

*Part VIII*  
*Supplement, pages 58-71*  
*Repair of Hour Setting and*  
*Date Mechanisms in Model 2185*

All information and instructions contained in Parts I and II of this manual are also applicable to Model 2185, with the following exceptions:

Details for removing and replacing movement in case, disassembly, lubricating, and reassembly of the hour setting and date mechanism are given in the accompanying illustrations. Parts other than those in Basic Parts List in Part II are identified.

When ordering replacement parts, be sure to indicate that the parts are for Model 2185. For example, if you are ordering a new date trip wheel assembly, #574, write the part number as follows: 2185 - #574.

## Opening and Removing Movement From Case

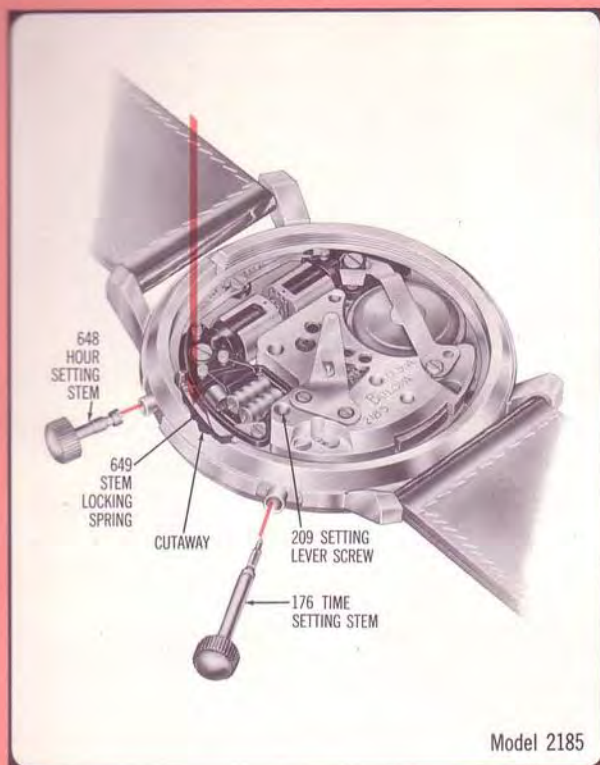


Fig. 50

- a. Remove locking ring with the use of a special ACCUTRON locking ring wrench.
- b. After removing case back and gasket, depress stem locking spring #649 and withdraw hour setting stem #648 (see Fig. 50).
- c. Pull time setting stem #176 "out" (setting position).
- d. Loosen setting lever screw two turns and withdraw time setting stem #176.



Fig. 51

- a. Remove movement from case and place movement in holder (see Fig. 51).
- b. Insert time setting stem #176 and tighten setting lever screw.

**CAUTION:** Do not push stem beyond point of engagement with stem pin on setting lever. (See Special Points, Item 2, Page 14.)

**NOTE:** Unless hour setting operation must be checked, do not replace hour setting stem #648 at this time.

To insert hour setting stem #648, depress stem locking spring #649 and insert stem (see Fig. 51).

When checking hour setting mechanism operation with movement removed from case, carefully hold and rotate hour setting stem to insure a positive engagement of teeth between hour setting stem #648 and hour setting wheel #637. Caution must be taken not to damage stem guide pin.

## Replacing Movement in Case

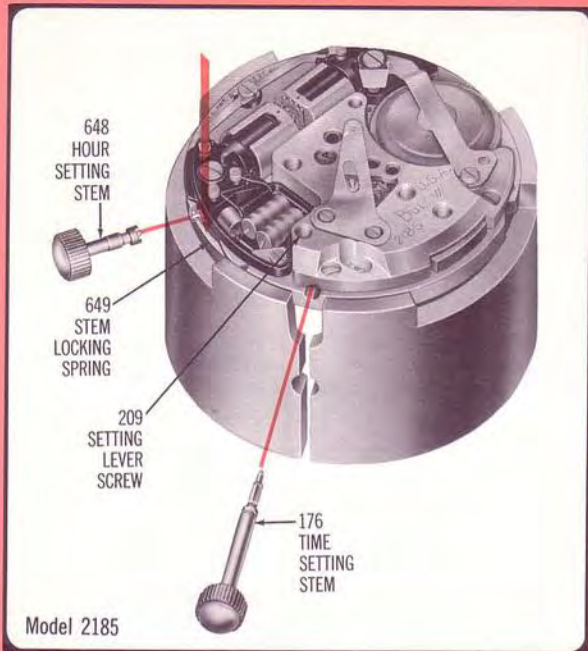


Fig. 52

- 1
- If previously installed, depress stem locking spring #649 and withdraw hour setting stem #648 (see Fig. 52).
  - With time setting stem #176 "out" (setting position), loosen setting lever screw two turns and withdraw stem.



