

Field Operating Instructions for a Tape Extensometer.

1. Measure the tape extensometer constant from a known distance or using a calibration unit to make sure the constant has not changed from the original distance measured when the unit was first purchased.
2. Place the anchor socket on the end of the tape over the eye bolt of a measurement point. Always measure the distance between the measurement points starting from the same measurement points. This procedure will help in obtaining accurate readings.
3. The tape latch release locking pin should be in place, keeping the spring-load plunger from engaging any hole in the survey tape.
4. The instrument is then carried to the opposite measurement point. At the same time, the tape is unreeled simply by pulling away from the first measurement point. When the second measurement point is reached, the socket attachments on the instrument is placed over the second eye bolt.
5. Pull the latching locking pin and wind up the tape until the latch plunger enters one of the punched holes in the tape. Push down the latch button to disengage the plunger if it is necessary to reel in the tape to the next hole. The standard hole spacing on the tape will vary according to the dial gauge supplied with the extensometer.
6. After attaching the tape extensometer to both measurement points, the readings may be made. When first attaching to the measurement points, there may be considerable sag in the tape. Press the latch button and crank the handle to tighten the tape until the plunger enters the next hole in the tape. DO NOT apply excessive force on the crank.
7. Record the distance measured directly from the survey tape to the location where the plunger enters the hole in the tape.
8. Adjust the collar ring on the instrument so that the correction tension is being put on the tape. The tension on the tape should be approximately 40 pounds and the tape should now be in a straight line between anchor points. By this means, the measurements may be repeated with precision. Also, the changes in the distance between anchor points over a period of time can be measured accurately.
9. Adjust the collar ring so that the indexing marks come into alignment. Once this alignment occurs the reading can be made. The actual reading is taken from the dial gauge and added to the tape reading at the point where it enters the latching end of the instrument

Field Maintenance Procedures for Tape Extensometer

The measuring devices must be kept clean and free of grit. It is not suggested that the measuring device be disassembled, but it should be oiled and cleaned after each day's readings. The measuring tape should be carefully dried and inspected for kinks and breaks. An application of silicon grease on the tape will retard corrosion. This silicon grease should also be applied to the eyebolts of the measurement points to keep them from rusting.