

# FREE - LINE


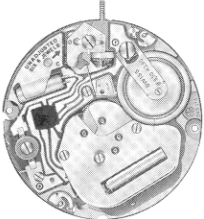
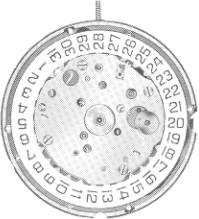

## 11 1/2'''

### 963

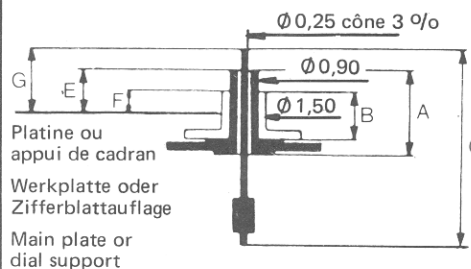
#### IDENTIFICATION TECHNIQUE

#### TECHNISCHE IDENTIFIZIERUNG

#### TECHNICAL IDENTIFICATION

|  |  |  |
|--|--|--|
|   | <b>11 1/2'''</b>   | <b>Ø 25,60 mm</b>  |
| <b>HAUTEUR<br/>HÖHE<br/>HEIGHT</b> mm  | <b>3,40</b>  | <b>3,85</b>  |
|  | <br><b>963.114</b> | <br><b>963.124</b> |

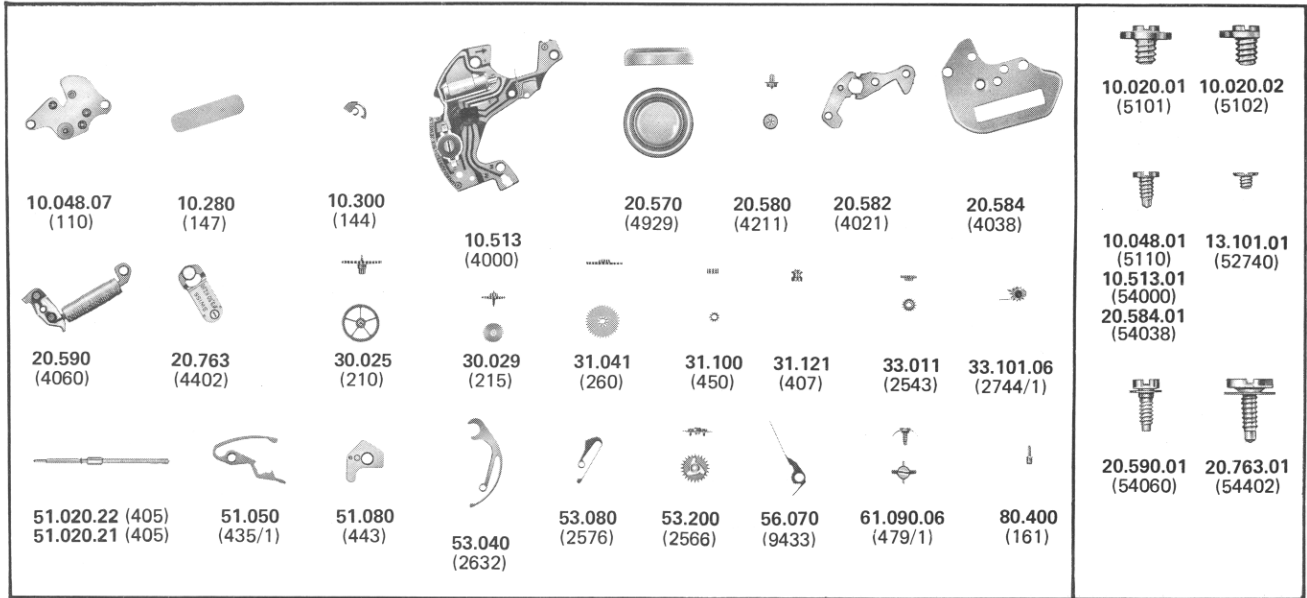
| Aiguillage<br>Zeigerwerk<br>Hand-fitting |     | Longueur<br>Länge<br>Length<br>mm |      |      | Tube de centre<br>Zentrumrohr<br>Centre tube | Dépassement platine<br>Höhe ab Werkplatte<br>Overstepping<br>main plate<br>mm |      |      |
|--|-----|-----------------------------------|------|------|--|---|------|------|
| Cal.                                     | Nº  | A                                 | B    | C    |  | E   | F    | G    |
| 963.114                                  | 1   | 2,08                              | 1,17 | 4,92 | 2,44   | 1,20  | 0,80 | 1,60 |
|  | * 2 | 2,33                              | 1,42 | 5,17 | 2,44   | 1,45  | 1,05 | 1,85 |
| 963.124                                  | 1   | 2,53                              | 1,62 | 4,95 | 2,44   | 1,20  | 0,80 | 1,60 |
|  | * 2 | 2,78                              | 1,87 | 5,20 | 2,44   | 1,45  | 1,05 | 1,85 |