Fig. 53

- 2
- Replace movement in case.
  - Lubricate both hour and time setting crown gaskets with a good quality grease.
  - Insert time setting stem #176 and tighten setting lever screw.

**CAUTION:** Do not push stem beyond point of engagement with stem pin on setting lever. (See Special Points, Item 2, Page 14.)

- Depress stem locking spring #649 and insert hour setting stem #648 (see Fig. 53).
- Replace gasket and case back. Secure locking ring for water tightness.
- Check regulation (see step 10, page 39).

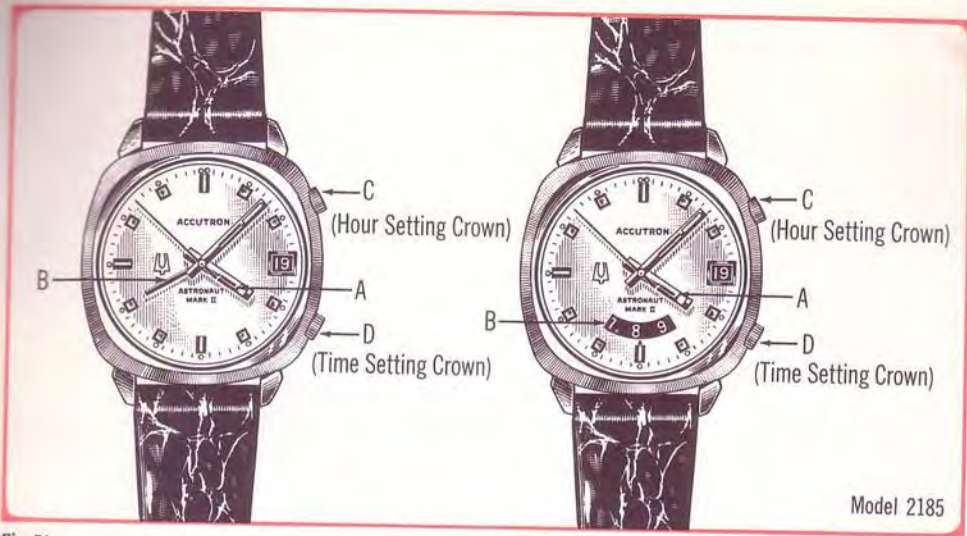


Fig. 54

Fig. 55

## SETTING PROCEDURE

The unique feature of the ACCUTRON Astronaut Mark II is that the hour hand may be "advanced" or "backed-up" in exact one hour increments without disturbing the minute and seconds. This permits the traveler to readjust the hour hand of his watch to agree with local time as he crosses into new time zones. In addition a reference hour hand or digital hour read-out, in a window, depending upon the style, will continue to display his home-base time as he moves from one time zone to another. The date indicator is controlled from the (local) hour hand and for this reason it is important to follow the setting instructions as outlined below.

### Align The Hour Indicators

1. Prior to setting the time, set the hour hand (A) to the same hour as home-base time (B). This is accomplished by turning hour setting crown (C) in the appropriate direction to advance or back-up the hour hand.

**CAUTION:** Hour setting crown (C) is to be ROTATED ONLY to move hour hand forward or backward. DO NOT ATTEMPT TO PULL CROWN "OUT."

### Set The Time

2. Pull "out" time setting crown (D) when second hand reaches 60 second marker. All hands will stop.
3. Advance the hands until date changes. (This establishes midnight.)
4. Now continue to turn hands forward until minute hand is slightly ahead of the desired minute marker and then turn back to this marker. (If setting the watch after 12 Noon, advance hands an additional 12 hours.)
5. When time standard by which you are setting your watch reaches 60th second, push time setting crown (D) to normal "in" position.

### Set The Date

6. Rotate time setting crown (D) clockwise until the correct date appears in the date window.

**NOTE:** The date will advance automatically at midnight, provided a.m. and p.m. have been established. On the first day of each month, following a month with less than 31 days, advance the date manually (same procedure as step 6).

### To Change Time Zones

The hour hand (A) can be changed at any time of the day without affecting the home time (B). The change should be made as the wearer enters each time zone, "advancing" or "backing-up" the hour hand by rotating the hour setting crown (C). Upon returning local hour hand to home-base time, always retrace time zones in reverse procedure, so as not to change the calendar.

