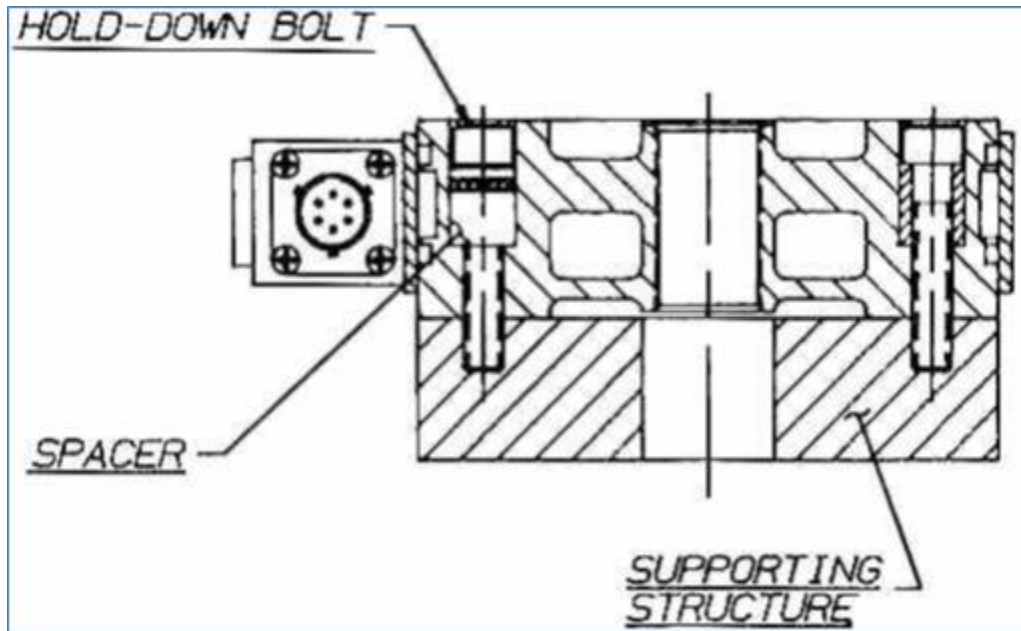


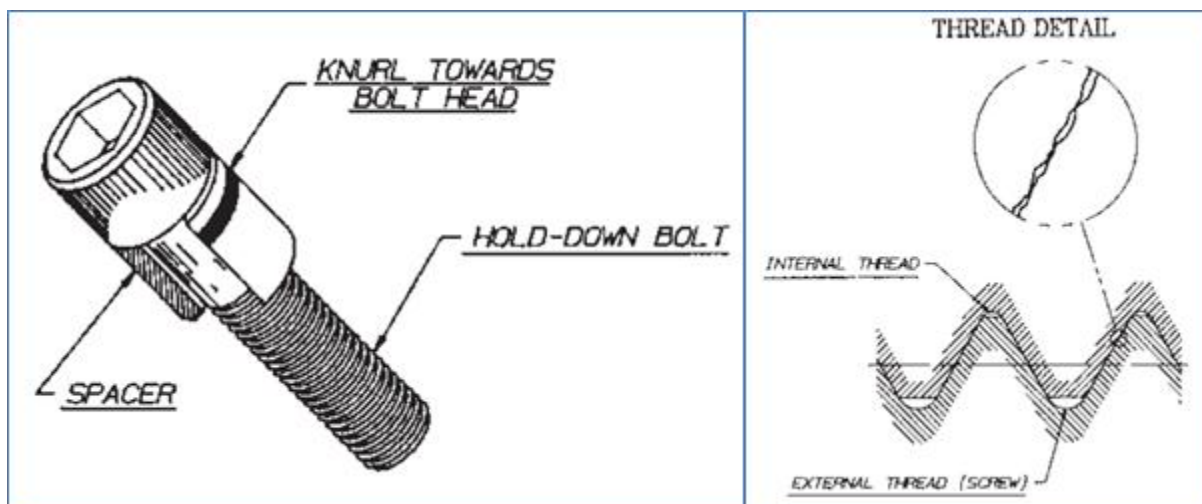
Spacers for Flat Load Cells in conjunction with Hold-Down Bolts



The purpose of spacers is to prevent loosening of Hold-Down Bolts.

Universal & Fatigue Rated Flat Load Cell Hold-Down Bolts must always be tightened to specified torque values, to maintain original calibration performance, regardless of the magnitude of the load.

One of the reasons for tension loss in tightened bolts is because microscopic thread surfaces in bolts and mating threads are not smooth, but consist of peaks and valleys, as illustrated. Thus, threads are engaged at correspondingly higher than average stress levels, causing continuous crumbling of such high spots. This reduces the elongation of the bolt imparted by tightening.



The longer the bolt, the larger the tightening elongation. In a short stubby bolt, loss of tightening elongation due to thread crumbling can be very serious. To reduce this effect to a manageable condition, spacers are used. Spacers add to the length of the bolt, as well as provide some additional deflection themselves, and help maintain the desired bolt preload.