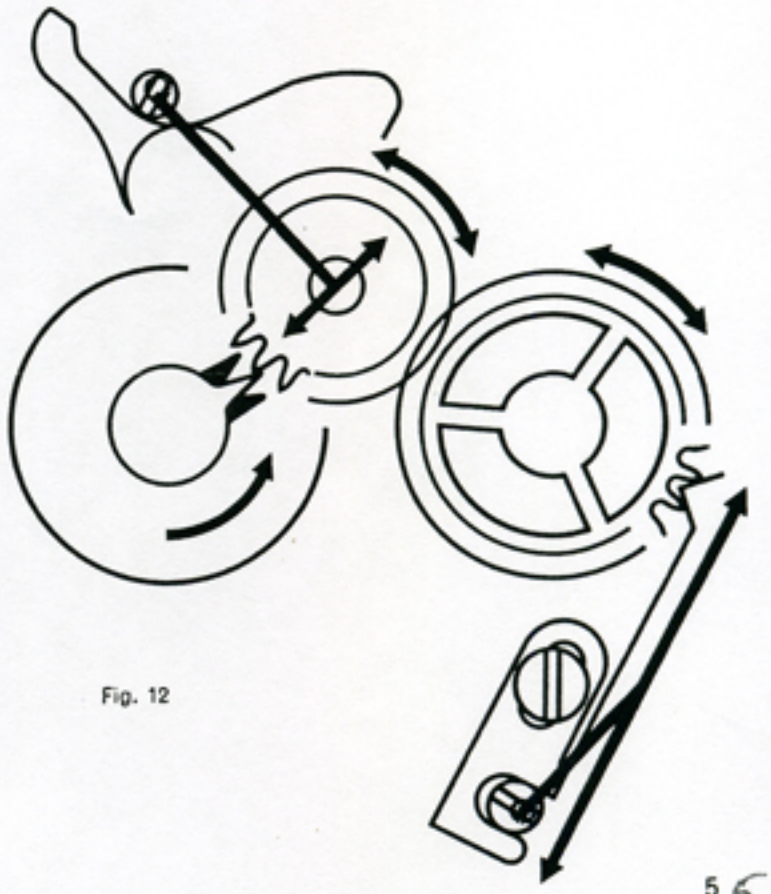


Fig. 12

3.1.9. Fit the hammer, lubricate its pivoting-point, screw it tight and check its shake, which should be slight.

3.1.10. Fit the hammer-cam jumper and screw it tight. Check: the working of the reverser (fig. 13) by moving the operating-lever;

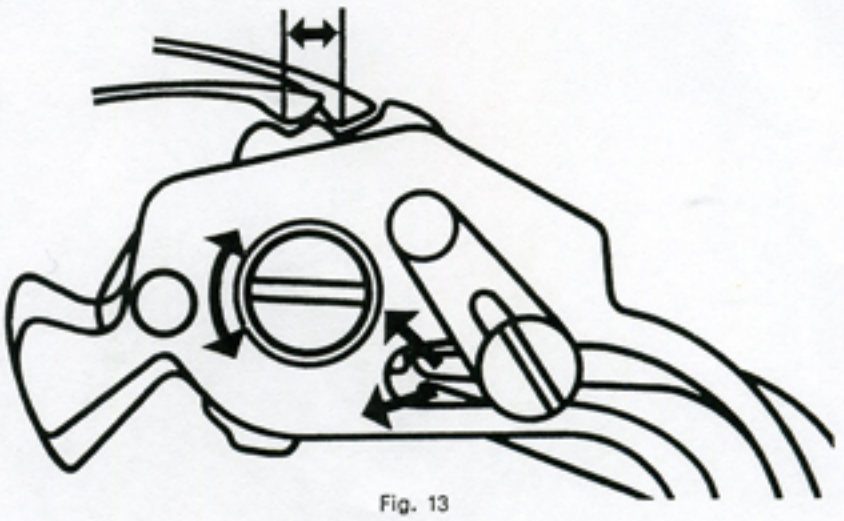


Fig. 13

the return-to-zero action of the hearts by moving the fly-back lever (fig. 14).