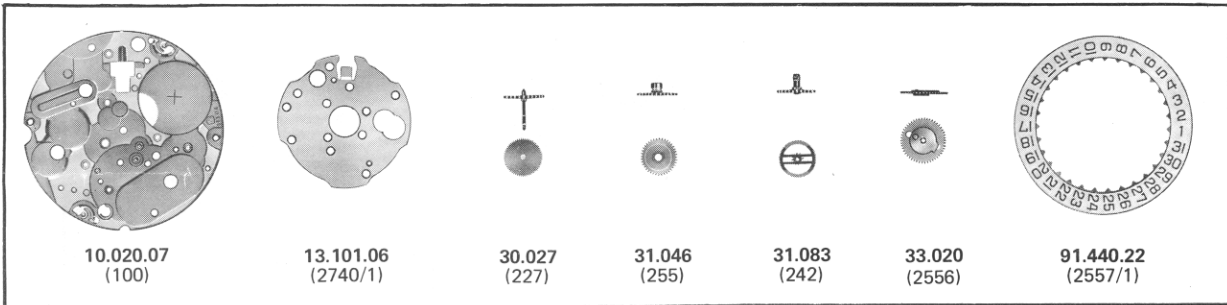
\* Aiguillage disponible seulement pour mouvement livré non assemblé  
Zeigerwerk nur für nichtremontierte Werke lieferbar  
Hand-fitting available with non-assembled movements only



