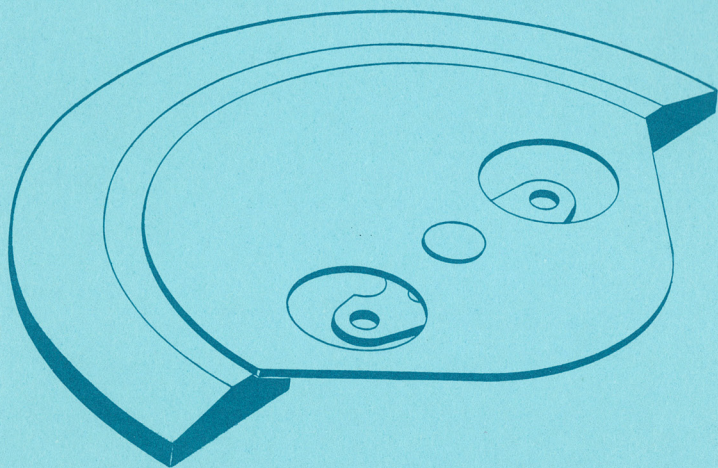
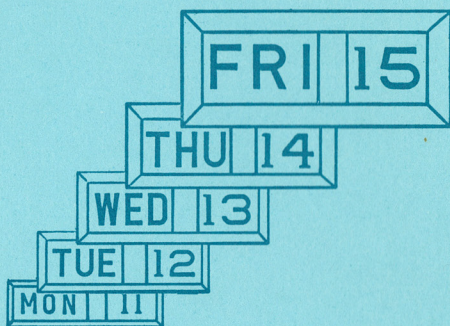


TIMEX model 33

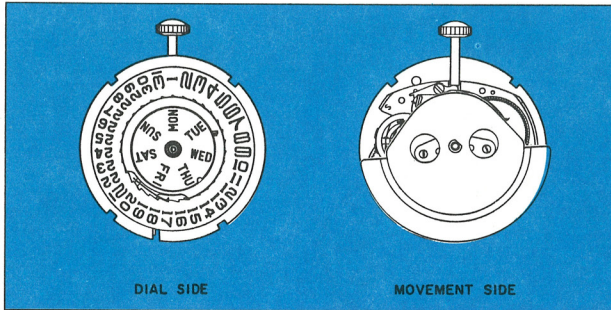
SERVICE MANUAL
MODEL 33



self wind
day and date

13 lig.
28.96mm
1.140 in.

the TIMEX Model 33 Movement



The Model 33 movement is a 13 ligne self-winding movement with day and date features. The Model 33 utilizes the same basic construction as the Model 31 except that a day and date mechanism has been added. A planetary gear winding system located on the Front Frame provides a compact method of obtaining the necessary gear reduction between the self-winding weight and the mainspring.

The reserve power of the mainspring when the watch is worn by a normally active person is sufficient to run the watch for a full day.

