

Starting with Serial No. 54339 (T-10-X)

## OPERATING INSTRUCTIONS

Model T-10 M-Scope

### READ CAREFULLY FOR SUCCESSFUL OPERATION

#### GENERAL:

The Model T-10 is a sensitive, carefully constructed instrument designed to easily and accurately locate comparatively small metallic objects. Equipment of this nature in effect measures the electrical conductivity of the ground or other material over which it is carried. Since metal objects are generally much more conductive than the enclosing material, they will practically always show up as pronounced indications. The ability of this equipment to detect or locate a given object will depend on the size, shape, and surface area of the object sought and the electrical conductivity of the enclosing ground or other medium. Thus the delectability of a given item may vary slightly from area to area. It is possible to detect individual coins such as silver dollars to a depth of approximately seven to eight inches. Larger metallic objects can be located at greater depths. The theoretical maximum depth range of this equipment under favorable conditions is four to four and one half feet.

#### ASSEMBLY AND OPERATING INSTRUCTIONS:

1. Attach wooden connecting handle to loop assembly by means of the provided bolt and wing nut. (See illustration of assembled unit.)
2. Attach instrument case to connecting handle by means of the provided bolts. (See illustration.)
3. Connect loop assembly to instrument case by plugging the connecting cable into the outlets on the loop and box. (See illustration.) Match the red dots at the loop assembly and the white dots at the instrument case.
4. Plug in headphone cord and place headphone to ear. This will automatically turn on the instrument.
5. Hold instrument in comfortable operating position as shown in the illustration and adjust loop so that it will be parallel to the surface of the ground or other material to be explored. This should be done so that the loop is as close to this surface as possible. **IT IS ESSENTIAL THAT THE INSTRUMENT BE HELD STEADILY IN THE SAME RELATIVE POSITION TO THE GROUND DURING TUNING AND OPERATION. IF THE RELATIVE POSITION OF THE INSTRUMENT TO THE GROUND IS SHIFTED IT WILL BE NECESSARY TO REPEAT THE TUNING PROCEDURE TO OBTAIN THE PROPER ADJUSTMENT.**

When adjusting instrument for operation, make certain that the detecting loop is not held near any metallic object.

6. Turn Balance Control pointer so that it points to Red Dot so that a tone may be heard in the earphone.
7. The equipment is now ready for tuning. The Balance Control, which is now pointing at the Red Dot, should be slowly turned in either direction until the tone in the earphone decreases in intensity to a very faint note or minimum tone. The meter reading at this point should be between 0 and 50. (The closer this adjustment is to 50 the greater will be the sensitivity.) YOU NOW HAVE OBTAINED THE CORRECT OPERATIONAL ADJUSTMENT. IT IS ESSENTIAL THAT THE INSTRUMENT BE HELD STEADILY IN THE SAME RELATIVE POSITION TO THE GROUND OR OTHER SURFACE TO BE EXPLORED DURING TUNING AND OPERATION AS STATED IN PARAGRAPH 5 ABOVE.
8. To check the performance of the equipment and to familiarize yourself with its field characteristics place a small metal object (top from a tin can, hammerhead, shovel, etc.) on the ground and carry the instrument over this object. A sharp rise in earphone tone should be obtained as well as a good meter deflection. Experiment further with other known objects so that you may become fully acquainted with your instrument.
9. To locate hidden or buried metal objects slowly and systematically carry the instrument across the suspected area taking careful note of all indications. At first you will probably note a slight increase in earphone tone and meter reading with each step. This is because you are raising and lowering the instrument as you walk. Special care must be taken to always keep the detecting loop in the SAME RELATIVE POSITION TO THE GROUND OR OTHER SURFACE TO BE EXPLORED. Check small indications several times. Sometimes it is advisable to adjust the instrument for greater sensitivity (see paragraph 7).
10. The instrument may be used to explore behind vertical or inclined surfaces just so long as the instrument is first balanced or adjusted to the surface to be explored. The instructions given in the above paragraphs apply equally well for vertical or inclined surfaces.

#### OPERATING HINTS:

- A. Be systematic in covering any given area. Walk definite paths or traverses. AVOID AIMLESS WANDERING.
- B. Always keep the instrument properly adjusted. Recheck your tuning adjustment from time to time. (See paragraphs 5, 6, 7 and 8).
- C. Occasionally check the instrument's sensitivity. (See paragraph 8).