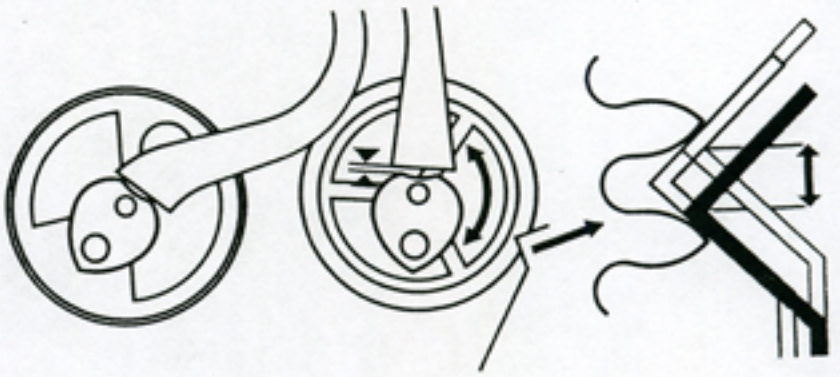


Fig. 14

3.1.11. Fit the coupling-clutch and screw it tight, taking care first of all to lubricate the lower coupling-wheel pivot. Check the action of the coupling-clutch, which should be perfectly free.

3.1.12. Fit the driving-wheel, which should be flush with the coupling-wheel.

3.1.13. Check the depth of the gearing (fig. 15).

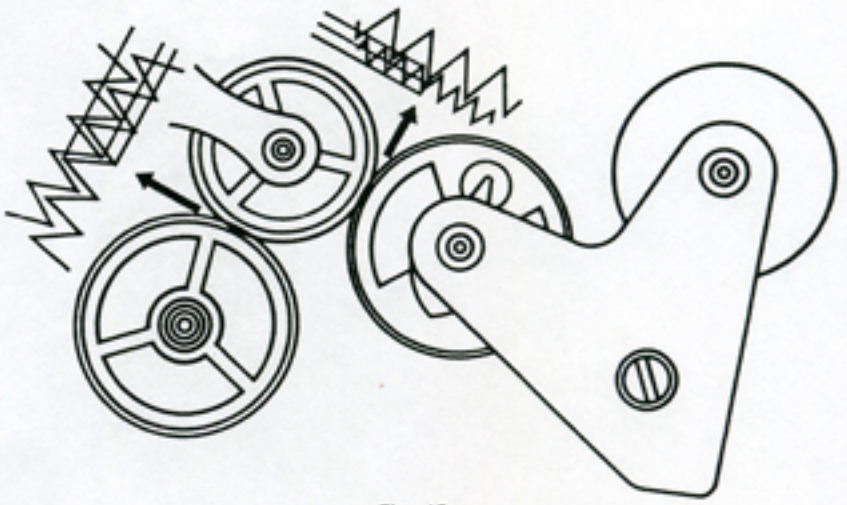


Fig. 15

6

3.1.14. Lubricate (fig. 16).

Fig. 16

3.2. Assembling the hour-recorder mechanism of caliber 7736

3.2.1. Fit the hour-recorder stop lever and screw it tight.
3.2.2. Fit the switch underneath the hour-recorder bridge.
3.2.3. Fit the conveyor on to the detent arbor and on to the switch stud and screw it tight.
3.2.4. Fit the switch lid and screw it tight.
3.2.5. Fit the conveyor spring and screw it tight.
3.2.6. Fit:

the driving-pinion friction spring,
the winding-pinion guard; then screw the whole assembly tight.
Make sure that the parts work correctly.

3.2.7. Fit the hammer on to its stud and tighten its screw.
3.2.8. Fit the cannon pinion (lubricating the center-wheel arbor) and the hour wheel.
3.2.9. Lubricate (fig. 17).