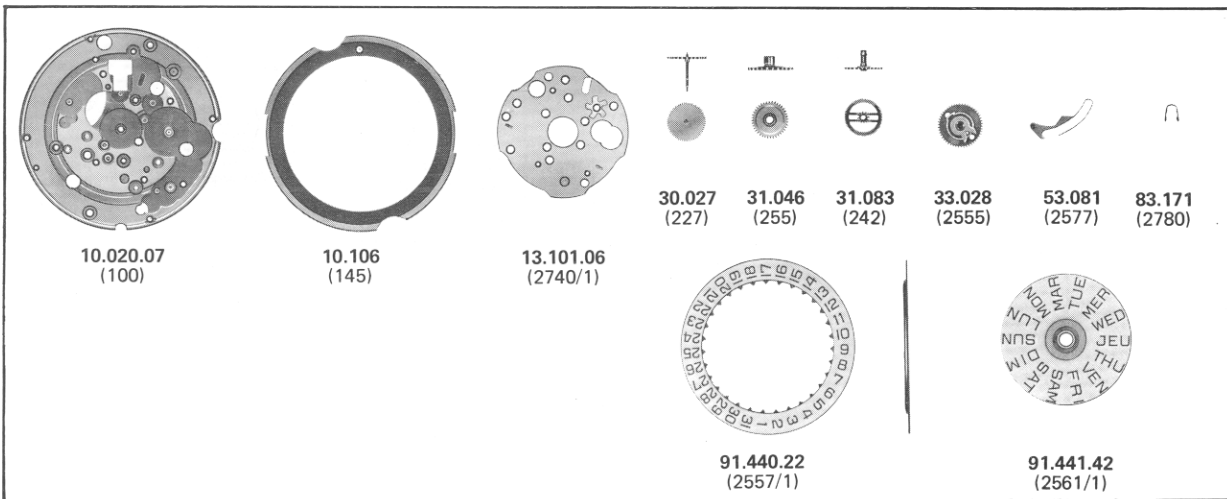
963.114 – 963.124



963.114



963.124




# 11 1/2'''

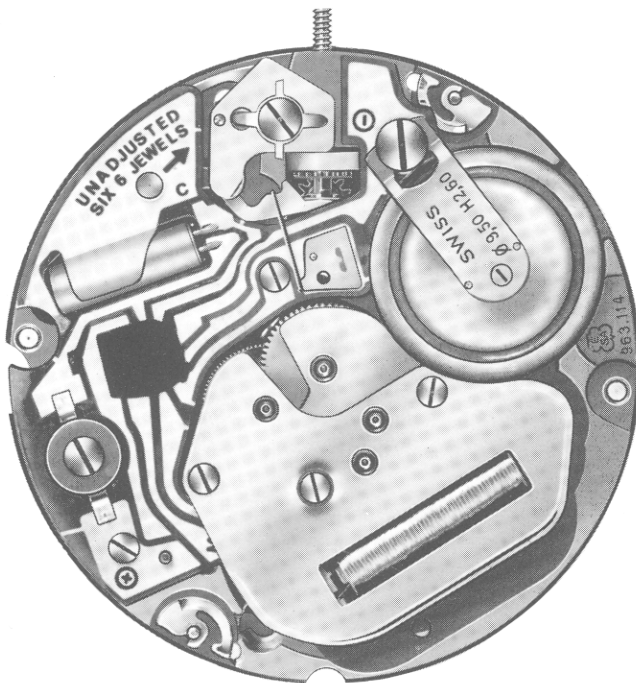
963.114  
963.124

COMMUNICATION  
TECHNIQUE

TECHNISCHE  
MITTEILUNG

TECHNICAL  
COMMUNICATION

|   |           |          |
|---|-----------|----------|
|  | 11 1/2''' | 25,60 mm |
| HAUTEUR<br>HÖHE mm<br>HEIGHT  | 3,40      | 3,85     |
|   | 963.114   | 963.124  |

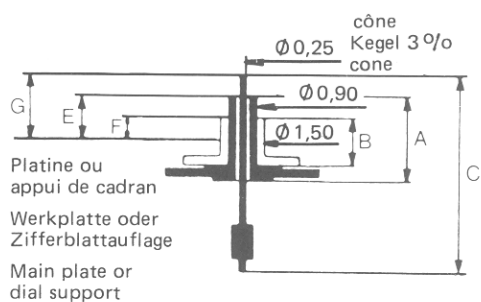


Français  
Deutsch  
English



ETA SA Fabriques d'Ebauches  
Marketing - Ventes  
CH-2074 Marin

| Aiguillage<br>Zeigerwerk<br>Hand-fitting |     | Longueur<br>Länge<br>Length<br>mm |      |      | Tube de centre<br>Zentrumrohr<br>Centre tube | Dépassement platine<br>Höhe ab Werkplatte<br>Overstepping<br>main plate<br>mm |      |      |
|--|-----|-----------------------------------|------|------|--|---|------|------|
| Cal.                                     | N°  | A                                 | B    | C    |  | E   | F    | G    |
| 963.114                                  | 1   | 2,08                              | 1,17 | 4,50 | 2,44   | 1,20  | 0,80 | 1,60 |
|  | * 2 | 2,33                              | 1,42 | 4,75 | 2,44   | 1,45  | 1,05 | 1,85 |
| 963.124                                  | 1   | 2,53                              | 1,62 | 4,95 | 2,44   | 1,20  | 0,80 | 1,60 |
|  | * 2 | 2,78                              | 1,87 | 5,20 | 2,44   | 1,45  | 1,05 | 1,85 |



