The Mark V. One of the preserved advantages of the Mark XII in the original design was its greater flexibility over the Mark V diving dress. Accordingly, the initial approach to
the comparison was a biomechanical study involving functional
measures based on dynamic anthropometry and
measurements considered with the quantitative analysis of the
normal movements performed by an individual performing
voluntary movements. A baseline was taken from the movements
of a subject performing on the suit on the free movement of the
individual.

The proposed Mark XII could be considered as an
improved Mark V diving dress. It was assumed that the diving
suit would impose certain mechanical limitations on the
divemanship. The goal was to assess the effect of the

It was found that the prototype Mark XII allowed more
movement in the upper arm flexion and shoulder joint
functions, overall in most of the 14

and the UCLA Pipe Puzzles (Hunt and Armstrong
and Decker 1971). The UCLA Pipe Puzzles, a standard assembly task in which a team of divers put together a
cold-water pipe assembly, also demonstrated an effective
measure of various
types of performance.
In these work positions (Fig. 1), the operator performs the work and is not required to move the parts of the assembly. The work is performed on a horizontal bench with the operator seated in a chair.

For the procedure, the operator starts by positioning the parts of the assembly, then assembles the parts in the correct sequence. The parts are then tightened to the specified torque using a torque wrench.

The operator then performs the final quality control check to ensure that the assembly is complete and meets the specifications. The assembly is then placed in the designated location for further processing.
Reference:


Reference:


For many years it has been the practice of most Navy and commercial diving groups to place less emphasis on human factors in the design of diving equipment than on engineering considerations. The importance of human factors in the design of such equipment is becoming recognized. Recently an assessment of diving equipment under consideration by the U.S. Navy was conducted by laboratories at the Behavioral Sciences Department, Bethesda, Md.; the Kinesiology Department, University of Maryland, and the Bureau of Medicine and Surgery Department, Washington, D.C.
California at Los Angeles; and the U.S. Navy Experimental Diving Unit, Panama City, Fla. The systematic analysis was based on physiological factors and human-engineering considerations. In particular, comparative analysis of the standard U.S. Navy Mark V and the prototype Mark XII, a surface-supported dive system designed to replace the Mark V, showed that a comparison of the two systems, using biomechanical analysis and physiological assessment, can offer important leads to design and modification. Other possible applications of human-engineering methodologies to the design of diving equipment briefly discussed are: a proposed assessment of a one-atmosphere diving system; and work in progress on a human-factors assessment of a hyperbaric-chamber facility.