



Fig. 6 Load cell 1.4X

previously described. The vertical position of the seven pin radio plug can be adjusted by means of the threaded rod (10) so that good electrical contact can be made and yet have the load cell body bear directly on sleeve (8) Figure 1.

The LVDT which was constructed at the Sanborn Division of Hewlett Packard and Ledgemont Laboratory of Kennecott Copper Corporation is based on a design used in a commercially available LVDT (Sanborn No. 595 DT-025) but with a number of important modifications. Stainless steel was substituted for paper phenolic as the construction materials for the bobbin upon which the transformer coils are wound. A thin (~ 0.005 -inch) layer of teflon between the bobbin and magnet wire coils insure electrical insulation. The substitution of stainless steel for the bobbin minimizes coil displacement relative to the core during pressure changes and greatly improves the usable life of the transformer by eliminating coil fatigue failure. This latter effect presumably is caused by the differential expansion and contraction of the phenolic and copper materials owing to their compressability differences. Another difference between the LVDT modified for high pressure use and its commercial cousin is the absence of epoxy potting compounds to maintain the leads and coils in a fixed location. Instead, nylon thread is substituted to tie down the lead wires and coils and to minimize handling stresses on the fine wire coils. The absence of epoxy and the presence of relief holes in the LVDT case maintain an open construction so desirable in