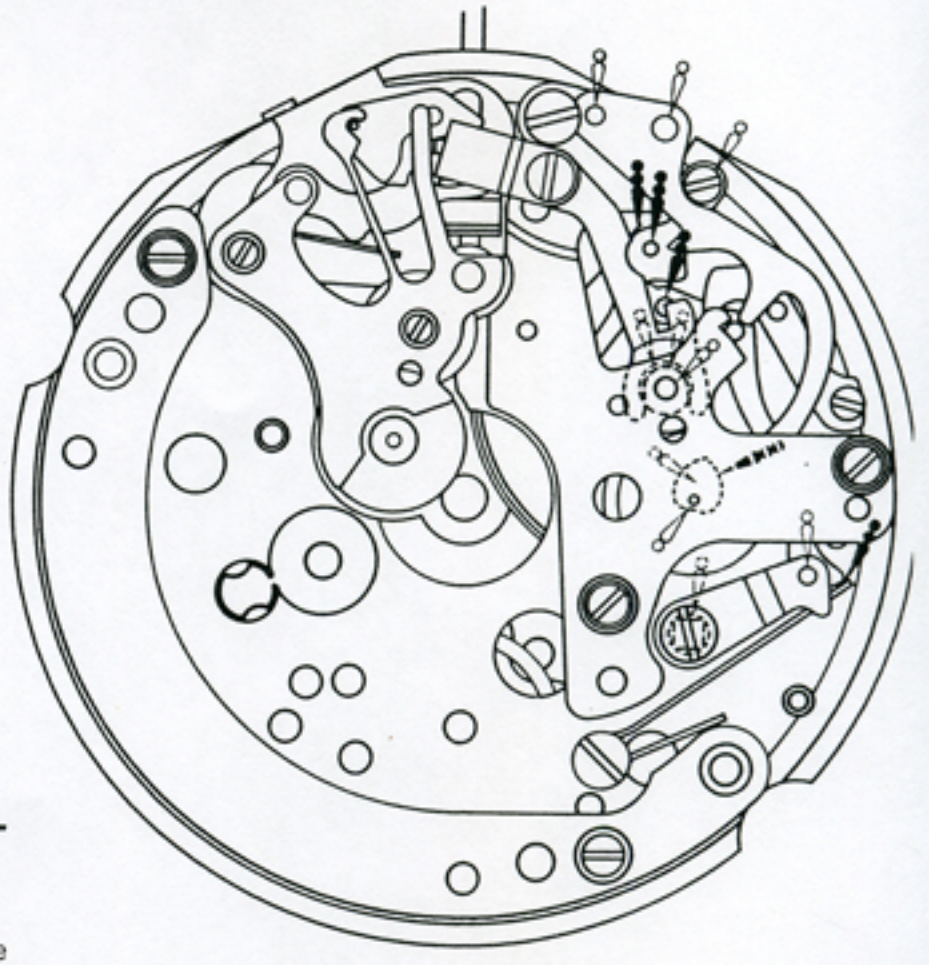


Fig. 17

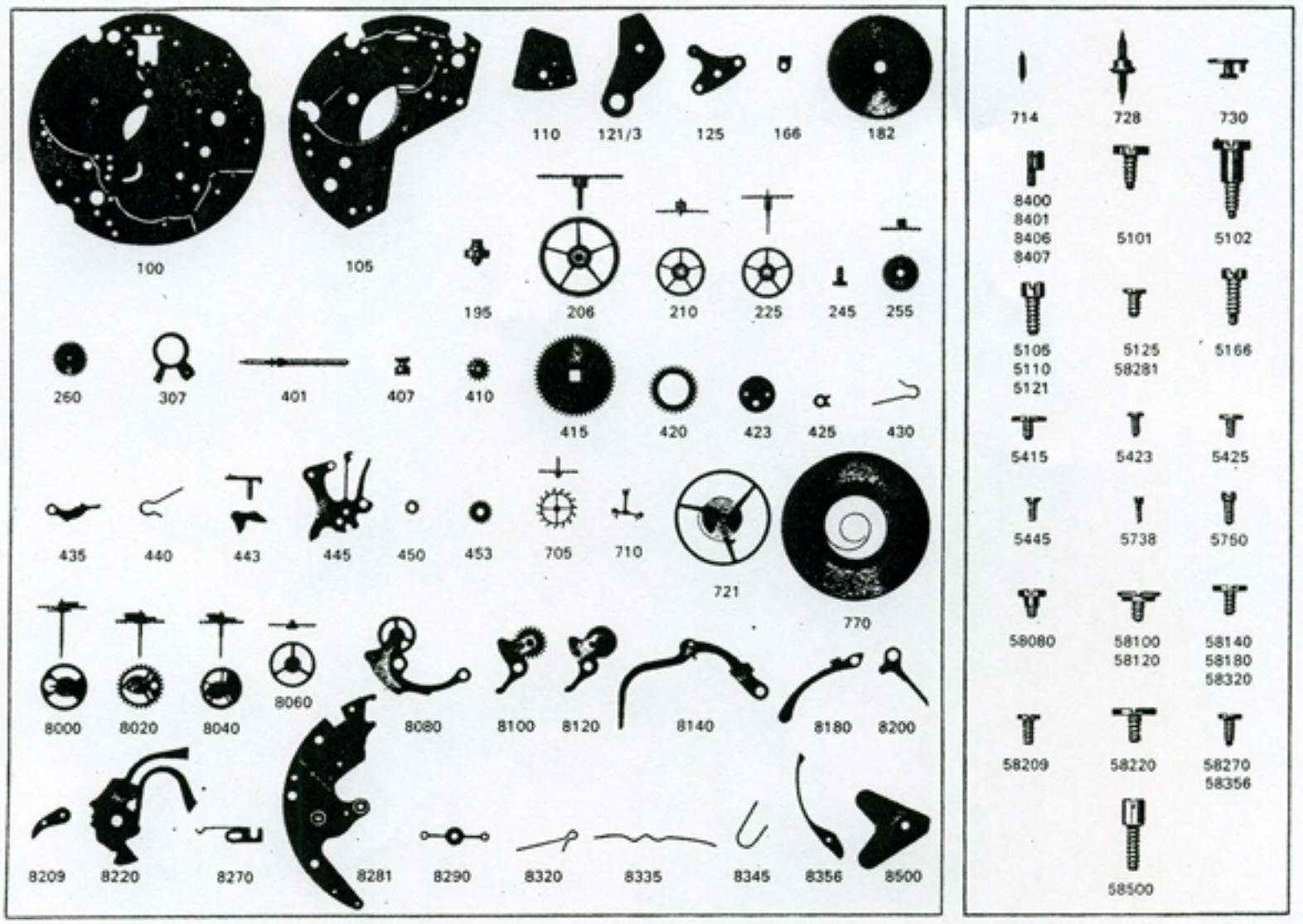
3.3. Assembling the date-indicator mechanism of caliber 7734

3.3.1. Fit:

- the cannon pinion (making sure to lubricate the center-wheel pivot),
- the hour wheel,
- the dial rest and tighten its three screws,
