tion. They were of reagent grade for which purity was at least 99.0%. The benzene molecule is planar and is characterized by the familiar six sided benzene ring with a hydrogen atom attached to each carbon atom through a single covalent bond. The density at 20°C is nominally 0.879 g/cc. Carbon disulfide is a linear tri-atomic molecule in which the C-S bonds are double covalent bonds. At 20°C, the density is 1.263 g/cc. The most dense liquid of the series is carbon tetrachloride at 1.594 g/cc at 20°C. Its molecular configuration is spherical and the single covalent C-Cl bonds are arranged tetrahedrally.

B. Shot Data

The shock Hugoniots for the three organic liquids were determined from thirty-five experiments using the impedance-match technique. As indicated in Figs. 10 and 11, each target plate contained positions for each of the liquids, a position for measuring the dural standard shock velocity, and a thermocouple for determining the initial temperature of the samples at shot time. Table I lists the explosive charge and the metal driver system used for each shot and includes a description of the attenuator and flying plate assemblies. The lens size for all the shots was 30.84 cm diameter except for shot number 12 where a 20.32 cm diameter lens was used. The final driver material in contact with the liquid samples was 2024 dural. The fourth column of Table I lists the dural thickness between the deepest shock pins and the back surface. The dural shock velocities and their standard deviations are tabulated in the last column.