**NOTE:** If calendar changes at noon, correct by turning hour hand back 12 hours. Reset date as necessary.

# Disassembly

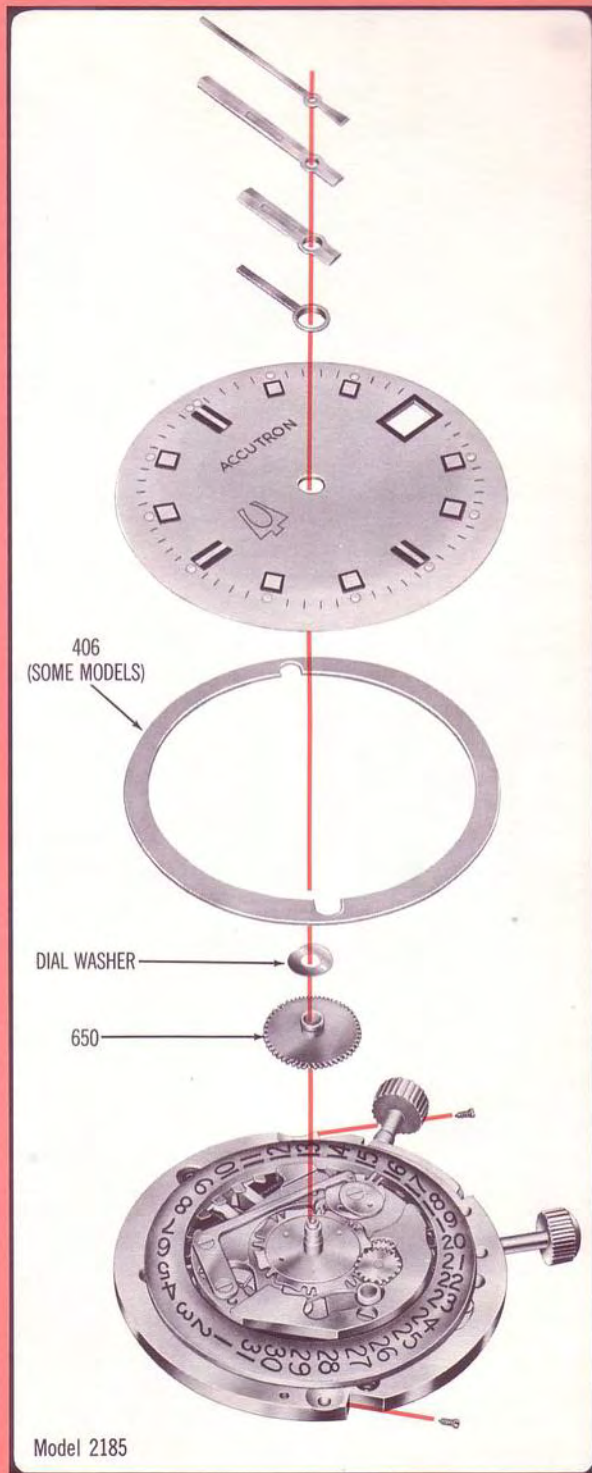
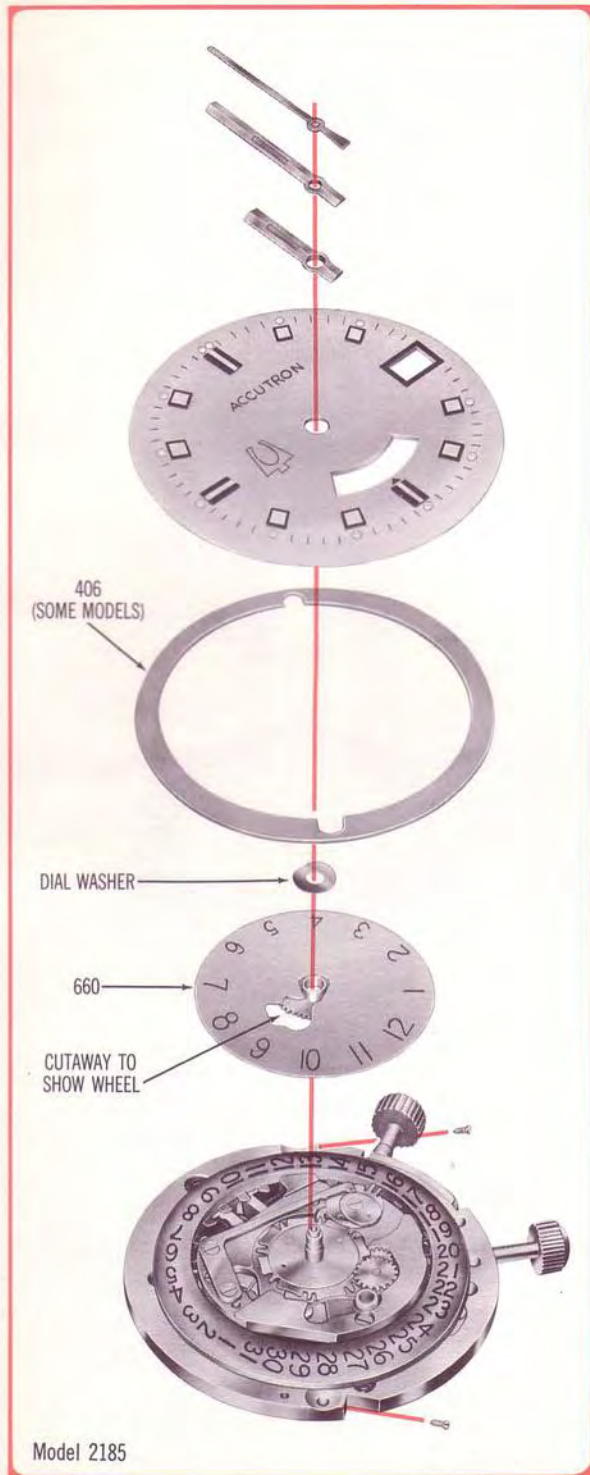