- the date-indicator,
- the date-indicator driving-wheel and screw it tight,
- the date jumper.

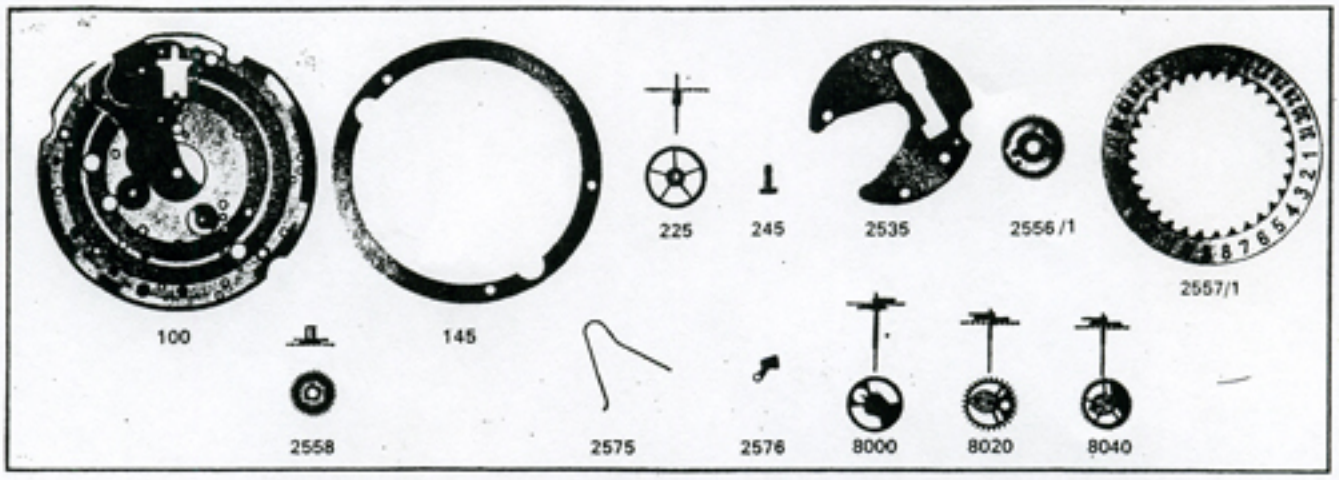
3.3.2. Fit the date-indicator guard and screw it tight.
3.3.3. Fit the date-jumper spring.
3.3.4. Check the working of the mechanism.