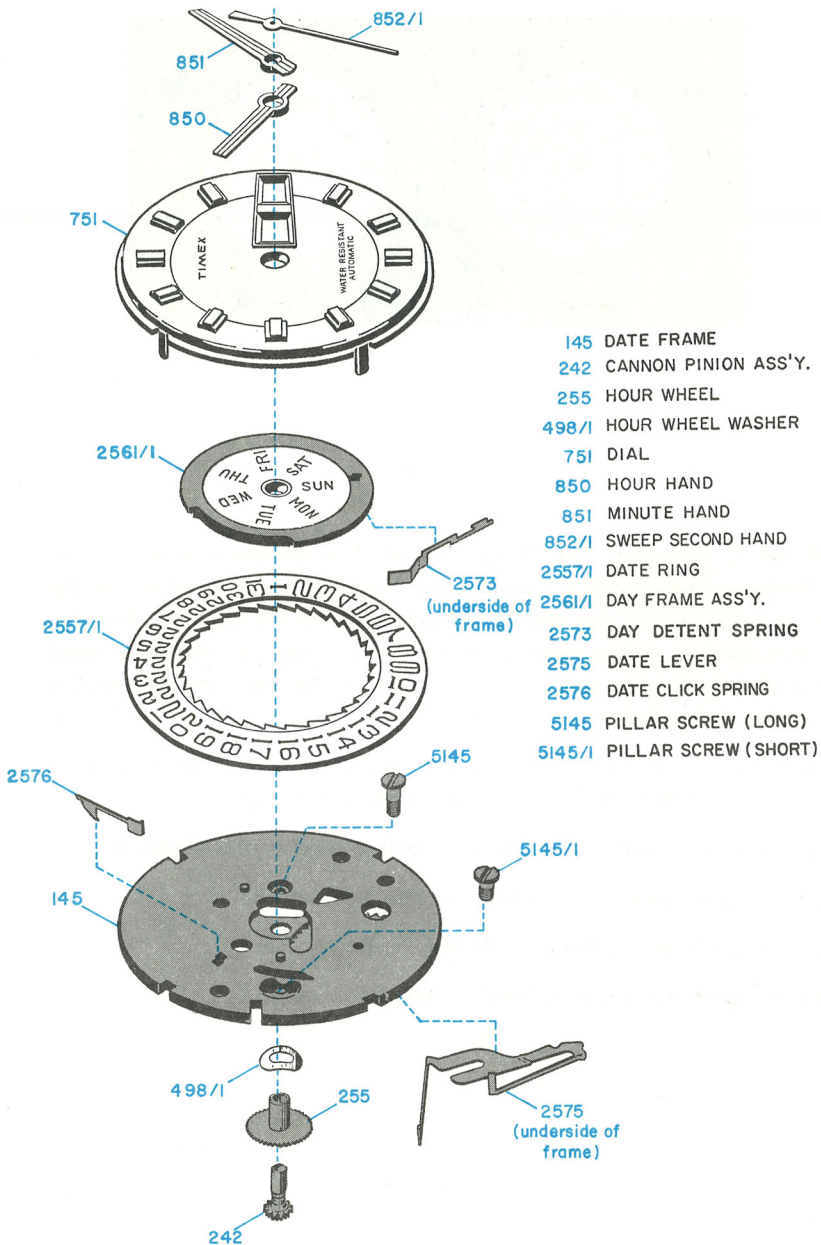
The day and date mechanism is similar to that used in the Model 27.

Dismantling procedures are outlined starting on page 33.3.

Cleaning procedures are outlined starting on page 33.5.

Reassembly procedures are outlined starting on page 33.7.

the TIMEX Model 33 Movement (exploded view)



Disassembly of Movement (model 33)

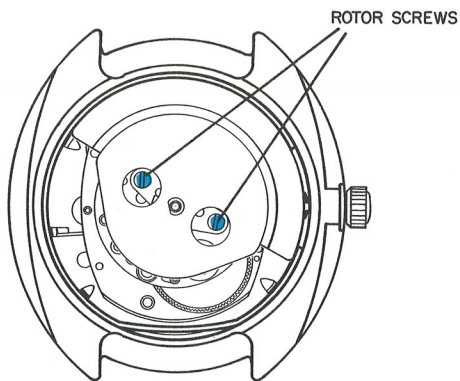


FIGURE 1

The Model 33 movement is disassembled as follows: Remove the case back. Loosen and remove two Rotor Frame 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 Weight, 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.

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

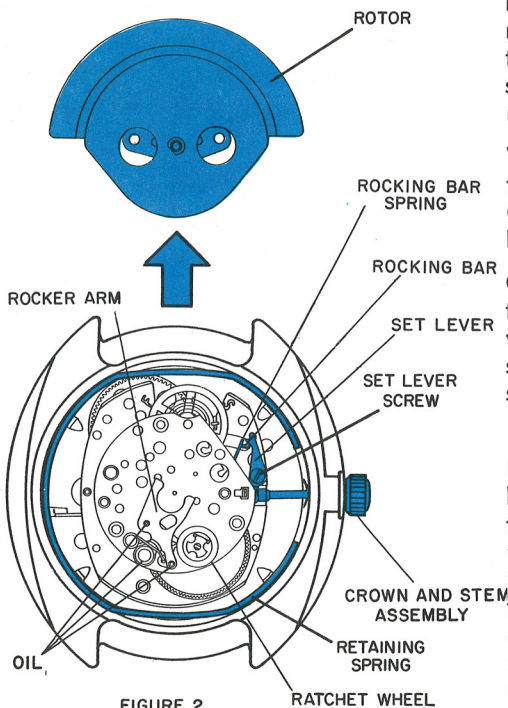


FIGURE 2

Pull crown out into the set position. 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 2).

