

S.G. CIRCULAR NO. 6/1950

Care And Testing Of Prismatic Compasses

There is some evidence that field officers, particularly those with limited experience, require to be given instruction in the use and care of the prismatic compass.

2. It is suggested that District Surveyors should be asked to give this instruction a convenient time would be the end of a month when field officers are in office on bill preparation etc. A prismatic compass is not designed for rough and inconsiderate handling, although it frequently receives such treatment. It has been found that field officers begin to understand the meaning of this when a compass is dismantled and the nature of the needle point examined under a magnifying glass. It should be demonstrated that unless the sight vane is raised very gently, the agate will drop violently on the needle eventually blunting it and making the instrument sluggish. During transit from place to place or when altering the setting of the tripod, the sight vane MUST be flat on the glass cover and it may only be raised when the compass is ready for reading. Other matters for attention are slackness in the prism holder and the sight vane and the thread in the latter must always be tight.

3. District Survey Officers must in future maintain a register of prismatic compass tests. The method of testing is described on page 21 of Sworder's Handbook of the Topographical Branch, but in case this book is not available, the following is a condensation :-

Set the compass over a mark from which radiate four known true bearings (roughly 90° apart) to four other marks.

Sight to one mark and take four readings to it. The compass must not be touched until all four readings are completed and between the readings the compass ring must be set swinging by bringing near to it a piece of steel, e.g. a knife blade. Then sight to the next mark for another four readings etc.

If the maximum difference between any two of the four readings on any one pointing exceeds 15 minutes, the compass is sluggish and must be returned for overhaul.

The compass test register should record all 16 readings as well as the mean variation from true bearing (which must be noted on the inside cover of any field book with which the compass is used).

If the four mean readings on the four known bearings show inconsistencies (e.g. variations of $+1^\circ 30'$, $+0^\circ 30'$, $+2^\circ 00'$, $-0^\circ 30'$) the compass should be sent to the Instrument Repairer for overhaul.

4. Compasses in regular use must be tested once a month.
5. The words "Register of Prismatic Compass Test" will be added to the list of registers kept in District Survey Offices (page 61 of Survey Regulations Vo. 1).