7;



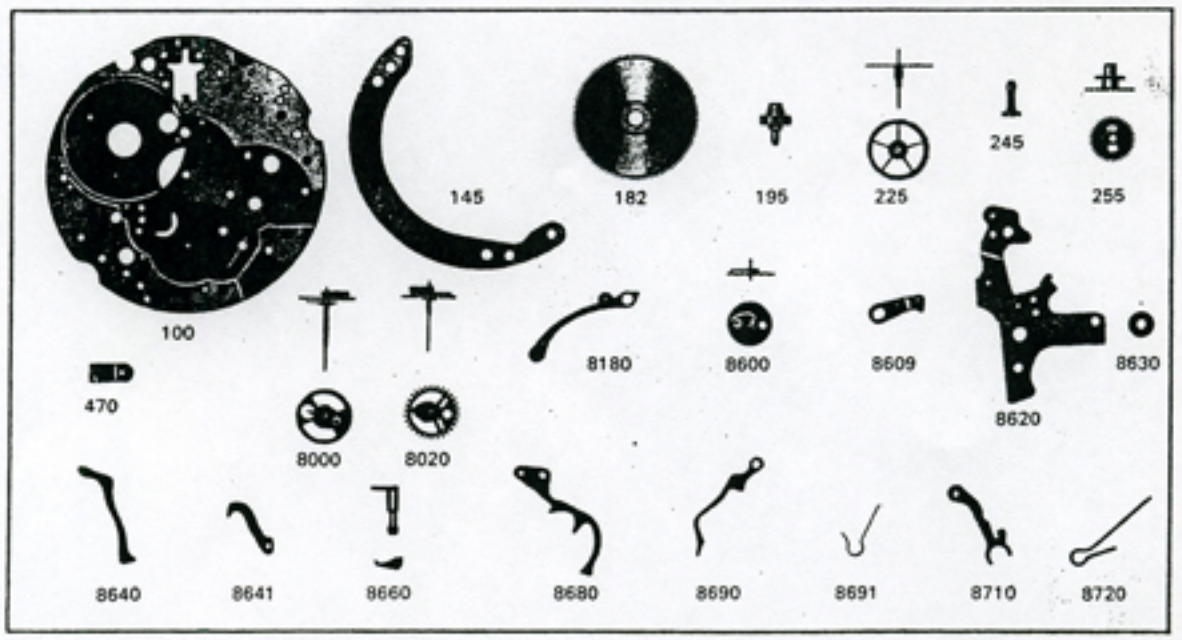
No.	LIST OF MATERIALS
100	Plate
105	Barrel bridge
110	Train wheel bridge
121/3	Balance cock for stud holder and for shock-protecting device, flat hairsp.
125	Pallet cock
166	Casing clamp
182	Barrel and cover
195	Barrel arbor
206	Center wheel
210	Third wheel
225	Fourth wheel
245	Cannon pinion
255	Hour wheel
260	Minute wheel
307	Regulator with adjustable stud holder, for flat hairspring
401	Winding stem
407	Clutch wheel
410	Winding pinion
415	Ratchet wheel
420	Crown wheel
423	Crown wheel core
425	Click
430	Click spring
435	Yoke
440	Yoke spring
443	Setting lever
445	Setting lever spring
450	Setting wheel
453	Additional setting wheel
705	Escape wheel and pinion with straight pivots
710	Jewelled pallet fork and staff
714	Pallet staff
721	Balance with flat hairspring, regulated
728	Balance staff for shock-protecting device
730	Roller
770	Mainspring
8000	Chronograph runner, mounted, 30 m
8000/3	Chronograph runner, mounted, 45 m
8020	Minute-recording runner, mounted, 30 m
8040	Minute-recording runner, mounted, 45 m
8060	Driving wheel
8080	Coupling clutch, mounted
8100	Sliding gear, mounted, 30 m
8120	Sliding gear, mounted, 45 m
8140	Operating lever, mounted
8180	Fly-back lever
8200	Blocking lever
8209	Blocking lever lid
8220	Hammer mounted
8270	Minute-recording jumper
8281	Plate for chronograph mechanism
8290	Friction spring for chronograph runner
8320	Coupling clutch spring
8335	Operating and fly-back lever spring
8345	Blocking lever spring
8356	Hammer cam jumper
8400	Eccentric for pivoting of coupling clutch
8401	Banking eccentric for coupling clutch
8406	Finger-depth eccentric
8407	Eccentric for minute-recording jumper
8500	Chronograph bridge
5101	Case screw (short)
5101	Case screw (long)
5102	Case screw, special
5105	Barrel bridge screw
5110	Train wheel bridge screw
5121	Balance cock screw
5125	Pallet cock screw
5166	Casing clamp screw
5415	Ratchet wheel screw
5423	Screw for crown wheel core
5425	Click screw
5445	Screw for setting lever spring
5738	Hairspring stud screw
5750	Dial screw
58080	Coupling clutch screw
58100	Sliding gear screw, 30 m
58120	Sliding gear screw, 45 m
58140	Operating lever screw
58180	Fly-back lever screw
58209	Screw for blocking lever lid
58220	Hammer screw
58270	Minute-recording jumper screw
58281	Screw for plate of chronograph mechanism
58320	Screw for coupling clutch spring
58356	Screw for hammer cam jumper
58500	Chronograph bridge screw