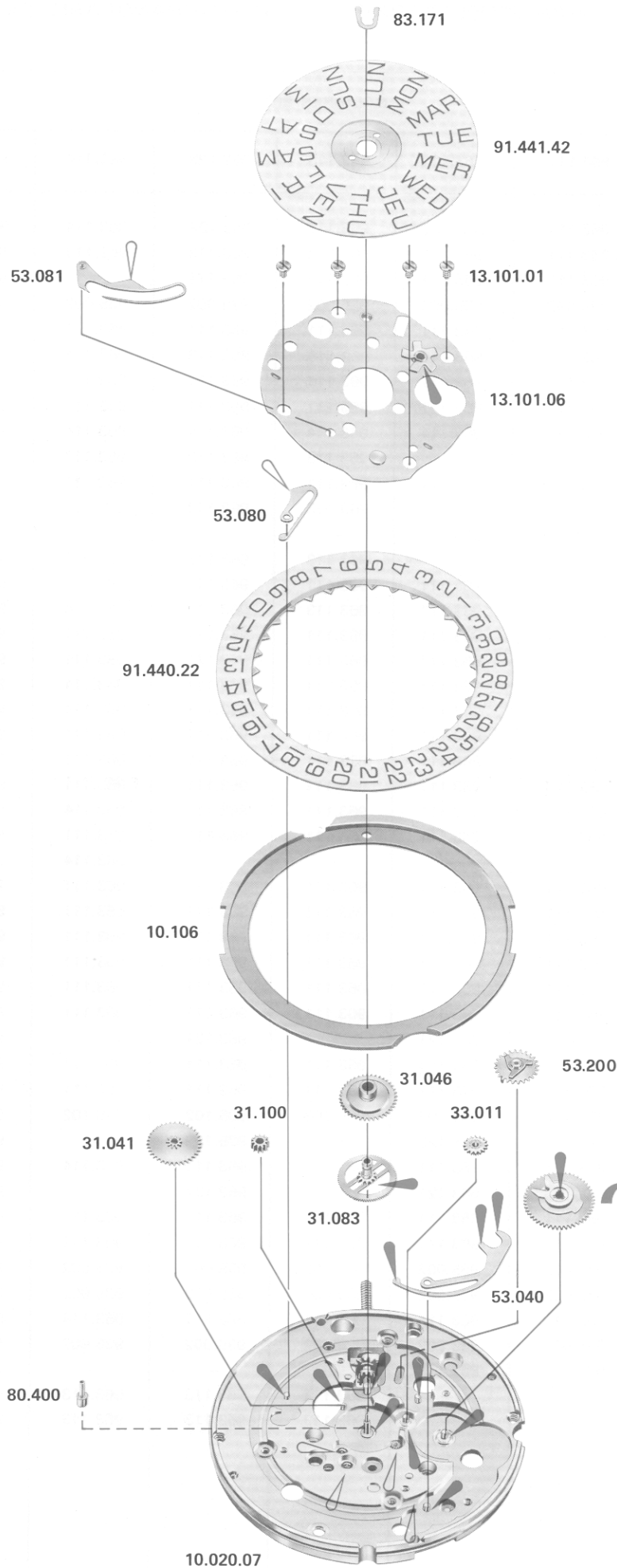
\* Aiguillage disponible seulement pour mouvement livré non assemblé  
 Zeigerwerk nur für nicht remontierte Werke lieferbar  
 Hand-fitting available with non-assembled movements only

