

137 GDS Helpsheet



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

Hardware

GDS High Pressure Consolidation Cell

Changing the Main Ram Seal

1. Overview

Symptoms: Leakage exiting around the ram at the top of the guide tube.

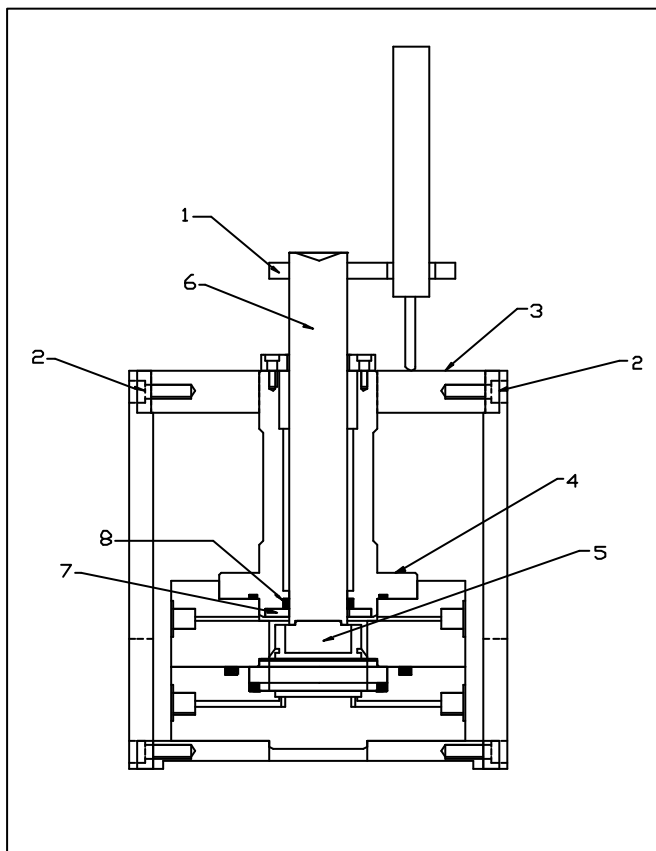
Diagnosis: Main seal Failure between guide tube and ram.

Required parts: New Variseal PN: RVA200300-T40S

Required Tools: Allen Keys, Silicone grease and clean paper towel

2. Procedure

The GDS HPCC is simple to disassemble and re-build using normal workshop tools (please see above). Please follow the steps below with no sample in the cell and the cell top bolted in place:



- 1) Remove displacement transducer bracket by loosening bolt 1 (fig 1) using a 4mm allen key and sliding the bracket up and off the ram.
- 2) Remove frame top plate (3). Loosen bolts marked 2 (fig. 1) using a 6mm allen key. Gently slide the top plate off the ram guide tube (you may need to tap the underside of the plate to start the movement).
- 3) Remove the guide tube by undoing bolts (4). With draw the guide tube while holding the ram (6) to avoid it slipping through the tube. Take care not to damage the piston end (5).
- 4) While holding the ram unscrew the piston (5) from the end of the ram.
- 5) Withdraw the ram through the tube from the top end.
- 6) Undo the bolts in the seal retainer (7) and remove the retainer. The seal should now be visible (8) in the end of the guide tube. **DO NOT TOUCH THE SEAL WITH ANY SHARP**

OBJECTS as the seal material will scratch and the seal leak.

- 7) Please note the orientation of the seal (the open side should face the inside of the cell) then remove the seal by hand.
- 8) Rinse the seal under the tap and clean thoroughly. Wipe the inside of the guide tube where the seal sits and remove any debris. Inspect the inside of the seal groove for any score marks that may allow leakage.
- 9) Lightly grease the seal housing and replace the seal in the guide tube ensuring that the seal is fully pushed down to the bottom of the housing.
- 10) Reintroduce the ram from the top of the guide tube. Gently push the ram through the seal. This may cause the seal to push out of the housing if this is so gently reseal the seal with the ram in place.
- 11) Fill the open side of the seal with silicone grease and replace the seal retainer (7).
- 12) Replace the piston and then place the guide tube back into the cell top. Tighten the bolts (4).
- 13) Fit the frame top plate (you may need to pull the vertical frame plate apart to allow easier fitting to the top plate) and tighten the bolts up).
- 14) Refit the displacement transducer and then test the cell under pressure for 2-3 hours.

If any problems are encountered during this procedure please feel free to contact GDS Technical Support for any further advise.