Fig. 56



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Fig. 57

## Removing hands, dial, and hour wheel

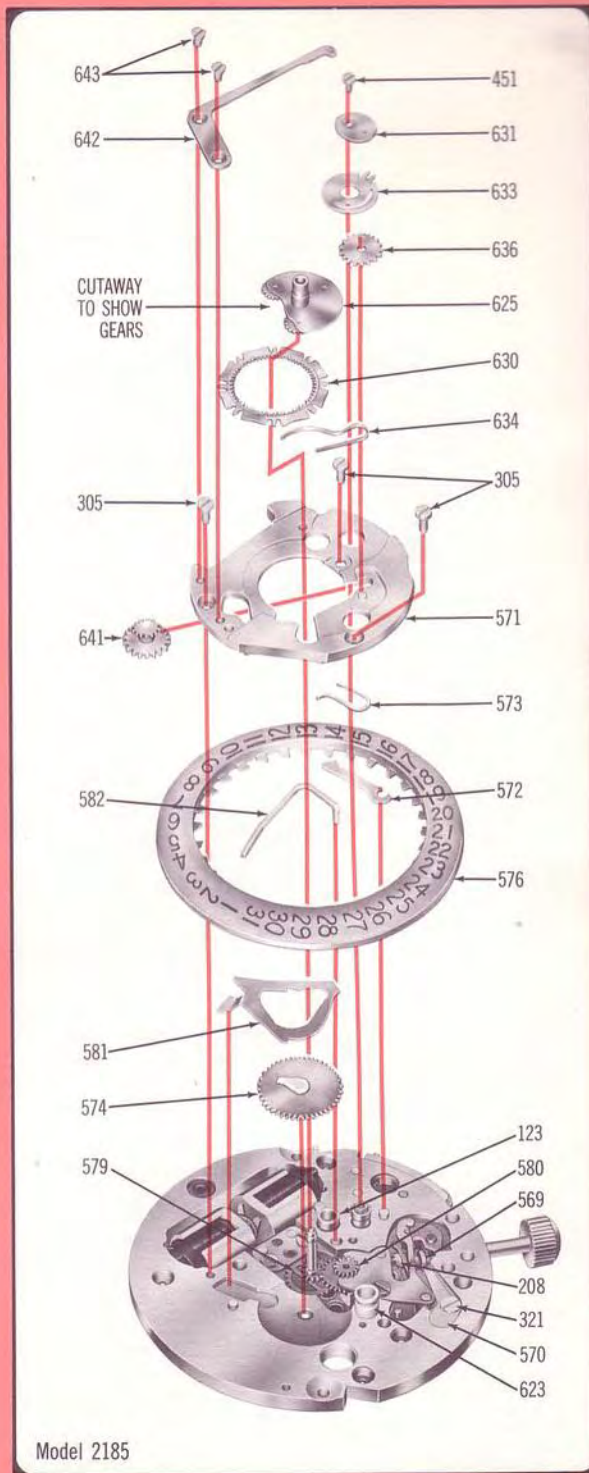
(Refer to figure 56 or 57, whichever is appropriate)

- a. Pull time setting stem "out" (setting position).
- b. Remove hands.
- c. Remove dial (2 screws) and dial support #406, if used.
- d. Remove hour wheel #650 or hour indicator disc assembly #660 (depending upon dialing) with dial washer.

# Parts List model 2185

(All other parts same as basic Series 218)

