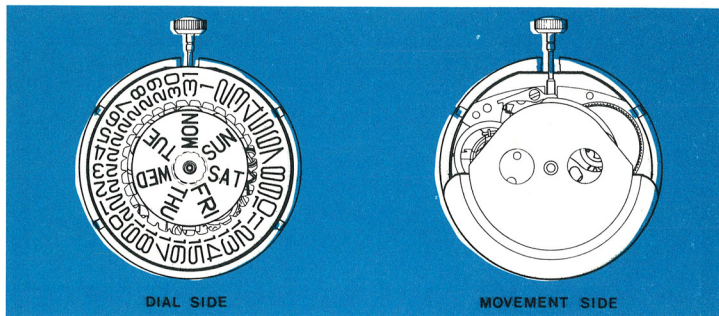


TIMEX® Model 109

13 lig.
29.4 mm
1.160 in.

SERVICE MANUAL
MODEL 109

The **TIMEX**® Model 109 Movement



SHOWN ACTUAL SIZE

The Model 109 Movement is a 13 ligne self-wind Day and Date movement which contains a fast change feature for setting both the day and the date. The Model 109 contains a planetary gear winding system to keep the main-spring wound. The routine motion of a normally active person is sufficient to keep the watch running without manual winding.

The day and date mechanism is similar to that used on the Model 106.

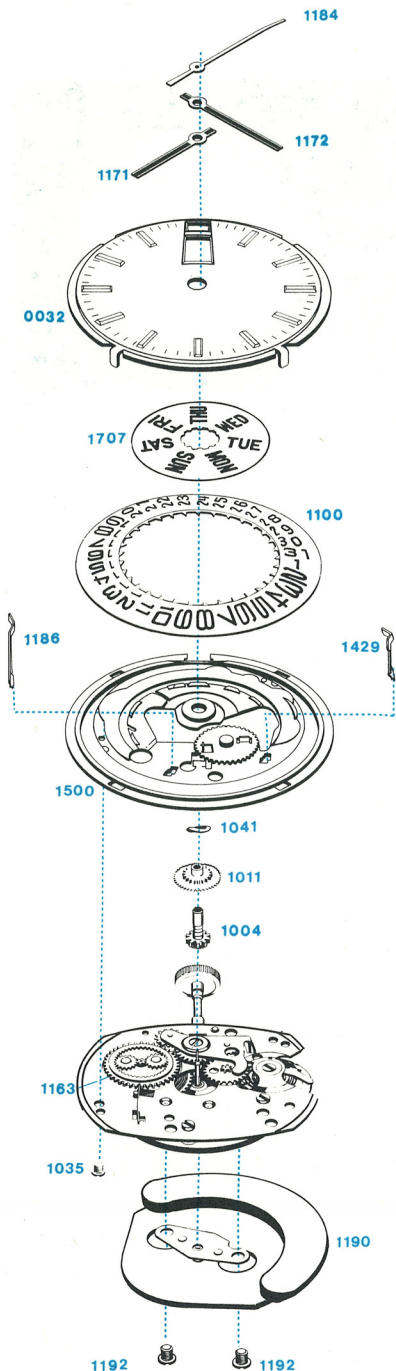
Dismantling procedures are outlined starting on page 109.3.

Cleaning procedures are noted on page 109.5.

Reassembly procedures are outlined starting on page 109.6.

The Timex Code number appears on the edge of the dial. The code number shows the catalog number, movement number and year of manufacture for the watch (see Page 1.1 of the Timex Service Manual for explanation).

