



SPRENGNETH
INSTRUMENT CO.

instruction book

SPRENGNETH

Instructions for S-7000
 Variable Period Seismometer
 Serial No. 3013

MANUFACTURERS OF

SEISMOLOGICAL, GEOPHYSICAL AND ENGINEERING INSTRUMENTS

SAINT LOUIS 10, MISSOURI, U.S.A.

OPERATING INSTRUCTIONS
S-7000 VARIABLE PERIOD SEISMOMETER

100 s

The S-7000 Seismometer is normally shipped adjusted to a 0.5 second period and in either the horizontal or vertical configuration, as specified on order.

Unless extremely rough treatment in shipping is anticipated, only a single locking pin is used at the end of the boom and can be removed by unscrewing the cap on the cover near the windows for access to the pin. The instrument is operating freely as soon as this pin is removed. For changing hinges or for positive clamping in case of very rough handling 2 alignment pins are inserted into the hinge blocks on either side of the instrument. The seismometer cover must be removed to install or retract these pins.

Mass position and period adjustments are made with a screwdriver through access caps on the side (mass position) and end (period) of the instrument housing.

Period range is from 0.5 to 1.5 seconds. Clockwise rotation of the adjusting screw reduces period. Periods of 2 seconds can be reached but are not recommended except in stable environments.

Mass position is observed through the windows in the case. Clockwise rotation of the position adjusting screw lowers the mass or moves it toward the base in the case of horizontal operation.

Changing from horizontal to vertical operation is accomplished by three adjustments. The cover must be removed.

1. Move leveling feet to proper positions. They are held in position with set screws.
2. Position the small astatizing magnet mounting bracket at the side of the pendulum. For vertical operation the bracket should be swung away from the boom, the magnets separated. For horizontal operation, swing the bracket against the stop pin on the instrument base so that the magnets are facing each other.
3. Correct mass position. In going from vertical to horizontal operation, the torque rotor must be relaxed, in going from horizontal to vertical the mass must be lifted. This is done by rotating the position adjusting screw until the boom is centered.
(CAUTION - Do not continue to lift mass when resting against upper stop as the torque magnet can be broken down.)

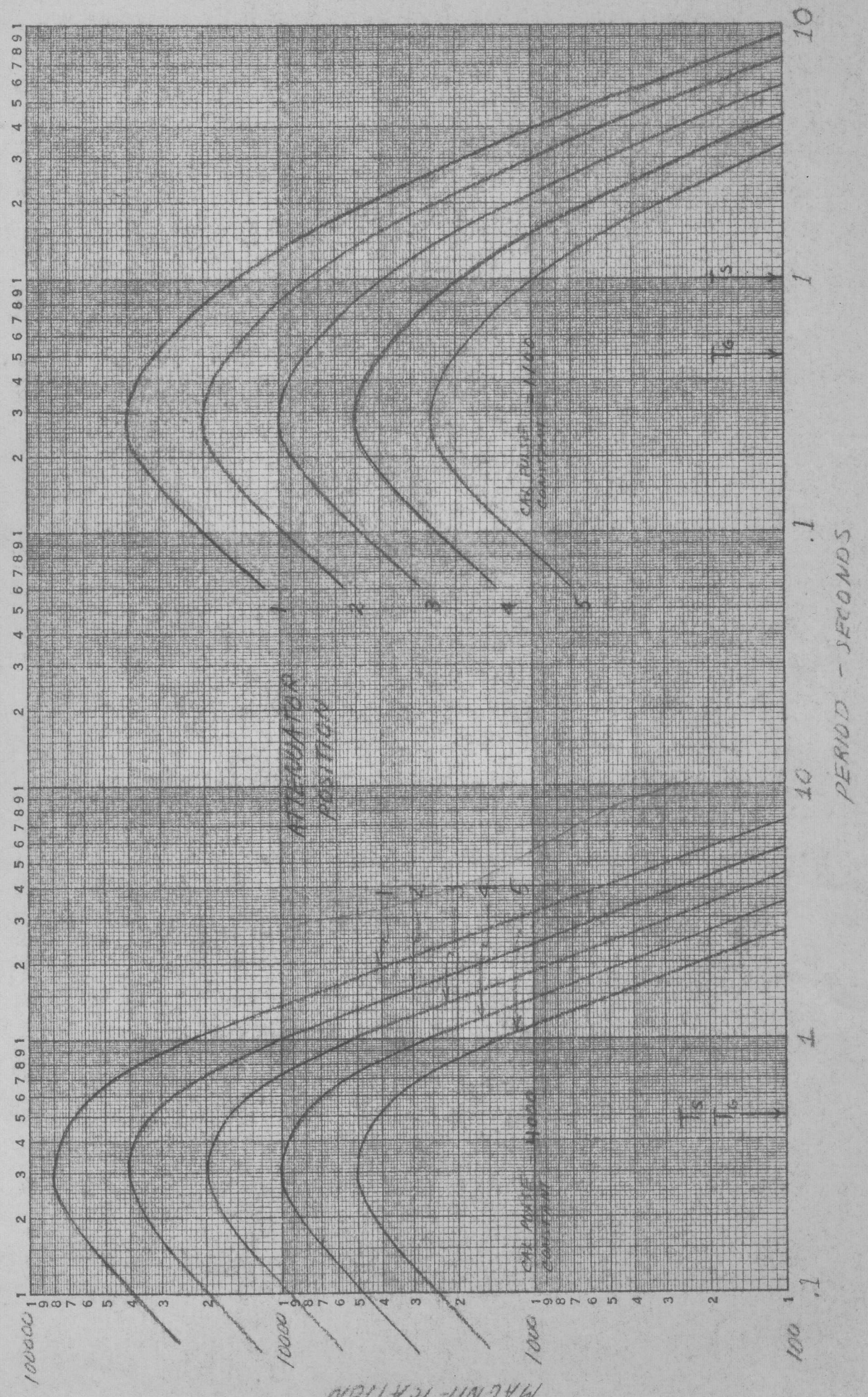
When adjusting instrument with cover removed, keep as clean as possible.

If magnet gaps become filled with particles, remove with masking tape.

INITIAL INSTALLATION

1. Unpack seismometer, remove locking pin from end of boom (behind cap) and from hinge blocks if they are used.
2. Adjust instrument to horizontal or vertical mode of operation, as desired, and set period at required value.

RESPONSE CURVES FOR $T_s = .5, 1$ sec.
 SEIS DAMPING MAXIMUM
 GALVO " CRITICAL
 ($\frac{1}{2}$ METER OPTICAL ARM)



PEAK MAGNIF. = CAL. PULSE CONSTANT X PULSE HEIGHT (mm)
 FROM CAL. PULSE
 CAL. CURRENT (ma)