<b>123</b>	Foot
<b>133A</b>	Reference Hour Hand
<b>208</b>	Clutch Wheel
<b>305</b>	Date and Set Bridge Screw
<b>321</b>	Date Corrector Detent Screw
<b>451</b>	Cam Screw
<b>452</b>	Spring Washer
<b>569</b>	Date Corrector
<b>570</b>	Date Corrector Detent
<b>571</b>	Date Bridge
<b>572</b>	Date Indicator Detent
<b>573</b>	Date Indicator Detent Spring
<b>574</b>	Date Trip Wheel Assembly
<b>576</b>	Date Indicator
<b>579</b>	Center Wheel Assembly
<b>580</b>	Minute Wheel Assembly
<b>581</b>	Date Trip Arm
<b>582</b>	Date Trip Spring
<b>623</b>	Foot
<b>625</b>	Planetary Hour Wheel Assembly
<b>630</b>	Geneva Wheel
<b>631</b>	Cam Assembly
<b>633</b>	Geneva Wheel Stop Disc
<b>634</b>	Geneva Wheel Spring
<b>635</b>	Cam Gear
<b>636</b>	Transfer Gear Assembly
<b>637</b>	Hour Setting Wheel
<b>640</b>	Intermediate Wheel Assembly
<b>641</b>	Drive Gear Assembly
<b>642</b>	Cam Spring
<b>643</b>	Cam Spring Screw
<b>644</b>	Setting Bridge Assembly
<b>648</b>	Hour Setting Stem
<b>649</b>	Stem Locking Spring
<b>650</b>	Hour Wheel
<b>660</b>	Hour Indicator Disc Assembly



**NOTE:** The above listed parts are illustrated on pages 59, 60, 62, 63, 64 and 65.

Fig. 58



## Removing Hour Setting and Date Mechanism, Dial Side

- a. Remove cam spring #642 (2 screws #643).
- b. Remove cam assembly #631 and screw #451.
- c. Remove geneva wheel stop disc #633.
- d. Remove transfer gear assembly #636.
- e. Remove planetary hour wheel assembly #625.
- f. Remove geneva wheel #630.
- g. Remove geneva wheel spring #634.  
**CAUTION:** Do not deform spring.
- h. Remove date bridge #571 (3 screws #305) with drive gear assembly #641.
- i. Remove date indicator detent spring #573, date trip spring #582, date indicator detent #572, date indicator #576, date trip arm #581, and date trip wheel assembly #574.





## Removing Hour Setting Mechanism, Train Side

**NOTE:** Perform all necessary disassembly, train side, (see disassembly Part II) before proceeding with the following steps:

- Remove setting bridge assembly #644 and screw #305.
- Remove stem locking spring #649.
- Remove cam gear #635 with spring washer #452, intermediate wheel assembly #640, and hour setting wheel #637.

