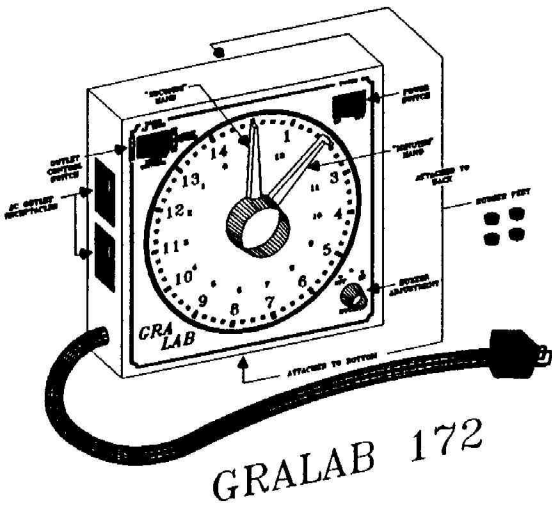
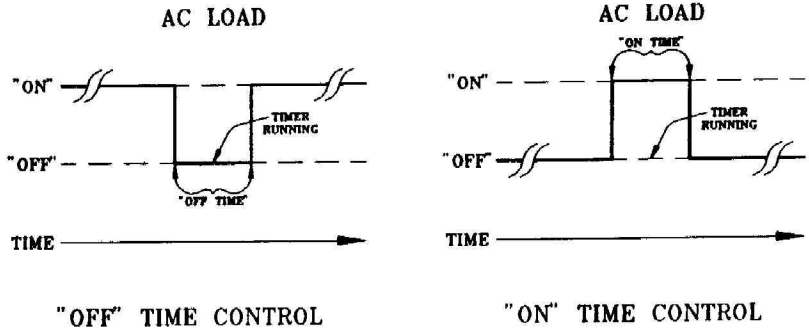


GRALAB TIMER MODEL 172 OPERATING INSTRUCTIONS



OUTLET TIMING DIAGRAMS



The GRALAB Timer Model 172 is an elapsed time indicator (up counter), or an interval timer (down counter), with two switchable AC outlets. The accuracy is .015% at the full 15 minute range; resolution is 1/4 second. The "seconds" hand rotates one revolution every 15 seconds; the "minutes" hand rotates one revolution in 15 minutes. With the outlet control switch in the "left" position, the timer will turn "on" both AC outlets for the timing cycle; in the "right" position, the timer will turn "on" the bottom outlet and turn "off" the top outlet for the timing cycle. The power switch starts the timing cycle; the buzzer can be adjusted for an end-of-cycle audio tone (0 - 80db).

EXAMPLE: Interval Timer/Both outlets "on" for 12 minutes:21-3/4 seconds.

- 1) Put the power switch in the "off" position.
- 2) Each rotation of the "seconds" hand represents 15 seconds; therefore rotate "seconds" hand clockwise to the third graduation past the black "6" numeral for 6-3/4 seconds, which was obtained by subtracting 15 seconds from the 21-3/4 seconds setting. The 15 seconds will be "carried" on the "minutes" hand in the next step.
- 3) Rotate "minutes" hand clockwise to the black "12" numeral for the 12 minutes setting. The 15 seconds "carried" from the previous step must also be added; therefore rotate the "minutes" hand one more graduation clockwise to "carry" the 15 seconds.
- 4) Put the outlet control switch in the "left" position. The switch icon shows both outlets "on"(red) while the timer is running, and both outlets "off"(white) while the timer is at zero.
- 5) Plug the loads into their outlets; **PLEASE OBSERVE PRECAUTIONS!**
- 6) Put power switch in the "on" position to start the timing cycle. Loads will turn "on" for 12 minutes:21-3/4 seconds, and then turn "off" with an end-of-cycle tone. Turn "off" timer; reset a new timing cycle.

EXAMPLE: Elapsed Time Indicator/Time unknown.

- 1) Put the power switch in the "off" position.
- 2) Rotate "seconds" hand clockwise to the red "0" numeral.
- 3) Rotate "minutes" hand clockwise to the red "0" numeral.
- 4) Record an unknown timing event by putting the power switch in the "on" position at the beginning of the event. The timer records the elapsed time until the power switch is put in the "off" position. Remember red numerals count up; black numerals count down.

***PRECAUTIONS:** Always breakout "seconds" hand first by rotating clockwise! *
 *No user serviceable parts inside-do not open! To prevent fire or electrical *
 *shock, do not expose to rain or moisture! Refer servicing to qualified *
 *personnel! Observe AC line voltage and frequency ratings on nameplate! *
 *Observe the type of AC loads, i.e., resistive-heaters/high inrush current- *
 *incandescent lamps/inductive-motors, relay coils, solenoid coils, contactor *
 *coils, fluorescent lamps, or transformers! For safety and long timer life, *
 *do not exceed maximum wattage rating of the timer for the type of AC loads! *