The **TIMEX**® Model 109 Movement (exploded view)



- 0032 DIAL
- 1004 CANNON PINION ASS'Y.
- 1011 HOUR WHEEL ASS'Y.
- 1035 SCREW
- 1041 HOUR WHEEL WASHER
- 1100 DATE RING
- 1171 HOUR HAND
- 1172 MINUTE HAND
- 1184 SWEEP SECOND HAND
- 1186 DAY DETENT SPRING
- 1190 ROTOR PLATE ASS'Y.
- 1192 ROTOR PLATE SCREW
- 1429 DATE DETENT SPRING
- 1600 DAY/DATE FRAME ASS'Y.
- 1707 DAY DISC
- 1163 RATCHET WHEEL

Disassembly of the Model 109 Movement

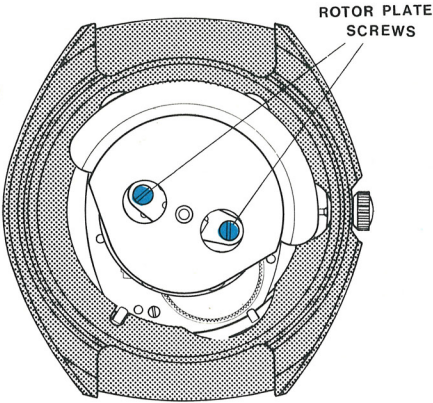


FIGURE 1

The Model 109 movement is disassembled as follows: Remove the case back. Loosen and remove two Rotor Plate Screws (see Figure 1), Lift the rotor assembly slightly to free the dowels. Since the Rocker Arm fits between the Rotor Frame and the Rotor Assembly, position the rotor weight as shown in figure 2 and slide the assembly along the movement plate (toward the balance wheel) until it is free of the rocker arm and then lift the assembly out of the case.

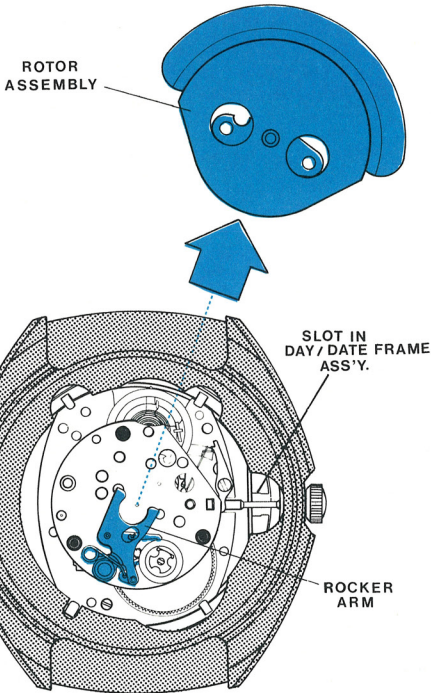


FIGURE 2

CAUTION: Any attempt to lift the weight before it is free of the Rocker Arm will result in damage to the movement.

Disassembly of Movement Cont'd.

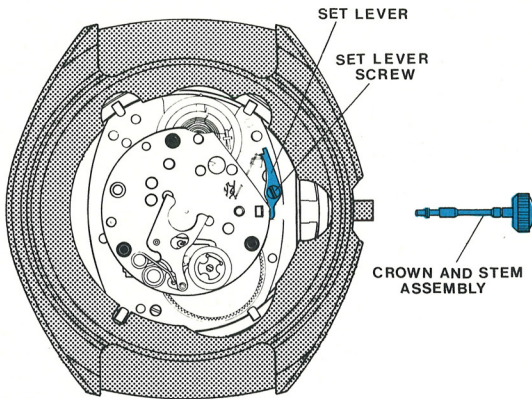
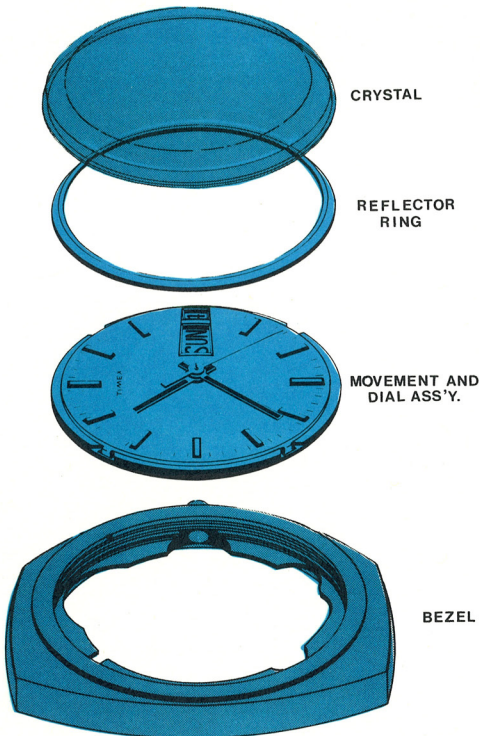


FIGURE 3

Loosen the Set Lever Screw and raise lever sufficiently to release the stem and pull the crown and stem assembly free of the movement and the case (see figure 3).