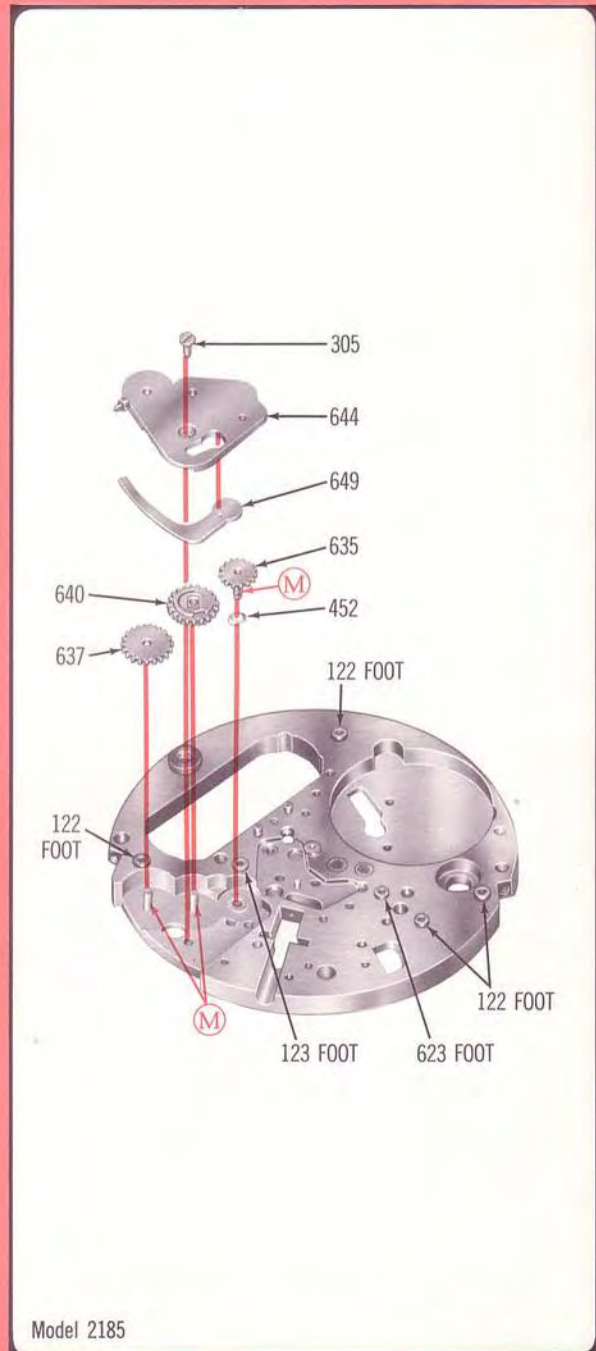
## Reassembly

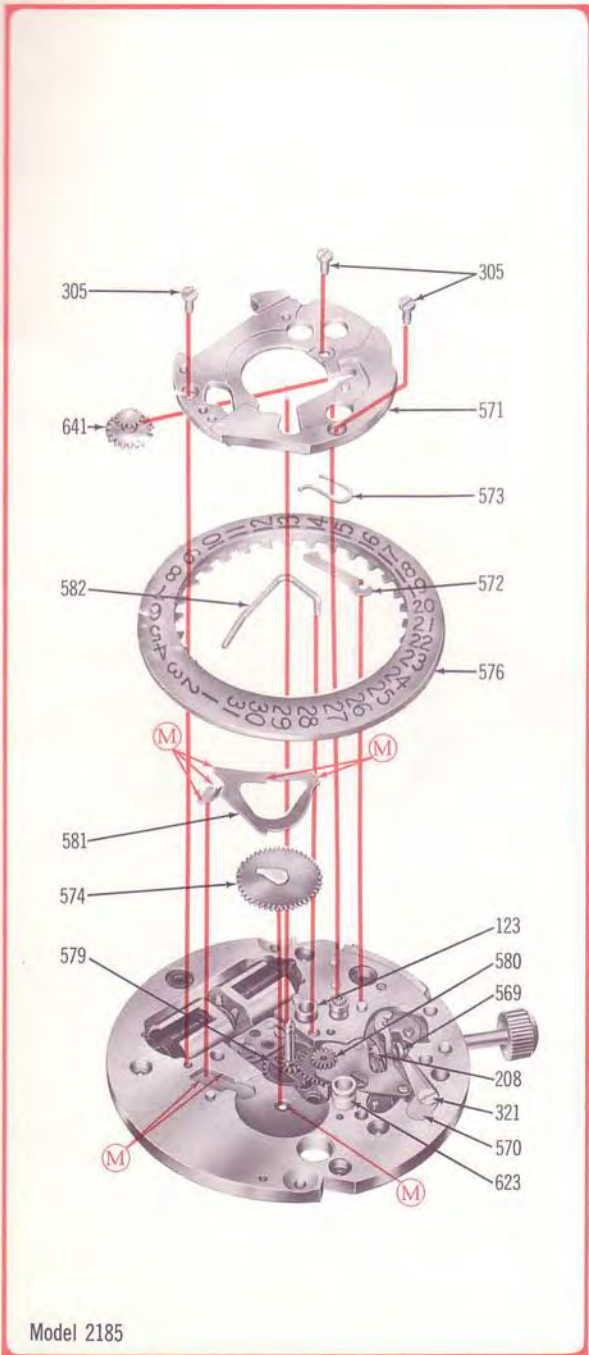


## Replacing Hour Setting Mechanism, Train Side

- Lubricate sparingly (M) hour setting wheel post, intermediate wheel assembly post and cam gear shaft.
- Replace hour setting wheel #637 with intermediate wheel assembly #640 (small gear down) and cam gear #635 with spring washer #452.
- Replace stem locking spring #649 and setting bridge assembly #644. Secure with setting bridge screw #305 and check endshake, (5/100 mm) for all three gears.
- The remaining parts of the train side and setting mechanism are assembled as illustrated under Reassembly, Part II of this manual.

All points marked (M) to be lubricated with Moebius OL207.