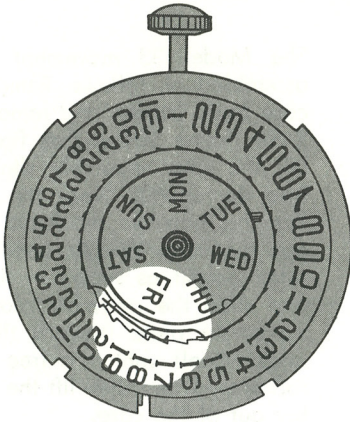
With tweezers, carefully remove the retaining spring from the Bezel (figure 2). Be careful not to damage Balance Wheel Assembly.

Carefully turn the watch over and the Dial and movement assembly will fall out. Replace the crown and stem assembly and retighten the set lever screw.

DIAL REMOVAL

Remove all hands. Turn the assembly over and bend the four dial tabs sufficiently to free the dial from the Date Frame. Hold the dial in place and turn the assembly so the dial is up and carefully lift the dial off of the movement. Note the positions of the parts under the dial (see illustrations on Page 33.4).

Disassembly of Movement (model 33)

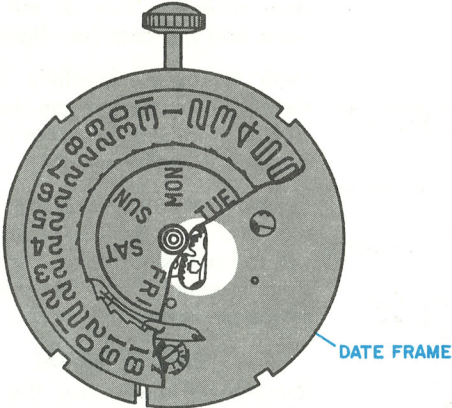
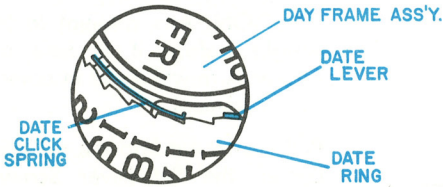


PRINCIPLE OF OPERATION

The illustrations at the left show the functional parts of the Day and Date mechanism.

DATE RING INDEXING

A tab on the underside of the Date Wheel engages the Date Lever and moves the Date Lever tab backward one tooth on the Date Ring. At a predetermined time (about midnight) the date lever is released and moves the date ring forward one space. The Date Click Spring engages the Date Ring to prevent backward motion when the Date Lever is being moved.



DAY DIAL INDEXING

A tab on the upper side of the Date Wheel engages the Day Dial Pinion. Rotating the Day Dial Pinion moves the Day Dial forward one position at about 1 o'clock in the morning. The Day Detent Spring positions the Day Dial.



Disassembly of Movement (model 33)

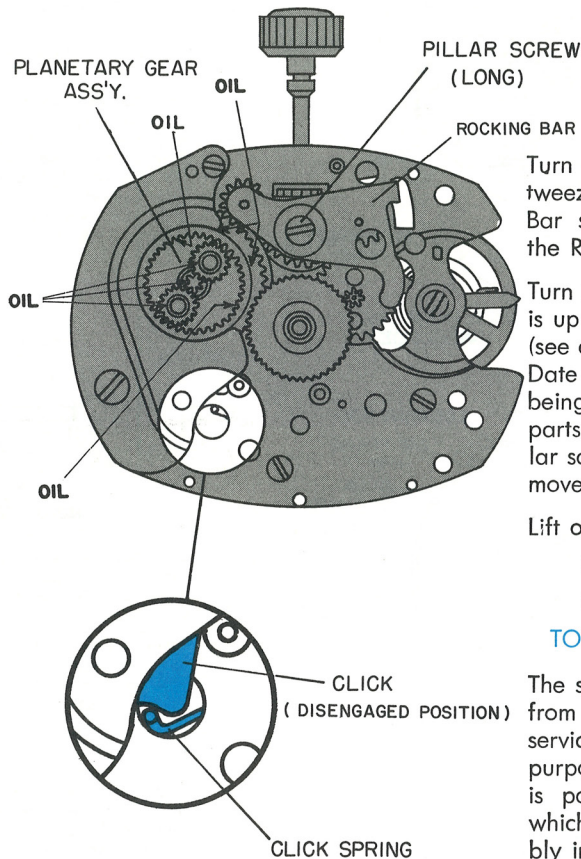


FIGURE 3

Turn movement over and with tweezers, lift end of the Rocking Bar spring free from the end of the Rocking Bar (see figure 2).

