METHOD FOR LAPPING, GRINDING, HONING AND POLISHING SEAL SURFACES ON INNER DIAMETER OF SEMI-BLIND CAVITY IN VALVE BODY

ABSTRACT

A tool assembly (61) for lapping, grinding, honing and polishing seal surfaces (50) on inner diameters of semi-blind cavities (36) in valve bodies (22). The tool (61) can bring seat surfaces (50) up to specification with abrasive wheels (63) having varying grit sizes. The wheels (63) are provided in an array of sizes to form a set of tools (61) for a range of diameters, abrasion and surface finish capacity. This design allows the first (i.e., smallest) tool (61) to enter a cavity (36) in a valve body (22) to begin cutting. The larger size wheels (63) increase the diameter of the cavity (36) being machined until the desired size is achieved. Wheels (63) with finer abrasive are then used to improve the surface finish of the cavity (36) while minimizing the material removal. When the desired diameter and/or surface finish has been achieved, a felt wheel may be used with a fine abrasive paste to provide the cavity (36) with the final surface finish specification.

[Fig. 3]