## INTERCHANGEABILITE

## AUSWECHSELBARKEIT

## INTERCHANGEABILITY

| N°<br>Nr<br>N° | ancien N°<br>alte Nr<br>old N° | CALIBRES 963... |         |         |         |         |         |
|----------------|--------------------------------|-----------------|---------|---------|---------|---------|---------|
|                |                                | 963.111         | 963.121 | 963.113 | 963.123 | 963.114 | 963.124 |
|                |                                | 10.020.07       | 100     | 963.111 | 963.121 | 963.113 | 963.123 |
| 10.048.07      | 110                            | 963.111         | 963.111 | 963.113 | 963.113 | 963.113 | 963.113 |
| 10.106         | 145                            | 963.111         | 963.111 | 963.111 | 963.111 | —       | 963.111 |
| 10.280         | 147                            | 935.002         | 935.002 | 935.002 | 935.002 | 935.002 | 935.002 |
| 10.300         | 144                            | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 10.513         | 4000                           | 963.111         | 963.111 | 963.113 | 963.113 | 963.114 | 963.114 |
| 13.101.06      | 2740/1                         | 963.111         | 963.111 | 963.111 | 963.111 | 963.114 | 963.124 |
| 20.570         | 4929                           | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 20.580         | 4211                           | 963.114         | 963.114 | 963.114 | 963.114 | 963.114 | 963.114 |
| 20.582         | 4021                           | —               | —       | 963.113 | 963.113 | 963.113 | 963.113 |
| 20.584         | 4038                           | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 20.590         | 4060                           | —               | —       | 963.113 | 963.113 | 963.113 | 963.113 |
| 20.763.06      | 4402/1                         | 963.111         | 963.111 | —       | —       | —       | —       |
| 20.763         | 4402                           | —               | —       | 963.113 | 963.113 | 963.113 | 963.113 |
| 30.025         | 210                            | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 30.027         | 227                            | 963.111         | 963.111 | 963.113 | 963.113 | 963.114 | 963.113 |
| 30.029         | 215                            | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 31.041         | 260                            | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 31.046         | 255                            | 963.111         | 963.111 | 963.111 | 963.111 | 963.114 | 963.111 |
| 31.083         | 242                            | 963.111         | 963.111 | 963.111 | 963.111 | 963.114 | 963.111 |
| 31.100         | 450                            | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 31.121         | 407                            | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 33.011         | 2543                           | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 33.028         | 2555                           | 963.111         | 963.111 | 963.111 | 963.111 | 963.114 | 963.111 |
| 33.101.06      | 2744/1                         | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 53.200         | 2566                           | —               | —       | —       | —       | 963.114 | 963.114 |
| 51.020.21      | 405                            | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 51.020.22      | 405                            | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 51.050         | 435/1                          | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 51.080         | 443                            | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 53.040         | 2632                           | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 53.080         | 2576                           | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 53.081         | 2577                           | —               | 963.121 | —       | 963.121 | —       | 963.121 |
| 56.070         | 9433                           | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 61.090.06      | 479/1                          | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 80.400         | 161                            | 935.102         | 935.102 | 935.102 | 935.102 | 935.102 | 935.102 |
| 83.171         | 2780                           | —               | 935.122 | —       | 935.122 | —       | 935.122 |
| 91.440.22      | 2557/1                         | 963.111         | 963.111 | 963.111 | 963.111 | 963.114 | 963.111 |
| 91.441.42      | 2561/1                         | —               | 963.121 | —       | 963.121 | —       | 963.121 |
| 10.020.01      | 5101                           | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 10.020.02      | 5102                           | 963.111         | 963.111 | 963.111 | 963.111 | 963.111 | 963.111 |
| 10.048.01      | 5110                           | 935.002         | 935.002 | 935.002 | 935.002 | 935.002 | 935.002 |
| 10.513.01      | 54000                          | 935.002         | 935.002 | 935.002 | 935.002 | 935.002 | 935.002 |
| 13.101.01      | 52740                          | 963.111         | 963.111 | 963.111 | 963.111 | 963.114 | 963.114 |
| 20.584.01      | 54038                          | 935.002         | 935.002 | 935.002 | 935.002 | 935.002 | 935.002 |
| 20.590.01      | 54060                          | 963.111         | 963.111 | —       | —       | —       | —       |
| 20.590.01      | 54060                          | —               | —       | 963.113 | 963.113 | 963.113 | 963.113 |
| 20.763.01      | 54402                          | —               | —       | 963.113 | 963.113 | 963.113 | 963.113 |



