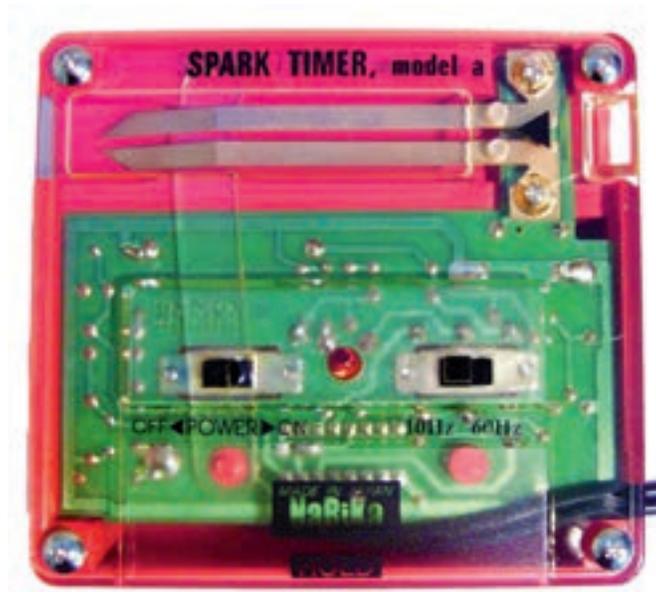


SPARK TIMER

N99-C15-1703



Manual of Operations

IMPORTANT!
Read the following before using this equipment:
Carefully follow all instructions and observe all precautions given in this manual



LOOK US UP ONLINE

PURPOSE

The Spark Timer is an apparatus designed to record the straight-line motion of a mechanical truck and other motion, such as falling of an object. By discharging onto a tape attached to a moving object at a certain interval of time, it permits visual examination of motion (speed, acceleration) from the intervals of chopped bars left on the tape.

MAJOR FEATURES

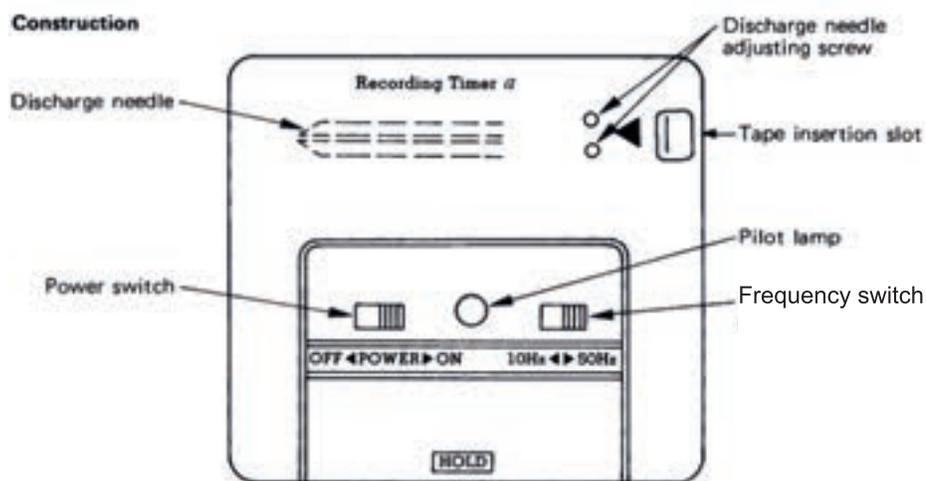
- * Friction resistance of traveling tape is extremely small without variance in chopped bar recording.
- * Frequency switch permits a choice of two types of discharging intervals at the power supply frequency (50/60 Hz), and 10 Hz.
- * Discharge needles are raised when the power switch is turned off, thus allowing easy insertion of recording tape.
- * Easy to affix the tape to graph paper as it is only 1 cm wide.
- * The power cord can be coiled around the main body for storage.

SPECIFICATIONS

Power supply:
100 VAC (50/60 Hz)
Tape:
Discharge recording paper
10mm wide x 40m long
Discharge frequency:
Power supply sync (50/60 Hz)
and 10 Hz (using switch)
Outer case:
Main body is made of ABS resin for storing,
and lid made of AS resin
External dimensions:
90mm x 97mm x 37mm (W x L x H)
Accessories:
One roll of discharge recording paper
Holding Clamps

CONSTRUCTION

- * Discharge needle: Needle electrode discharges onto recording paper. Unless the electrodes are in contact with the tape, no discharging occurs.
- * Discharge needle adjusting screw: If the needles do not come in contact with the recording tape or they hold the tape too tightly to cause friction, adjust the screw. Please note that the apparatus is factory adjusted.
- * Tape insertion slot: The direction of tape travel is pre-determined. Insert the tape in the direction of the arrow mark with the recording surface facing up. The outside of the roll is the recording surface.
- * Power switch: Turning the switch into the OFF position, the discharge electrodes are lifted to make it easy to insert the tape.
- * Frequency switch: This allows selection of either 50/60 Hz (power supply frequency) or 10Hz.
- * Pilot lamp: When power switch is in the ON position, the lamp flashes at the discharge frequency selected.
- * HOLD: To move the main body to fix it with the supplied clamp onto a metal stand or similar, place the clamp on this mark.



HOW TO USE

* Place the Spark Timer in a proper location according to the type of experiment. Use clamps when necessary.

* Turn the power switch off, cut the recording tape to an appropriate length, and insert it in the slot. Affix the other end of tape to a moving object.

* Select either of the frequency values and turn power on.

* Put the object in motion to record on the tape.

To store the apparatus, coil the power cord around the main body with the plug on the rear side. To adjust the discharge needles, disconnect the power cord from an outlet and put the power switch on the ON position. Turn the needle adjusting screw in either direction until the tips come in contact with the surface of the tape. If the needle tips are off the recording paper, chopped bars can skip. If they are pressed hard against the tape, friction becomes greater and resulting data will be inferior in quality, especially when measuring the acceleration due to gravity.