

The weight block (without the weights) is now slipped onto the loading rod and held in place by a fastener. The next step is to place the back panel of the container box in position and secure it with the compression screws. The micro-switch for initiating a sweeptrace on the oscilloscope is mounted on the back panel with two adjustment screws. By operating the adjustment screws, the micro-switch can be positioned such that a slight movement of the switch-release bar caused by motion of the knock-off tube will trip the micro-switch that will in turn send a trigger pulse to the recording oscilloscope. The hinged lid of the containment box is secured in place, and the entire containment box is anchored to the support bracket via the anchoring screws.

The pressure pot is now prepared for the build-up of pressure in the compression chamber. The manner in which high pressure is obtained in the pressure pot is best illustrated by referring to the schematic diagram of the pressure control system shown in Figure 14. The first stage of the pressure build-up is to pump fluid directly from the reservoir into the pressure pot until a pressure of 25,000 psi has been reached. This is accomplished by opening valve G and closing valves B and F. The pressure intensifier is now employed to increase the pressure in the compression chamber to the desired intensity. The pressure intensifier is operated in the following manner. With valves C, D, G, and E closed and valves A, B, and F open, oil is pumped from the reservoir through valve A into the low-pressure end of the intensifier. High-pressure oil from the high-pressure end of the intensifier passes out through valve B to the pressure pot. Pumping is continued until the intensifier piston reaches the bottom of its stroke as indicated by a rapid increase in pressure on the inlet pressure gage. The piston must then be returned to the top of its stroke. Valves A and B are first closed to retain high pressure in the compression

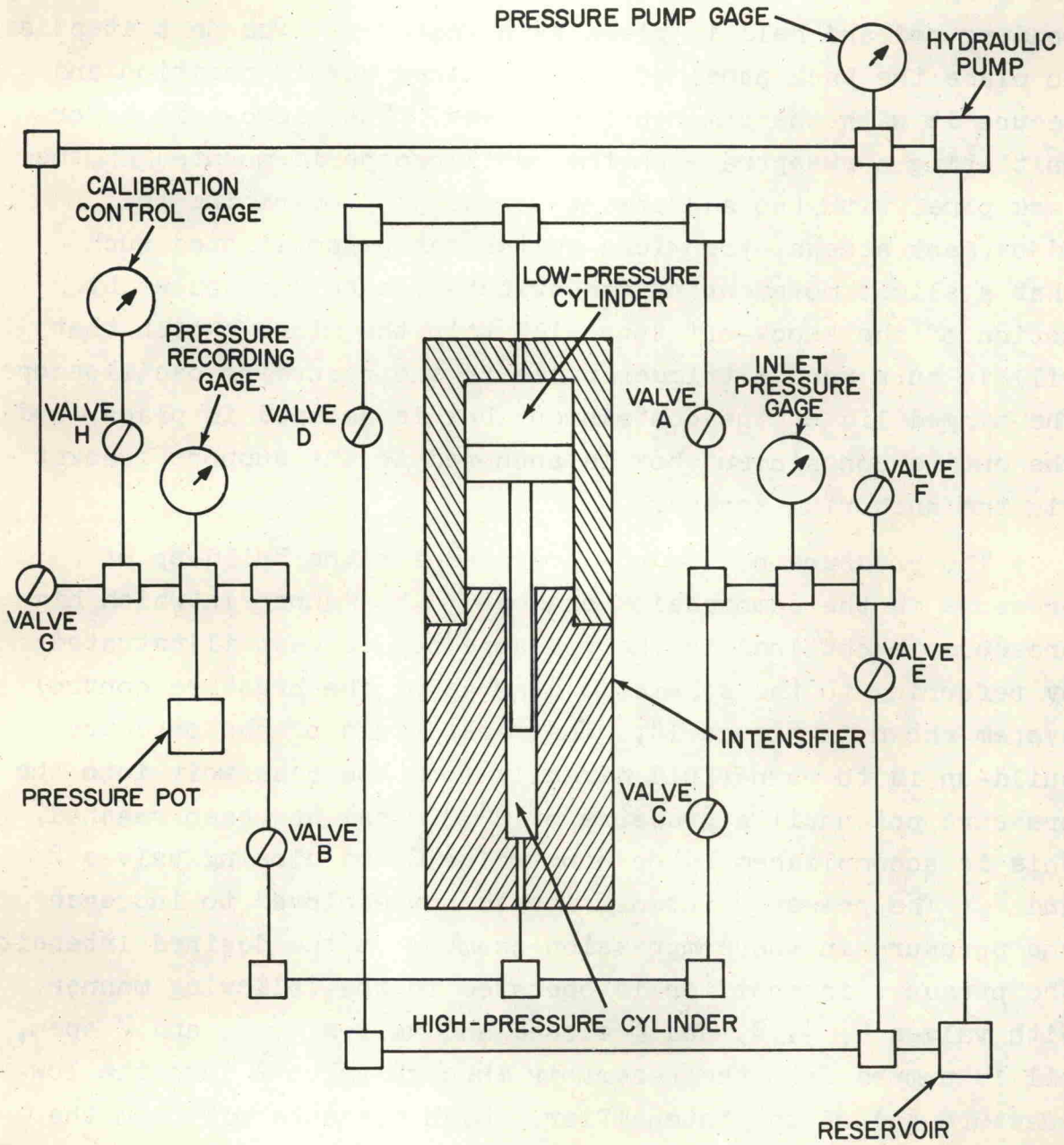


FIG. 14 SCHEMATIC OF PRESSURE CONTROL SYSTEM