

LUBRICATION

A. There are no cap jewels in this movement. Therefore, it can be lubricated without disassembling. Lubricant and lubrication are the same as the Series 218.

NOTE: IT IS ESSENTIAL THAT THE WHEEL PIVOTS BE SPARINGLY LUBRICATED. THERE SHOULD NOT BE EVIDENCE OF OIL IN THE CUP, ONLY AROUND THE PIVOT.

INDEXING MECHANISM ADJUSTMENT

The Phasing Screw #182A is similar to Accutron Series 230 in that both have tapered heads.

- Turn Phasing Screw **CLOCKWISE** until it is snug against the pillar plate.
- Index and Pawl Jewels to be centered and perpendicular to the Index Wheel.
- Prior to engagement of fingers with Index Wheel, space between the tip of Gage and Index and Pawl Fingers must be between $2\frac{1}{2}$ to 3 jewel thicknesses. Fig. 6A.
- Index and Pawl Fingers are engaged with Index Wheel by rotating finger collets until space between Finger and Gage is one (1) jewel thickness. Fig. 6B

PHASING PROCEDURE

- Connect meter leads as follows: Blue alligator clip to cell strap. (Caution should be taken when connecting this clip that the exposed portion of the clip does not come in contact with the upper connecting Lead Strap and Coil Form Screw.)
- Connect yellow alligator clip to movement holder (same as Series 218)
- Set meter selector at "**LOW AMPLITUDE.**"
- View movement. If Index Wheel is turning smoothly, watch is in phase. **DO NOT TURN PHASING SCREW.**

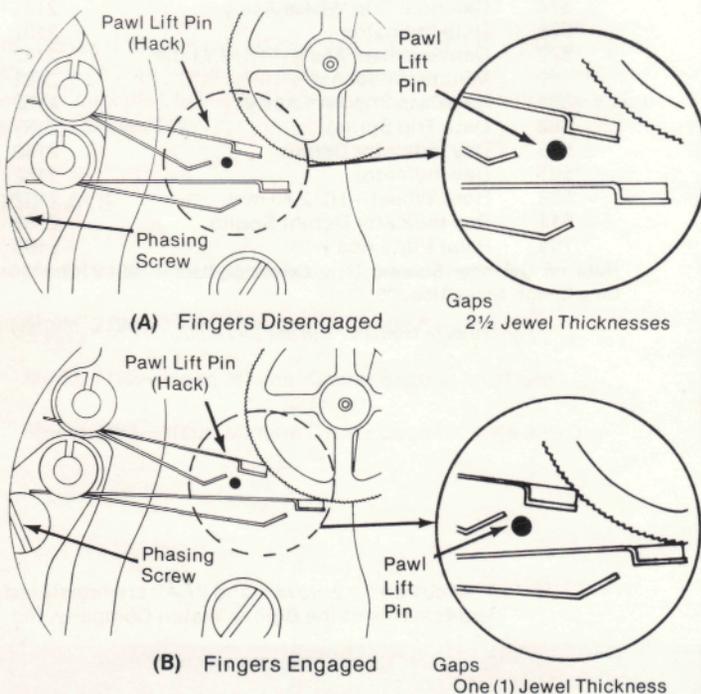


Figure 6. Indexing and Pawl Mechanisms

E. If Index Wheel does **NOT** turn smoothly, slowly rotate the Phasing Screw **COUNTERCLOCKWISE** until the Index Wheel turns smoothly without hesitation. Watch is now in phase. (Phasing Screw should not be rotated more than one complete turn when phasing.) If watch does not phase, recheck the following: indexing mechanism, train blockage, possible faulty index wheel, etc. (Review Series 218 diagnostic chart.)

F. Change meter selector to "**READ MICROAMPERES.**" Maximum acceptable reading is 10.0 microamperes. If above 10.0 microamperes review Series 218 diagnostic chart. Fig. 5

NOTE: DURING COMPLETE ROTATION OF INDEX WHEEL THE FINGERS MUST NEVER TOUCH THE GAGES.

If, after connecting the ASK 700 Meter to the movement, the pointer needle indicates zero current reading, check the following:

- Power Cell is making proper contact
- Alligator Clips are properly connected to the movement.
- All electronic circuit screws are tight.

If all the above check OK, then either the Coil Assembly #715 or Circuit Board Assembly #812 may be defective.

IDENTIFYING DEFECTIVE COIL and/or CIRCUIT ASSEMBLY

To determine which assembly—Coil Assembly #715 or Circuit Board Assembly #812—is defective, proceed as follows (Fig. 7):

- Connect one alligator clip to the lower strap at point "A";
- Connect the other alligator clip to the battery terminal.

If the meter pointer pegs the Coil Assembly #715 is good. It is the Circuit Board Assembly #812 which is faulty and must be replaced. If the meter indicates "0" the Coil Assembly #715 is open and must be replaced.

If either Assembly is replaced, repeat the test of paragraph F above.