|  |  |  |   |  |                           |
|--|--|--|---|--|---------------------------|
| Cal.<br>Kal. 963.124<br>Cal.   |  |  |   |  |                           |
| <p><b>Montage du mécanisme de mise à l'heure, du rouage, du mécanisme de calendrier, du module électronique.</b><br/>         (Liste des fournitures par ordre d'assemblage).</p> <p><b>Zusammenstellen des Zeigerwerkmechanismus, des Räderwerk, des Kalendermechanismus, der Elektronik-Baugruppe.</b><br/>         (Bestandteilliste in Montagereihenfolge).</p> <p><b>Assembling of the handsetting, the train wheel, the calendar-mechanism, the electronic module.</b><br/>         (parts listed in order of assembly).</p> |  |  |   |  |                           |
| 10.020.07<br>80.400<br>31.121<br>33.101.06<br>51.020.22<br>51.050<br>51.080<br>61.090.06<br>20.582<br>20.580<br>30.029<br>30.025<br>30.027<br>10.048.07<br>10.048.01 (2 x)<br>31.083<br>53.040<br>31.041<br>31.100<br>53.200   | 33.028<br>33.011<br>31.046<br>10.106<br>91.440.22<br>53.080<br>13.101.06<br>13.101.01 (4 x)<br>53.081<br>91.441.42<br>83.171<br>56.070<br>20.590<br>10.513<br>10.513.01 (2 x)<br>20.763<br>20.763.01<br>20.590.01 (2 x)<br>20.584<br>20.584.01 |  |   |  |                           |
| <table style="width: 100%; border: none;"> <tr> <td style="width: 20px; text-align: center;"> </td> <td style="border: none;">           Huile fine<br/>           Düninflüssiges Oel Moebius 9030<br/>           Fine oil         </td> </tr> <tr> <td style="width: 20px; text-align: center;"> </td> <td style="border: none;">           Graisse<br/>           Fett<br/>           Grease         </td> </tr> </table>  |  |  | Huile fine<br>Düninflüssiges Oel Moebius 9030<br>Fine oil |  | Graisse<br>Fett<br>Grease |
|  | Huile fine<br>Düninflüssiges Oel Moebius 9030<br>Fine oil  |  |   |  |                           |
|  | Graisse<br>Fett<br>Grease  |  |   |  |                           |



Cal.  
Kal. 963.124  
Cal.

Montage du mécanisme de mise à l'heure,  
du rouage, du mécanisme de calendrier,  
du module électronique.

(Liste des fournitures par ordre d'assemblage).



Zusammenstellen des Zeigerwerkmechanismus,  
des Räderwerk, des Kalendermechanismus,  
der Elektronik-Baugruppe.

(Bestandteilliste in Montager Reihenfolge).

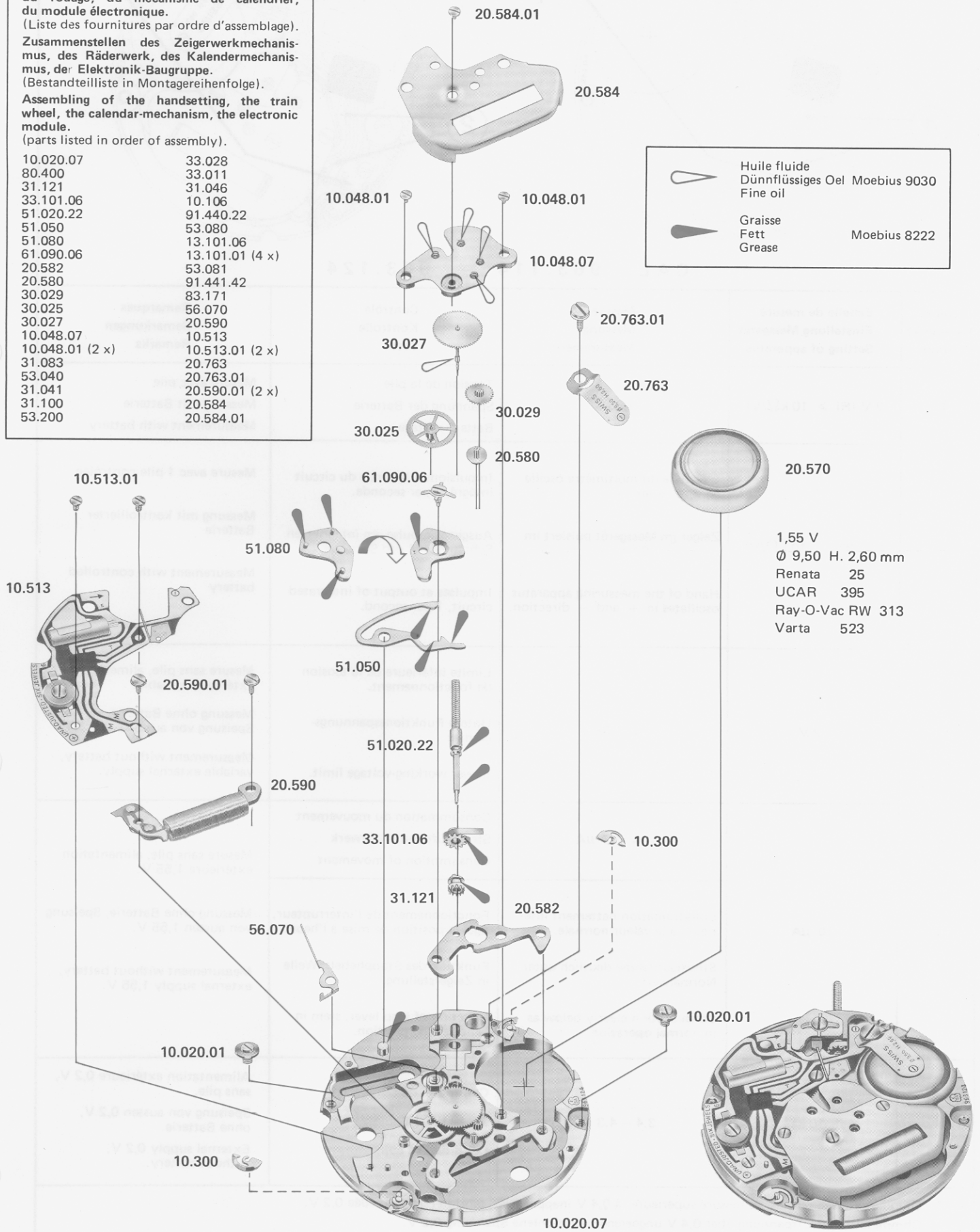
Assembling of the handsetting, the train  
wheel, the calendar-mechanism, the electronic  
module.