Turn the assembly over and remove crystal using a crystal remover. The Reflector Ring and the movement and dial assembly can then be removed through the front of the bezel (See figure 4).



Disassembly of Movement Cont'd.

DIAL REMOVAL

Remove all hands.

Turn the assembly over and bend the four dial tabs sufficiently to free the dial from the Day/Date Frame and movement, (see figure 5). Hold the dial in place and turn the assembly over so the dial is up. Carefully lift the dial off the assembly. Note the positions of the parts under the dial. Lift off the Day Disc, the Date Ring, Date Detent Spring and the Day Detent Spring, (see figure 6).

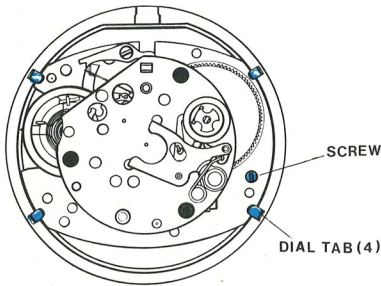


FIGURE 5

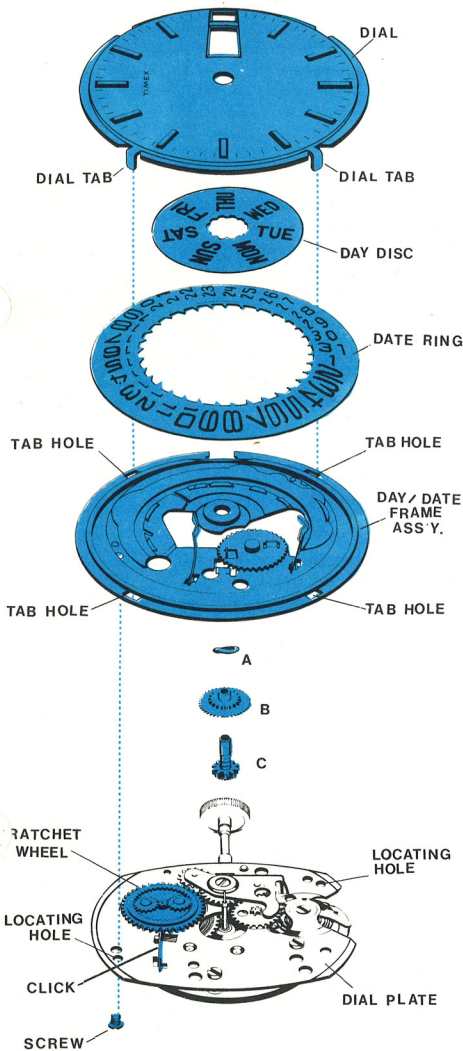


FIGURE 6

Replace the crown and stem assembly in the movement and tighten the set lever screw to assure engagement. Release the mainspring power slowly by holding the crown in the fingers of one hand while the click is held out of engagement (through the hole in the Day/Date Frame) with the Ratchet Wheel. After the mainspring power is released, turn the assembly over (Day/Date Frame down) and remove the screw securing the Day/Date Frame. Turn assembly over (Day/Date Frame up) and lift off the Day/Date Frame Assembly and the Ratchet Wheel.

Remove the hour wheel washer (A), Hour Wheel Assembly (B) and Cannon Pinion Assembly (C) from the movement.

With the above parts removed, the basic movement may be replaced with a Timex reconditioned movement. The parts removed above are assembled to the reconditioned movement as described starting on page 109.6.