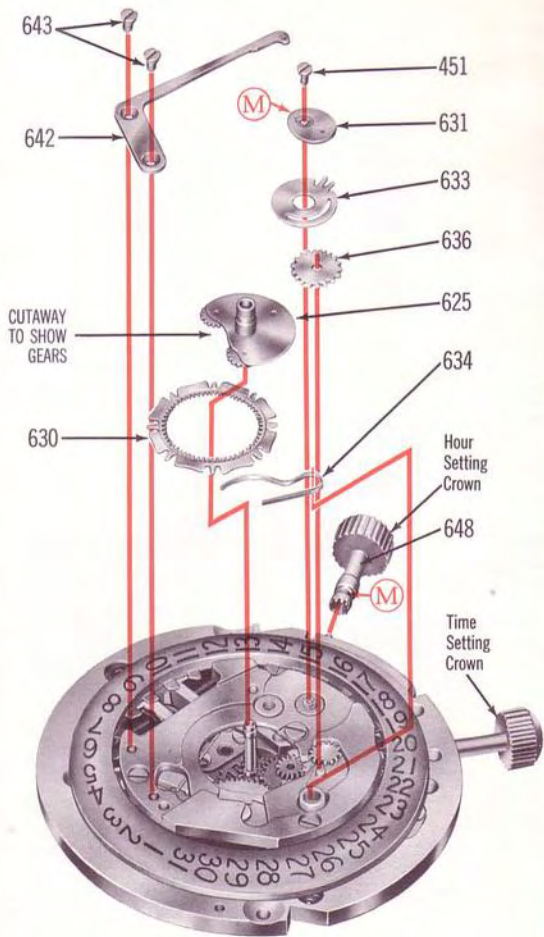


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Fig. 60

### Replacing Date Mechanism

- a. Lubricate (M) date trip wheel pivot sparingly, then replace date trip wheel assembly #574, date trip arm #581, date trip spring #582, date indicator #576, date indicator detent #572, date indicator detent spring #573. Lubricate sparingly with Moebius Special Lubricant OL207 all (M) points indicated.
- CAUTION:** Do not deform either date trip spring or date indicator detent spring.
- b. With time setting crown "out" (setting position) replace date bridge assembly #571 with drive gear assembly #641 (small wheel up) while turning crown to engage the gears. Secure date bridge with three date bridge screws #305 and check freedom of date parts.
- c. Lubricate sparingly with Moebius Special Lubricant OL207 all (M) points indicated.



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Fig. 61



## Replacing Hour Setting Mechanism

- a. Replace geneva wheel spring #634 and geneva wheel #630 (flat side up).
- b. With time setting crown "out" (setting position) replace planetary hour wheel assembly #625 while turning crown to engage gears. Now install transfer gear assembly #636 (small gear down).

**CAUTION:** Do not deform geneva wheel spring and be sure that spring is seated properly around post.

- c. Replace geneva wheel stop disc #633 (polished side up) with teeth facing between 2 and 4 o'clock. Replace cam assembly #631 (polished side up) and secure with cam screw #451. Replace cam spring #642 and secure with two cam spring screws #643. Lubricate sparingly with Moebius Special Lubricant OL207 all **(M)** points indicated.
- d. Replace hour setting stem #648 (Lubricate stem slot **(M)** ).

**CAUTION:** Do not deform stem locking spring when replacing stem.

- e. Check hour setting mechanism operation by holding and rotating hour setting stem carefully to insure a positive engagement of teeth between the hour setting stem #648 and hour setting wheel #637. Caution must be taken not to damage stem guide pin.
- f. Remove hour setting stem #648.



## Replacing dial and hands

(Refer to figure 62 or 63, whichever is appropriate)

a. With time setting crown "out" (setting position), turn CROWN counter-clockwise moving dial train ahead SLOWLY until the calendar advances. Stop turning crown immediately.

b. Replace hour indicator disc assembly #660 (if used) so that "12" will appear in the center of the window when the dial is installed. If hour indicator disc assembly is not used, install hour wheel #650.

**NOTE:** If "12" does not appear in the center of the window, rotate hour indicator on hour wheel until indicator is correctly aligned.

c. Replace dial washer, dial support #406 (if used), and dial (2 screws).

d. With dial secured, check hour wheel endshake (5/100 mm). If endshake is excessive, place dial in a 214 ACCUTRON movement holder (finished side up). Depress center of dial using a pencil eraser. If endshake is insufficient, depress opposite side of dial in same manner.