(parts listed in order of assembly).

|                 |                 |
|-----------------|-----------------|
| 10.020.07       | 33.028          |
| 80.400          | 33.011          |
| 31.121          | 31.046          |
| 33.101.06       | 10.106          |
| 51.020.22       | 91.440.22       |
| 51.050          | 53.080          |
| 51.080          | 13.101.06       |
| 61.090.06       | 13.101.01 (4 x) |
| 20.582          | 53.081          |
| 20.580          | 91.441.42       |
| 30.029          | 83.171          |
| 30.025          | 56.070          |
| 30.027          | 20.590          |
| 10.048.07       | 10.513          |
| 10.048.01 (2 x) | 10.513.01 (2 x) |
| 31.083          | 20.763          |
| 53.040          | 20.763.01       |
| 31.041          | 20.590.01 (2 x) |
| 31.100          | 20.584          |
| 53.200          | 20.584.01       |

|   |  |
|---|--|
|  | Huile fluide<br>Dünflüssiges Öl Moebius 9030<br>Fine oil |
|  | Graisse<br>Fett<br>Grease                                |

Moebius 8222



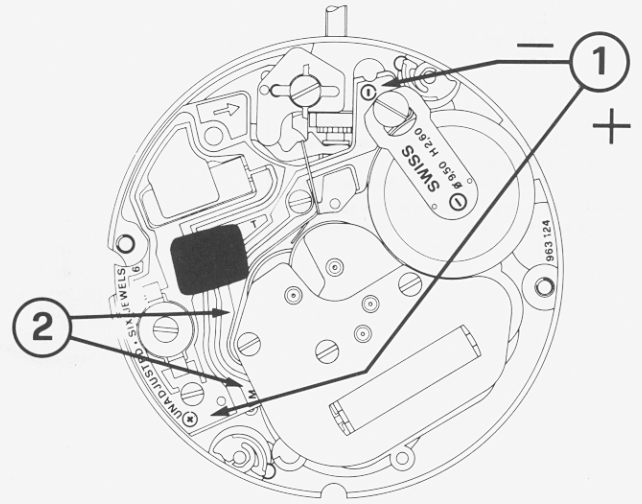
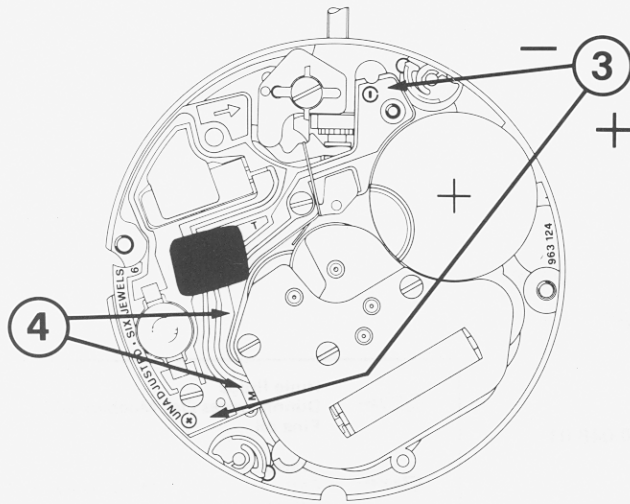
1,55 V  
Ø 9,50 H. 2,60 mm  
Renata 25  
UCAR 395  
Ray-O-Vac RW 313  
Varta 523