With the above parts removed, the movement of the Model 109 may be cleaned and relubricated as outlined for the model 104 movement. Other metal parts may be cleaned in the same manner as the movement.

CAUTION

Extreme care must be exercised in cleaning Dials, Hands, Day Discs and Date Rings. Solvent type cleaners will often damage the finish on these parts.

CORRECTIONS TO PAGE 109.5 OF THE SERVICE MANUAL

The third paragraph from the bottom of page 109.5 - printed in blue and starting: "With the above parts removed, the basic movement may be replaced with a Timex reconditioned movement." - is misplaced.

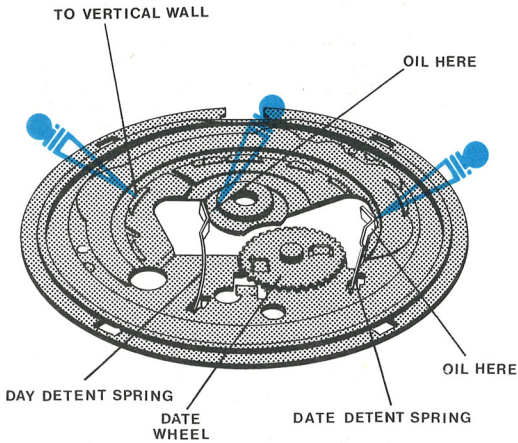
This paragraph should follow immediately after the paragraph at the top of the same page which ends: "... and the Day Detent Spring, (see figure 6)."

The #109 reconditioned movement comes complete with Day/Date Frame Assembly attached to the movement, with Ratchet Wheel, Hour Wheel Washer, Hour Wheel Assembly, and Cannon Pinion Assembly included. These parts should be removed from your customer's movement only if you wish to clean the movement and replace it in the watch - in which case, follow reassembly instructions in paragraphs "C" and "D" on page 109.7.

DO NOT REMOVE THESE PARTS IF YOU ARE REPLACING THE CUSTOMER'S MOVEMENT WITH A TIMEX RECONDITIONED MOVEMENT.

TIMEX Corporation
Material Sales Division
P. O. Box 1378
Little Rock, Arkansas 72209

Reassembly of the Model 109 Movement

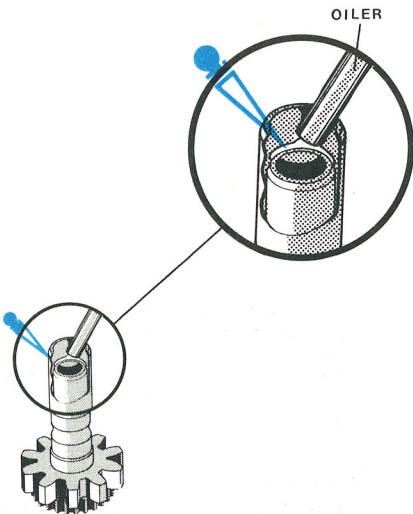


After the basic movement has been cleaned, lubricated and reassembled as outlined for the Model 104 movement, the Model 109 movement reassembly is completed as follows (be sure Crown and Stem Assembly is in movement):

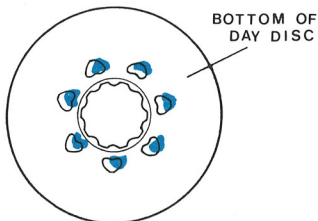
- A. Insert the Day Detent Spring and the Date Detent Spring into the Day-Date Frame as shown in the illustration at the left.
- B. Lubricate the bearing face of the Day Detent Spring and the Date Detent Spring with a thin film (AVOID EXCESS LUBRICATION) of non-spreading watch oil (Moebius Synt-A-Lube oil is used in the factory) where shown in the illustration at the left. Lubricate the vertical "wall" of the Day-Date Frame with a thin film of non-spreading type oil where shown in the illustration at the left.

DO NOT LUBRICATE DATE WHEEL AREA.

Apply non-spreading watch oil to the end of the Cannon Pinion as shown in the lower illustration at the left.

