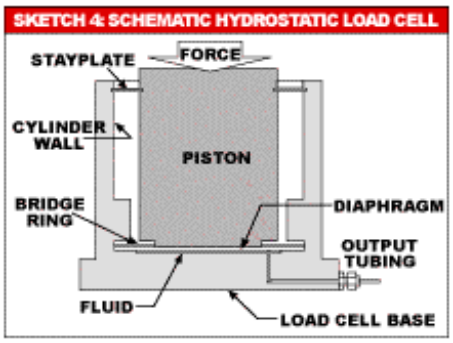
313DK

Hydrostatic Load Cell

The hydrostatic load cell is basically a simple mechanical mechanism which functions according to known hydrostatic Laws of Physics. It consists of a piston, a base, a cylinder and a diaphragm. A thin film of fluid is sandwiched between the base and the diaphragm. The piston presses against the diaphragm.

Sketch 4 illustrates the principle components in a hydrostatic load cell:

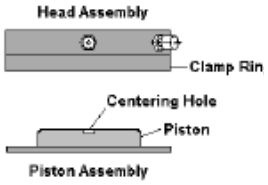


Diaphragm Replacement

This procedure is used to replace the load cell's diaphragm.
1. To drain the system attach one end of the fill pump hose to the fitting and place the other end into a cup to catch the fluid. Open all valves. The tare weight of the scale will push the fluid out from each circuit.

2. Lift the scale deck and remove the load cell from the scale assembly. Be careful to prevent both halves of the cell from separating as they are removed.

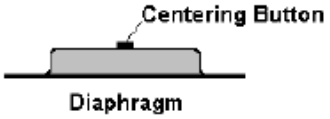
3. Place the cell in a clean dry area. Separate the load cell piston and head assembly.



4. Turn the head assembly over and remove the screws from the clamp ring. This allows you to remove the diaphragm and the O-ring. Clean all parts and surfaces carefully.

5. The replacement diaphragm kit includes the diaphragm and O-ring. Always replace the O-ring when replacing the diaphragm.
The following technique insures a smooth diaphragm convolution and proper centering button position after the two halves of the load cell are reassembled.

6. Insert the new O-ring. A small amount of light oil may be used around the O-ring seat to help keep it in place during installation. Place the new diaphragm over the screw holes. Be careful not to move the O-ring from its position.



7. Position the clamp ring over the diaphragm while holding the diaphragm in place. Install and tighten the clamp screws. Tighten them to low torque first, then complete tightening to a torque value of 85 inch lbs.