Contrôles électriques

Elektrische Kontrollen

Electrical tests



CAL. 963.114 - 963.124

| Position<br>Messpunkt<br>Position | Echelle de mesure<br>Einstellung Messgerät<br>Setting of apparatus | Mesure<br>Messung<br>Measurement  | Contrôle<br>Kontrolle<br>Test  | Remarques<br>Bemerkungen<br>Remarks   |
|-----------------------------------|--|---|--|---|
| 1                                 | 2 V ( $R_i \geq 10 \text{ k}\Omega/\text{V}$ )                     | 1,55 V  | Tension de la pile<br>Spannung der Batterie<br>Battery voltage   | Mesure avec pile<br>Messung mit Batterie<br>Measurement with battery  |
| 2                                 | 1 V ( $R_i \geq 10 \text{ k}\Omega/\text{V}$ )                     | L'aiguille du multimètre oscille en sens + et -.<br>Zeiger im Messgerät pulsiert im + und - Sinn.<br>Hand of the measuring apparatus oscillates in + and - direction.             | Impulsions à la sortie du circuit intégré, 1 par seconde.<br>Ausgangsimpulse am integrierten Schaltkreis, 1 pro Sekunde.<br>Impulses at output of integrated circuit, 1 per second.  | Mesure avec 1 pile contrôlée<br>Messung mit kontrollierter Batterie<br>Measurement with controlled battery  |
| 3                                 | 2 V  | $\leq 1,35 \text{ V}$   | Limite inférieure de la tension de fonctionnement.<br>Untere Funktionsspannungsgrenze.<br>Lower working-voltage limit.   | Mesure sans pile, alimentation extérieure variable.<br>Messung ohne Batterie, variable Speisung von aussen.<br>Measurement without battery, variable external supply. |
|                                   | 10 $\mu\text{A}$   | $\leq 2,2 \mu\text{A}$<br>Consommation nettement inférieure à la valeur normale.<br>Stromaufnahme deutlich unter Normalwert.<br>Consumption clearly below as in normal operation. | Consommation du mouvement<br>Stromaufnahme Uhrwerk<br>Consumption of movement<br>Fonctionnement de l'interrupteur, tige en position de mise à l'heure.<br>Funktion des Stopphebels, Welle in Zeigerstellung.<br>Function of stop lever, stem in hand-setting position. | Mesure sans pile, alimentation extérieure 1,55 V.<br>Messung ohne Batterie, Speisung von aussen 1,55 V.<br>Measurement without battery, external supply 1,55 V.       |
| 4                                 | * 10 $\text{k}\Omega$  | 3,4 - 4,3 $\text{k}\Omega$  | Continuité du bobinage.<br>Zustand der Spule.<br>Condition of coil.  | Alimentation extérieure 0,2 V, sans pile.<br>Speisung von aussen 0,2 V, ohne Batterie.<br>External supply 0,2 V, without battery.                                     |

\* Ohmmètres avec tension de mesure supérieure à 0,4 V inappropriés, tension recommandée 0,2 V.  
Ohmmeter mit Prüfspannung über 0,4 V ungeeignet, empfohlene Spannung 0,2 V.  
Ohmmeter with a test voltage higher than 0,4 V unsuitable, voltage recommended 0,2 V.