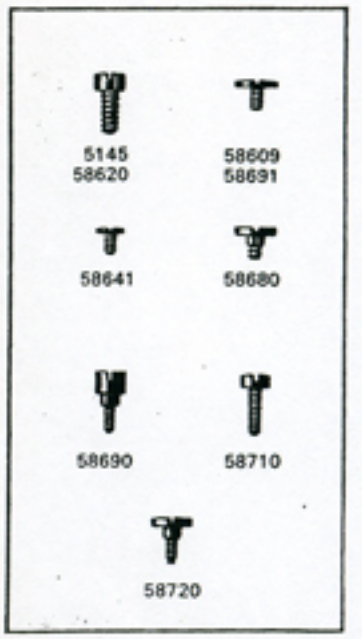
Special components for the date-indicator mechanism of caliber 7734



No.	LIST OF MATERIALS
100	Plate
145	Dial rest
225	Fourth wheel, two long pivots
245	Cannon pinion
2535	Date indicator guard
2556/1	Date indicator driving wheel, mounted
2557/1	Date indicator for flat dial, transferred
2558	Double-toothing hour wheel
2575	Date jumper spring
2576	Date jumper
8000	Chronograph runner, mounted, 30 m
8000/3	Chronograph runner, mounted, 45 m
8020	Minute-recording runner, mounted, 30 m
8040	Minute-recording runner, mounted, 45 m
5145	Dial rest screw
52535	Screw for date indicator guard
52556	Screw for date indicator driving wheel

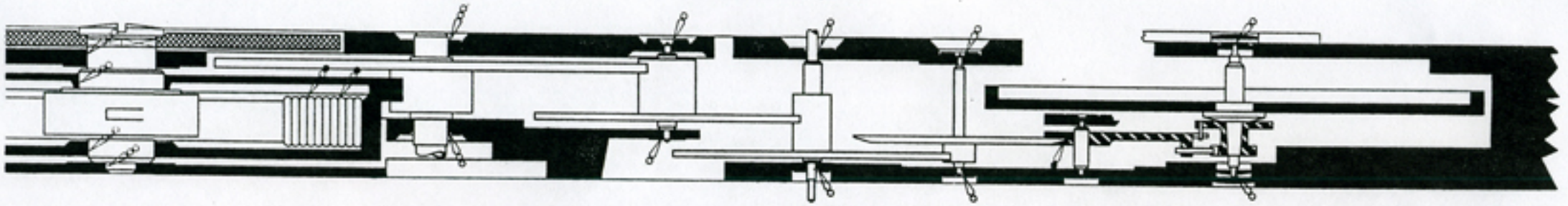
Special components for the hour-recorder (12 hours) of caliber 7736