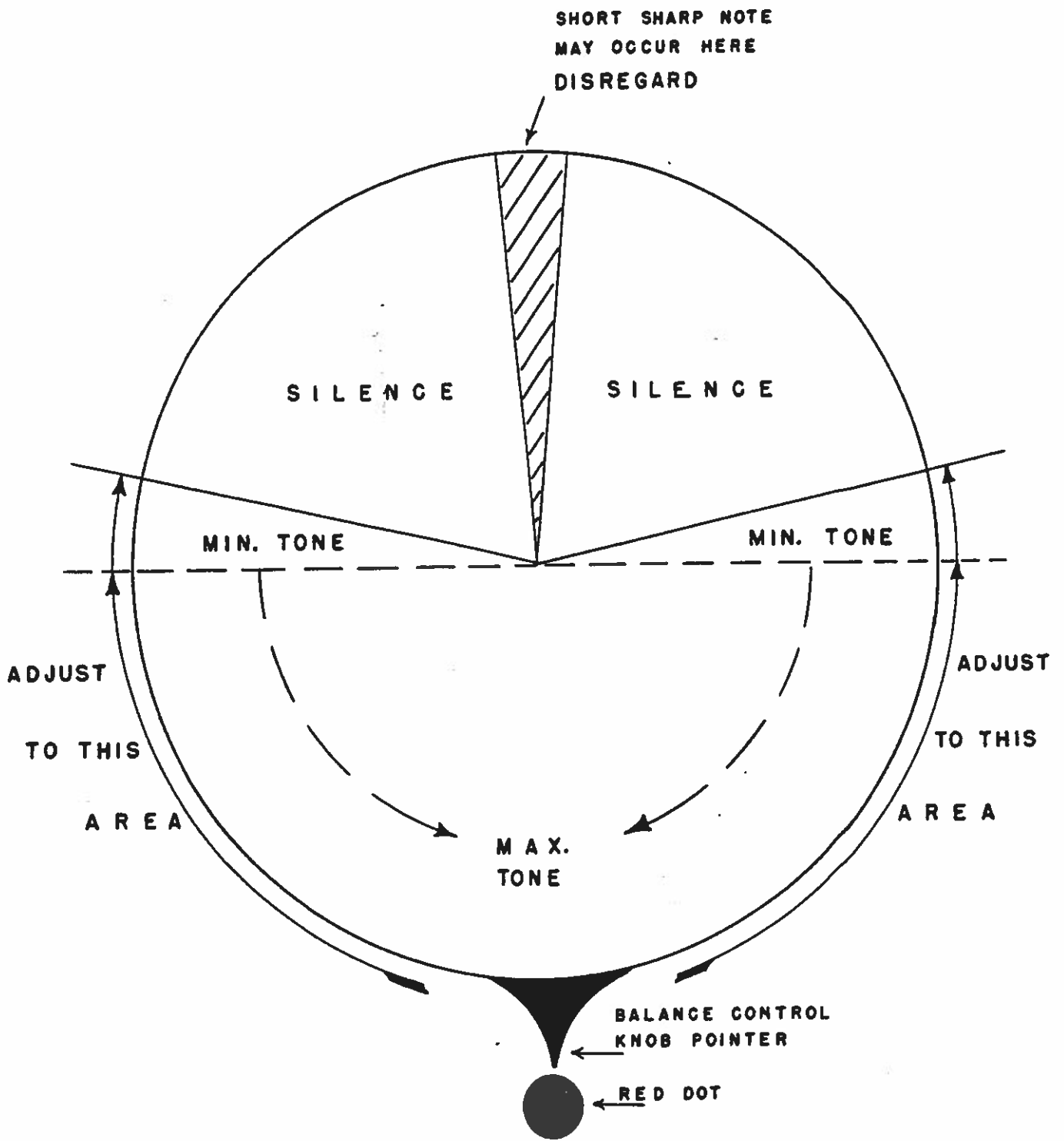
- D. Always carry the instrument so that the detecting loop is held in the same position in relation to the ground or other surface to be explored.
- E. The instrument is NOT designed as a pipe finder and should not be used as such.
- F. The instrument may be used to locate metal objects beneath soil, brick, adobe, cement, rock, fresh or salt water, plaster, and wood. IT IS IMPORTANT TO CAREFULLY ADJUST INSTRUMENT EACH TIME THE OPERATING CONDITIONS ARE CHANGED.
- G. The instrument will not function thru steel or wire mesh reinforced concrete or plaster since the unit would merely be detecting the presence of the steel or wire mesh as these are in themselves metal objects.

MAINTENANCE:

Store instrument in cool, dry place. Do not allow it to become wet. Do not work outside during a rainstorm.

The battery complement consists of one Burgess 4FH 1-1/2 volts and one XX45, 67-1/2 volts, or equivalent. These are standard type batteries and may be replaced with equivalent batteries of another manufacturer. To install new batteries remove side cover plate. Replace one battery at a time making certain that the terminal connections are correct and are not shorted against any of the metal parts. For the 4FH 1-1/2 volt "A" battery the red lead is always positive (+). DO NOT REMOVE ANY TUBE without disconnecting the XX45 67-1/2 volt "B" battery.

If any additional difficulties are encountered it is advisable to return the instrument to the factory for servicing under our service policy, ~~a copy of which is enclosed.~~



GRAPHIC SKETCH OF BALANCE CONTROL OPERATION  
(SEE PARAGRAPH 8)



VISUAL  
METER

RED  
DOT

INSTRUMENT  
CASE

AUTOMATIC  
ON-OFF SWITCH  
EARPHONE JACK

BALANCE CONTROL KNOB

WOODEN HANDLING HANDLE

LOOP ASSEMBLY