Turn movement over so date frame is up and remove two pillar screws (see exploded view page 33 2). Lift Date Frame Assembly off movement being careful not to disturb loose parts underneath. Replace long pillar screw in the Rocking Bar on the movement (see figure 3).

Lift off the Hour Wheel Washer

Hour Wheel

Cannon Pinion Assembly

TO LET DOWN MAINSPRING

The stored power must be released from the mainspring in order to service the movement. For reference purposes, the click in this movement is partially hidden by the plate which holds the planet gear assembly in position (see Figure 3).

There is no need to remove the planetary gear assembly from the frame of the movement assembly.

The Model 24 procedure for removing the balance, cleaning, lubricating and reassembling the balance described on pages 24.5, 24.6, and 24.7 should be followed for the Model 33 movement.

CAUTION

Remember that the day and date ring are printed dials and some watch cleaning fluids will strip the printing.

Lubrication of (Model 33)

LUBRICATION

The basic movement of the Model 33 must be lubricated as described for the Model 24 movement on Page 24.6 (Elgin M56b oil is used in the factory).

In addition to the above, additional lubrication is required as follows:

A. Lubricate the mechanism on the Rotor (see illustration below) with Moebius Special Lubricant #206 on the outside surface of the rotor cam and force lubricant beneath the rotor staff head and between the rotor frame and the rotor cam.

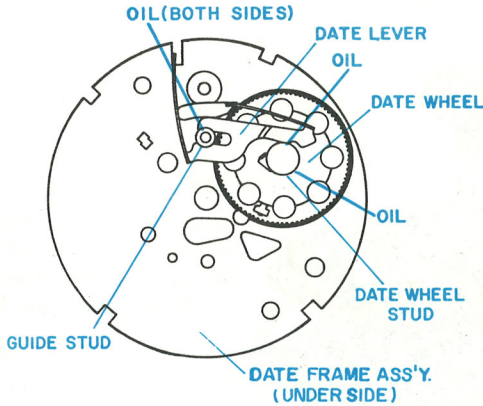


FIG. A

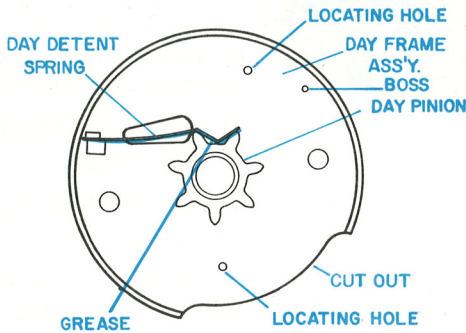


FIG. B

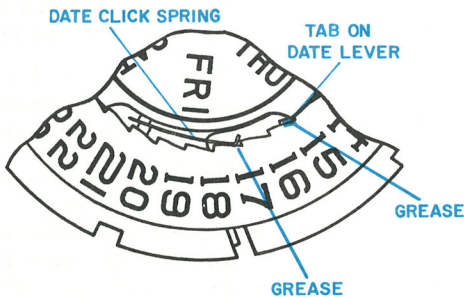
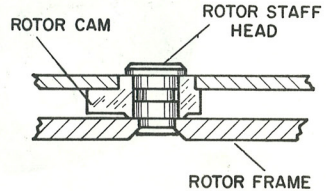


FIG. C



- B. Lubricate with fine watch oil #1 ratchet wheel teeth and three pivot points shown figure 2.
- C. Lubricate with fine watch oil the seven bearing points of the planetary gear system noted on figure 3 (page 33.5).
- D. Lubricate as noted at the left in figure A the junction of the date lever with the date wheel stud, both sides of the junction of the date lever with the guide stud and the bearing between the date wheel and the date wheel stud.
- E. Apply coating of grease (Hamilton PML is used in the factory) to junction of the Day Detent Spring and the Day Pinion as shown at the left in figure B.
- F. Apply coating of grease (Hamilton PML used in the factory) to the junction of the Date Click Spring with the teeth of the Date Ring and to the junction of the tab on the Date Lever with the teeth of the Date Ring as shown in figure C at the left.