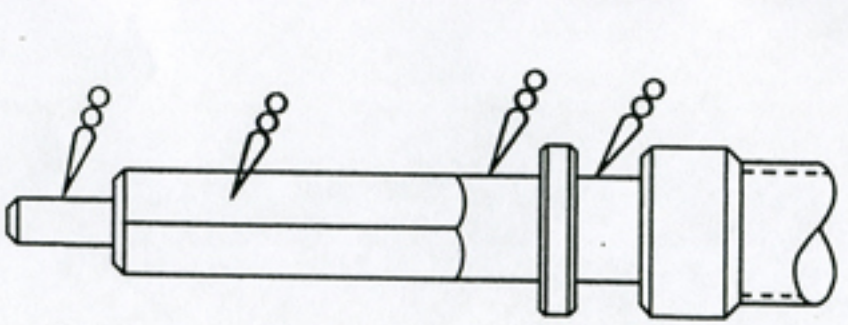


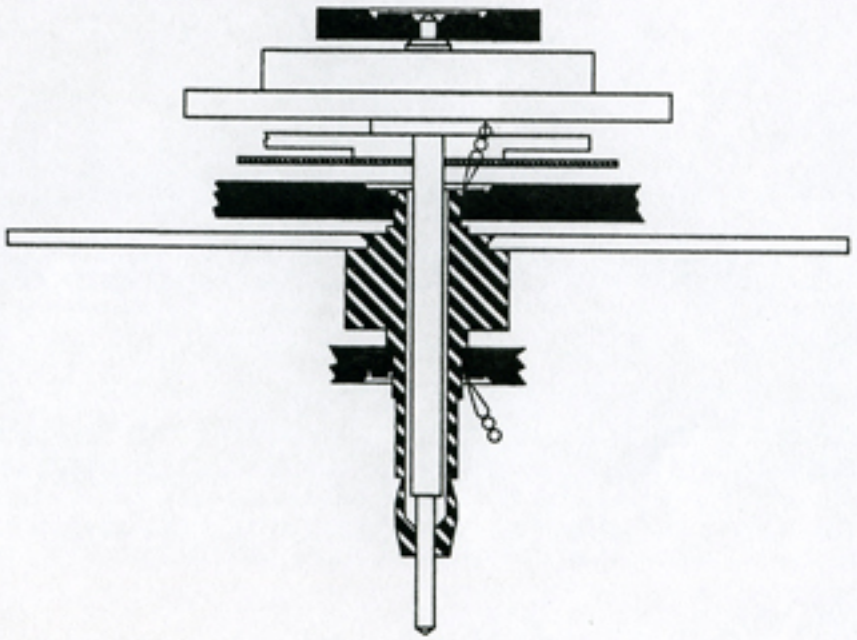


No.	LIST OF MATERIALS
100	Plate
145	Dial rest
182	Barrel and cover
195	Barrel arbor
225	Fourth wheel, two long pivots
245	Cannon pinion
255	Hour wheel
470	Winding pinion guard
8000	Chronograph-runner, mounted, 30 m
8020	Minute-recording runner mounted, 30 m
8180	Fly-back lever (zero action)
8600	Hour-recording runner, mounted
8609	Conveyor
8620	Hour recorder bridge
8630	Driving pinion
8640	Switch
8641	Switch lid
8660	Detent with arbor
8680	Hour hammer
8690	Hour recorder stop lever
8691	Spring for hour recorder stop lever
8710	Friction spring for driving pinion
8720	Conveyor spring
5145	Dial rest screw
58609	Conveyor screw
58620	Screw for hour recorder bridge
58641	Switch lid screw
58680	Hour hammer screw
58690	Hour recorder stop lever screw
58691	Screw for spring for hour recorder stop lever
58710	Friction spring screw for driving pinion
58720	Conveyor spring screw

