

Human Factors Engineering

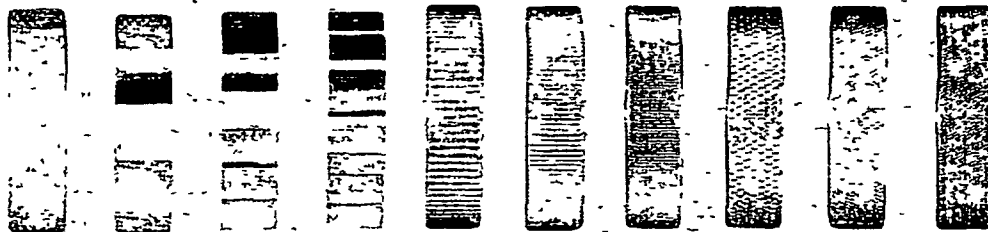
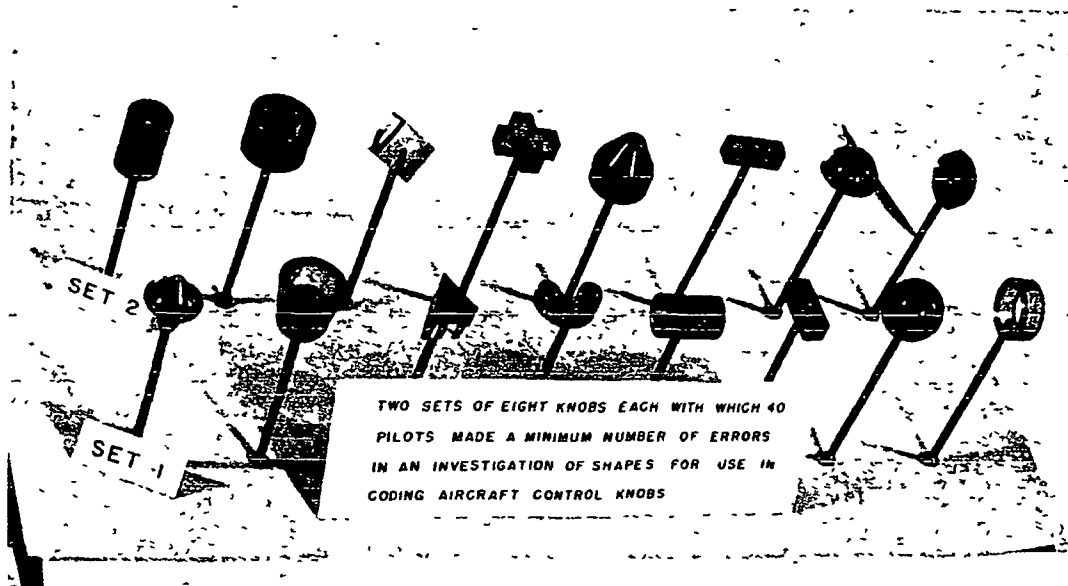


FIG 5-14 – Top Shape Coding Two sets of knobs for levers that are distinguishable by touch alone Bottom Texture coding Ten texture codings that can be distinguished

Courtesy Department of the Air Force, Wright-Patterson AFB Top W O Jenkins, *Psychological Research on Equipment Design* Research Report 19, 1947 Bottom J V Bradley, *Tactual Coding of Cylindrical Knobs*, Tech Report 59-182 1959

to nearly everyone in the population. Some examples are given in Fig 5-13.

Any display-response that calls for a movement contrary to the established stereotype is bound to produce errors. The designer is calling for errors by asking the operator to change, in this or that unique situation, a behavior pattern that can be described as habit.

If an operator misreads a poorly designed display and operates the wrong control or the right control in the wrong direction, safety may be jeopardized, and the system effectiveness degraded, if not lost entirely.

Despite the fact that many accident reports would classify this as an "unsafe act" or human error, it is, in fact, a design error. Re-