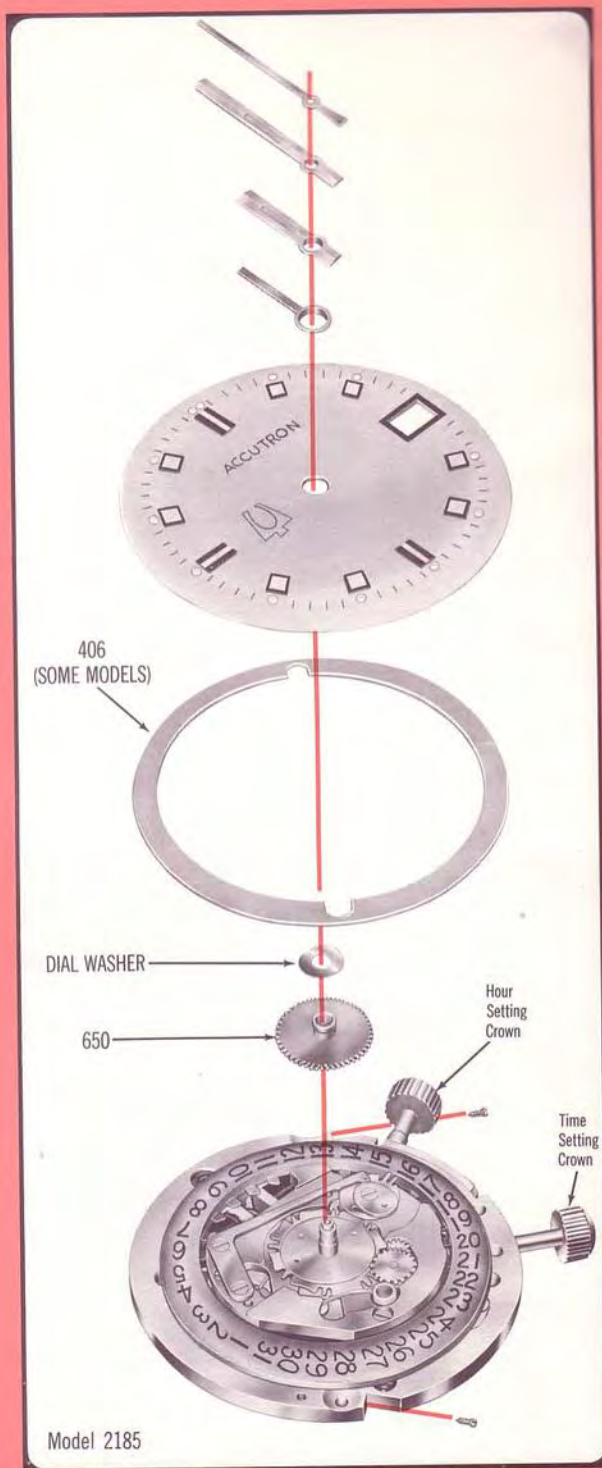


Fig. 62

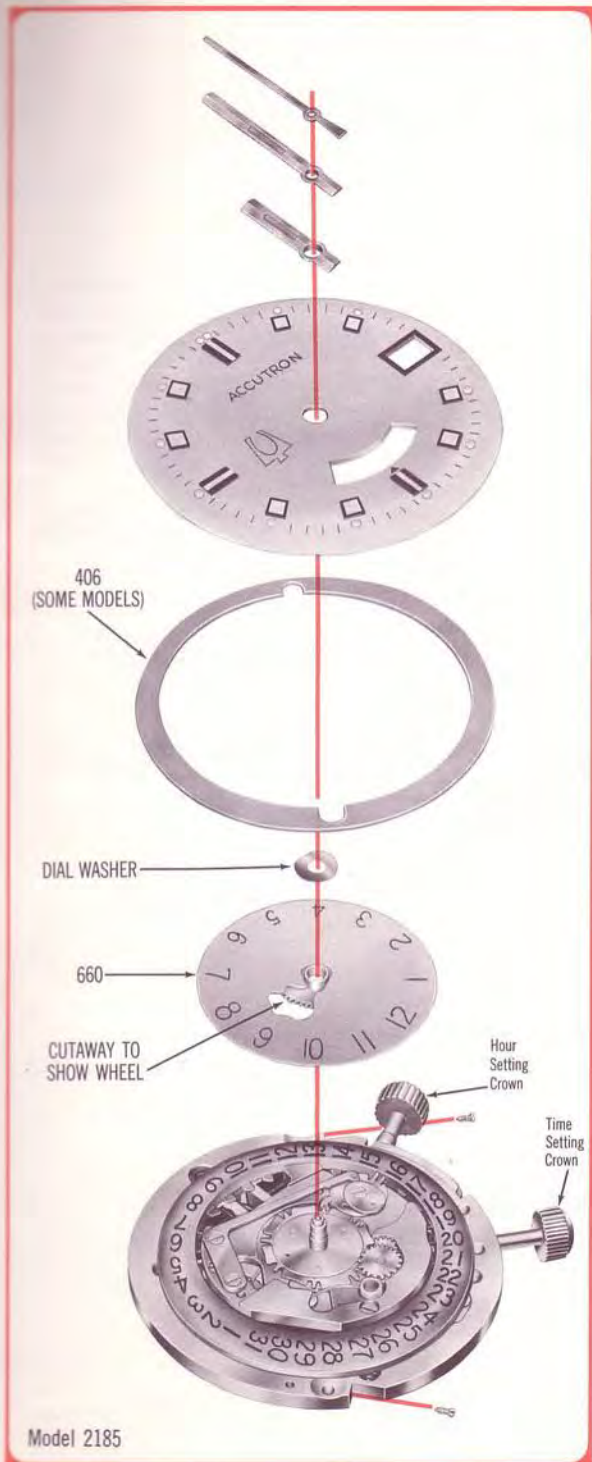


Fig. 63

- e. Replace hour and minute hands at 12 o'clock. The hour hand(s) must fit tight; the minute hand only temporarily affixed. With time setting stem pulled to setting position, check calendar advancement in relation to hand location by turning hands backwards to approximately 5:30 o'clock and then forward. The calendar should advance at approximately 12 o'clock, if step (a) and (b) have been followed and setting is not disturbed since this adjustment. The hands should be positioned so that the calendar advances at 11:58 o'clock; reposition and/or secure minute hand when properly aligned.

- f. WITH TIME SETTING STEM "OUT" (SETTING POSITION), replace second hand.

**NOTE:** Third wheel upper cap jewel must be supported with properly fitting stump from staking set.

- g. Check hack mechanism adjustment (page 20).
- h. Check index mechanism adjustment (pages 15-18).