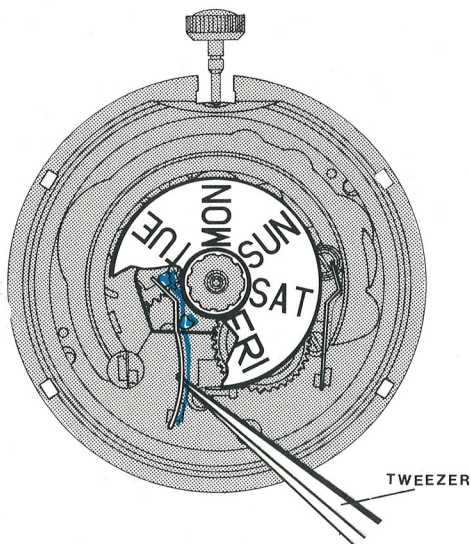


Reassembly of the Model 109 Movement



- C. Replace parts on the movement in the following order:
Cannon Pinion Assembly
Hour Wheel Assembly
Hour Wheel Washer
Ratchet Wheel — Be sure the ratchet wheel is seated and properly engaged with the click and the rocking bar assembly.
Day-Date Frame Assembly — Orient frame with the slot at the stem (see illustration on Page 109.3) and seat bosses in holes.

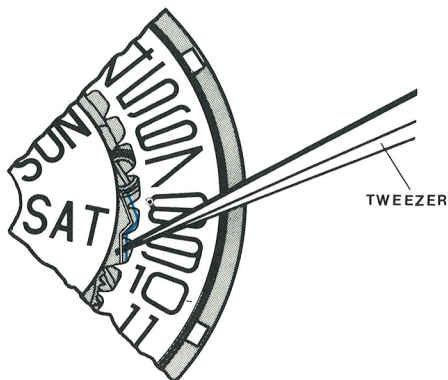
- D. Hold the assembly together and turn over so the Day-Date Frame is down and insert and tighten the screw.



- E. Day-Disc — Note protrusions on back of disc (see illustration at left). With tweezers, deflect Day Detent Spring outward and place Day Disc on Day-Date Frame Assembly with any Day (I.E., Mon.) in line with Crown and Stem and drop into place. Release Day Detent Spring.

- F. Date Ring — Position Date Ring centrally on Day-Date Frame Assembly. With fine tweezers, deflect Date Detent Spring inward until the Date Ring drops into place.

- G. Dial—Orient Dial as shown on Page 109.3 with windows toward the Crown and Stem Assembly and insert dial tabs through the holes in the Day-Date Frame Assembly. Hold dial and Day-Date Frame Assembly in position on the movement, turn the assembly over and bend the tabs firmly over the edge of the Dial Plate.



- H. Pull Crown and Stem out and rotate to turn hands in a clockwise direction until the Date changes (with a snap). Stop turning the crown and assemble hands at the 12 o'clock position.

Reassembly of the Model 109 Movement

Check assembly to be sure day and date change as follows:

Turn crown so hands rotate clockwise until first date and then day advance and snap into position. Rotate hands counterclockwise until day moves partially out of the window then snaps back into the window. Rotate hands clockwise until day advances again.

Rotate hands counterclockwise until they indicate 9 PM then rotate the hands clockwise until the date changes with a snap, (this change should occur around midnight).

Continue to rotate hands clockwise through 29 hours and both day and date should advance one position.

Loosen the Set Lever Screw and remove the Crown and Stem. Position the Dial and Movement Assembly in the Bezel; insert the Reflector Ring and replace the Crystal.

Insert the Crown and Stem Assembly through the Bezel and into the movement and retighten the Set Lever Screw.

Reassemble the Rotor Assembly by sliding it into the movement under the Rocker Arm as shown in Figure 2. (Notch in the rotor frame points towards the balance assembly). Secure the Rotor to the movement with two screws as shown in Figure 1.

Position the caseback so the crown is to the left when the words are upright. Recheck watch for proper function of the Day and Date Setting Mechanism.