

92 GDS Helpsheet



*World Leaders in Computer Controlled Testing
Systems for Geotechnical Engineers and Geologists*

Hardware

Advanced Controller

Motor Problems

1. Introduction

1. Make sure the instrument is powered off and that the mains power lead is removed from the rear socket. Also make sure that the folding rear feet of the instrument are retracted.
2. Undo the screws fixing the annular plate to the output shaft end of the gearbox. This will allow you to push back the bellows covering the ballscrew and hence expose the connection between the ballscrew and the output shaft of the gearbox.
3. With a small punch and a light engineers hammer, drive out the hardened dowel pin connecting the two shafts together. Be careful not to hit the gearbox and damage the paintwork. If the angle is wrong and the pin is not aligned nearly vertically, you may briefly power on the controller and operate the FILL or EMPTY functions to achieve the best alignment. Do not forget to power off and disconnect the power lead before resuming the procedure.
4. With the heel of your hand, bump the gearbox along so that the two shafts disengage. The bellows may now be removed. Attach a small self-adhesive label to the end of the screw identifying the top of the dowel pin hole and the serial number of the controller.
5. Switch the controller on. Press FILL and observe the gearbox output shaft rotation. You should apply mechanical resistance to the output shaft (probably with a cloth held in your fingers) and make sure that it rotates consistently for several turns.
6. Press EMPTY and make the same test as in 5 above.
7. If there is no rotation of the gearbox output shaft you should remove the four screws attaching the motor to the gearbox and remove the motor.
8. Try the FILL and EMPTY tests again and observe rotation of the motor shaft. If it does not turn try the top-plate on another base to eliminate problems with the electronics.
7. If the motor does turn then try turning the output shaft of the gearbox it should turn smoothly with a constant resistance.
9. You may open the gearbox to examine the gears but DO NOT open the motor because the magnetic flux is permanently reduced when the motor is taken apart.