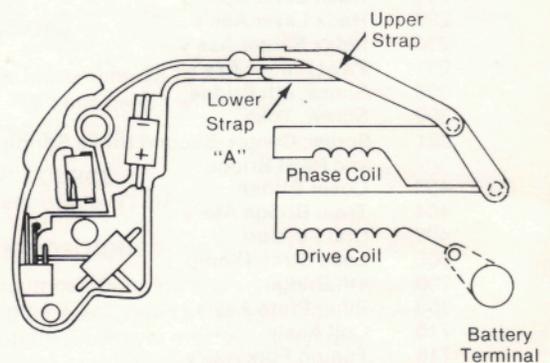


Figure 7. Circuit Diagram

Parts List Model 2191.10
(Basic for 219 Series)

Part No.	Part Name	Basic Model
103	2nd Wheel & Pinion	2190
105	3rd Wheel & Pinion—Ht. 6.12 mm	2191
106	Center Tube Ass'y—Ht. 3.00 mm	2180
107	4th Wheel & Pinion	2190
109	Center Wheel & Pinion Ht. 2.56 mm	2190
	Ht. 2.86 mm	2180
110	Hour Wheel Ht. 1.25 mm	2190
	Ht. 1.50 mm	2180
111	Minute Wheel & Pinion	2180
112	Index Wheel & Pinion	2190
119	Setting Wheel	2180
121	Center Second Brake Spring	2180
122	Train Bridge Bushing (near cell)	2190
122	Bridge Coil, Fork Bushing (low head)	2180
125	Screw: Circuit Board, Ground, Cover & Train Bridge	2210
139	Dial Washer	2180
140	Center Second Hand	2180
141	Cell Strap	2190
142/143	Minute & Hour Hands	2180
148	Screw, Dial	2180
151	Screw, Coil-Form & Lead Strap Clamp	2180
162	Power Cell	2180
166	Upper Jewel for 2nd Wheel	2190
	Upper Jewel for Index Wheel (use 166)	xxx
	Lower Jewel for 2nd Wheel (use 166)	xxx
	Lower Jewel for Index Wheel (use 166)	xxx
167	Upper Jewel for 4th Wheel	2190
	Upper Jewel for 3rd Wheel (use 167)	xxx
176A	Setting Stem	2190
180	Pawl Bridge Ass'y	2190
182A	Screw, Phasing	2190
183	Screw, Tuning Fork	2190
184A	Screw, Set Lever Pressure Spring	2190
186	Fork Spacer—Specify color	
	Black .07mm.	2180
	Nickel .10mm.	2180
	Gold .12 mm.	2180
	Copper .14mm.	2180
202	Clutch Lever Spring	2180
203	Yoke	2190
204	Clutch Lever	2190
205	Setting Lever	2190
207	Clutch Wheel	2190
209A	Set Lever Axle	2190
210	Set Lever Pressure Spring	2190
211	Hack Lever Spring	2180
220	Hack Lever Ass'y	2180
230	Index Finger Ass'y	2190
231	Pawl Finger Ass'y	2190
305	Screw, 4th Bridge	2180
309	Screw, Yoke	2180
321	Screw, Center Second Brake Spring and Pawl Bridge	2180
403	Cover Bridge	2191
404	Train Bridge Ass'y	2190
*406	Dial Support	2180
606	Lead Strap Clamp	2190
700	4th Bridge	2190
709	Pillar Plate Ass'y	2191
715	Coil Ass'y	2190
716	Tuning Fork Ass'y	2190
812	Circuit Board Ass'y	2190

*For 406 Dial Support Chart See 218 Manual

Parts List Model 2192.10
(Additional or varying from 2191.10)

Part No.	Part Name	Basic Model
123	Bridge & Fork Bushing (high head)	2181
208	Clutch Wheel	2192
403	Cover Bridge	2192
569	Date Corrector	2181
570	Date Corrector Detent	2192
571	Date Bridge	2192
572	Date Indicator Detent	2181
573	Date Indicator Detent Spring	2181
574	Calendar Trip Wheel Assembly	2181
*576	Date Indicator	2181
579	Center Wheel Ass'y—Ht. 3.31 mm	2181
580	Minute Wheel Ass'y	2181
581A	Date Trip Arm	2181
582	Date Trip Spring	2181
599	Hour Wheel Ass'y—Ht. 2.00 mm	2181
709	Pillar Plate Ass'y	2192

Note on Calendar Screws: Date Corrector Detent Screw, Use 184A; Date Bridge Screw, Use 305.

*For 576 Date Indicator Chart See 218 Manual

Parts List Model 2193.10
(Additional or varying from 2191.10)

Part No.	Part Name	Basic Model
105	3rd Wheel & Pinion—Ht. 6.69 mm	2193
106	Center Tube Ass'y—Ht. 3.70 mm	2182
123	Bridge & Fork Bushing (high head)	2181
208	Clutch Wheel	2192
403	Cover Bridge	2193
407	Day Indicator Retaining Disc	2182
454	Day Indicator Retainer Disc Screw	2182
569	Date Corrector	2181
570	Date Corrector Detent	2192
571	Day/Date Bridge Ass'y	2193
572	Date Indicator Detent	2181
573	Date Indicator Detent Spring	2181
574	Calendar Trip Wheel Ass'y	2181
*576	Date Indicator	2182
579	Center Wheel Ass'y—Ht. 3.71 mm	2182
580	Minute Wheel Ass'y	2181
581	Day/Date Trip Arm Ass'y	2182
582	Date Trip Spring	2181
586	Day Indicator Detent	2182
*591	Day Indicator	2182
599	Hour Wheel—Ht. 2.40 mm	2182
611	Day Indicator Detent Spring	2182
709	Pillar Plate Ass'y	2193

Note on Calendar Screws: Date Corrector Detent Screw, Use 184A; Date Bridge, Screw Use 305.

*For 576 Date Indicator and 591 Day Indicator Charts see 218 Manual

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