WARNING: Never lubricate the junction of the Day Pinion with the Day Frame because this may cause failure.

Reassembly of Movement (Model 33)

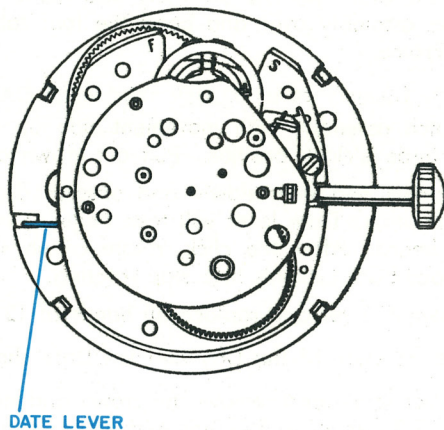


FIGURE 4

To reassemble the Model 33 movement into a watch after the basic movement has been cleaned and oiled, the following procedure should be followed. Refer to the exploded view on Page 33.2 as a guide.

Assemble the Cannon Pinion Assembly onto the Center Post of the movement. Apply a small amount of fine watch oil to the center hole in the Cannon Pinion. Assemble the Hour Wheel and Hour Wheel Washer onto the Cannon Pinion Assembly.

Remove the short Pillar Screw (if assembled) and the long Pillar Screw from the movement. Be sure the bushing is in place in the rocking bar and then position the lubricated Date Frame Assembly on the movement as shown on Page 33.2 and in Figure 3. Hold Date Frame assembly in place and check proper Date Wheel engagement by testing with tweezers. Secure the Date Frame assembly to the movement with the long and short pillar screws. Reengage the Rocking Bar spring as shown in Figure 2. Check for proper engagement and function of the crown and stem assembly. Rotate crown enough to move finger on the Date Wheel away from the cut out at the center post (see Page 33.4).

Position the Date Ring on the Date Frame so it is engaged with the finger on the Date Lever and the Detent Spring.

Test the lubricated Day Frame Assembly (see Page 33.6) for free rotation of the Day Pinion against the Day Detent Spring. Note the two small locating holes, the boss and the cut out on the underside of the Day Frame Assembly (see center view on Page 33.6). Position the lubricated Day Frame Assembly over the center of the movement and orient the assembly on the Date Ring so the left end of the cut out just clears the tab on the Date Lever. Apply light pressure and move the Day Frame Assembly slightly until the two holes and boss seat on the corresponding bosses and hole in the Date Frame Assembly. Centralize the Date Ring under the Day Frame Assembly.

Reassembly of Movement (Model 33)

Carefully orient the dial over the assembly and then, holding the dial in place, turn the assembly over and bend the four tabs to secure the dial to the Date Frame.

TO POSITION HANDS FOR PROPER DAY AND DATE CHANGE

First —Hold watch assembly with movement side up and crown and stem at three o'clock position. Pull out crown and stem.

Next —Rotate crown and stem slowly and observe date lever at nine o'clock position. Date lever will then begin to move and a click will be heard. After the click, rotate crown slowly until date lever snaps back. At this time stop rotating.

Finally—Turn assembly over and replace all hands at 12 o'clock position.

Check the proper function of the Day and the Date change mechanism.

Loosen the set lever screw and remove the crown and stem as previously noted on page 33.3. Position the Dial and Movement assembly in the bezel, insert the crown and stem through the bezel and retighten the set lever screw.

Reassemble the Retaining Spring as shown in Figure 2. The end of the spring should be inserted into the groove near the stem at the balance wheel end of the movement. Insert the rest of the spring into the groove being careful not to damage the balance assembly.

Reassemble the rotor assembly by sliding it into the movement under the rocker arm as shown in Figure 2. Secure the rotor to the movement with two screws as shown in Figure 1.

Position the case back with the "T" on "Timex" toward the crown and snap it into the bezel.