

of force.

The loading tray, appearing in Figure 2, provides an assembly area at a position external to the press. After the anvil-wafer-containing ring system has been completely assembled, the spring-loaded, roller mounted, loading tray can be positioned over the ram center. The initial compressive load applied through the wafer system deflects the rollers, allowing the loading tray to sit flush on the ram. Upon removal of the load, the tray is once again free to roll. The weights of the component parts, together with the restricted space under the press superstructure, not to mention safety, illustrate the desirability of having the loading tray.

The complete wafer compression system consists of the following components, shown in Figure 3 and 4.

(1) Wafer - As defined previously, the wafer is a short circular cylinder, having a D/H ratio ranging from 3 to 13. The primary wafer material is annealed 303 stainless steel, and the secondary materials are 2S aluminum, 6061 aluminum, and Armco iron. The materials were purchased as bar stock, and all wafers of a particular material were taken with identically cuts from the same bar. Standard compression tests were conducted on specimens of each material to obtain the desired material constants. The compression specimens have a D/H ration of 0.4, and are coated with molybdenum disulphide to minimize the end-effects. The material constants determined by fitting equation (9), or (63), to the