Lubrication plan







- Fine oil
- Thick oil or grease
- Special grease for mainspring
- Special oil for pallet stones
- Special grease for mechanism

FABRIQUE D'ÉBAUCHES, CHRONOGRAPHES ET RATTRAPANTES

VALJOUX S.A., LES BIOUX

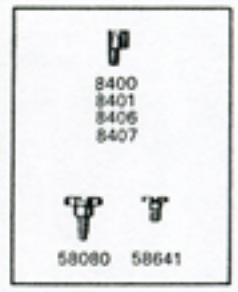
(SUISSE)

14‴ **7733 7734 7736**

31,00 mm

Complément aux caractéristiques techniques
Complement to the technical features
Ergänzung zu den Technischen Daten

Fournitures nouvelles ou d'exécution différente
New parts or parts of a different execution
Neue Bestandteile oder Bestandteile verschiedener Ausführung



No	LISTE DES FOURNITURES	No	LIST OF MATERIALS	Nr.	BESTANDTEILE
166	Bride de fixation, épaisseur 0,30 mm	166	Casing clamp, thickness 0,30 mm	166	Werkbefestigungsbügel, Dicke 0,30 mm
166¹	Bride de fixation, épaisseur 0,40 mm	166¹	Casing clamp, thickness 0,40 mm	166¹	Werkbefestigungsbügel, Dicke 0,40 mm
166²	Bride de fixation, épaisseur 0,50 mm	166²	Casing clamp, thickness 0,50 mm	166²	Werkbefestigungsbügel, Dicke 0,50 mm
401¹	Tige de remontoir, filetage 0,90 mm longueur 15 mm	401¹	Winding stem, thread 0,90 mm, length 15 mm	401¹	Aufzugwelle, Gewinde 0,90 mm, Länge 15 mm
401²	Tige de remontoir, filetage 1,20 mm, longueur 20 mm	401²	Winding stem, thread 1,20 mm, length 20 mm	401²	Aufzugwelle, Gewinde 1,20 mm, Länge 20 mm
401³	Tige de remontoir, filetage 1,20 mm, longueur 16,80 mm, antichoc	401³	Winding stem, thread 1,20 mm, length 16,80 mm, shockproof	401³	Aufzugwelle, Gewinde 1,20 mm, Länge 16,80 mm, Stossicher
2557/1	Indicateur de quantième, décalqué	2557/1	Date indicator, transferred	2557/1	Datumanzeiger, mit Druckbild
8144	Tube de commande, diamètre fort	8144	Operating lever tube, large diameter	8144	Schalthebel-Lagerrohr, grosser Durchmesser
8183	Tube de bascule de remise à zéro, diamètre fort	8183	Fly-back lever tube, large diameter	8183	Nullsteller-Lagerrohr, grosser Durchmesser
8220	Marteau monté, auto-réglant	8220	Hammer mounted, self-regulating	8220	Herzhebel montiert, selbst-regulierend
8400	Excentrique de pivotement d'embrayage, diamètre fort	8400	Eccentric for pivoting of coupling clutch, large diameter	8400	Exzenter für Kupplungs-Schwenkung, grosser Durchmesser
8401	Excentrique-appui d'embrayage, diamètre fort	8401	Banking eccentric for coupling clutch, large diameter	8401	Exzenter für Kupplungs-Anschlag, grosser Durchmesser
8406	Excentrique de pénétration du doigt, diamètre fort	8406	Finger-depth eccentric, large diameter	8406	Exzenter für Fingereingriff, grosser Durchmesser
8407	Excentrique de sautoir du compteur de minutes, diamètre fort	8407	Eccentric for minute-recording jumper, large diameter	8407	Exzenter für Minutenzählrad-Sperre, grosser Durchmesser
58080	Vis d'embrayage, filetage fort	58080	Coupling clutch screw, large thread	58080	Kupplungs-Schraube, grosses Gewinde
58641	Vis de couvre-interrupteur, filetage fort.	58641	Switch lid screw, large thread	58641	Unterbrecher-Halter-Schraube, grosses Gewinde

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