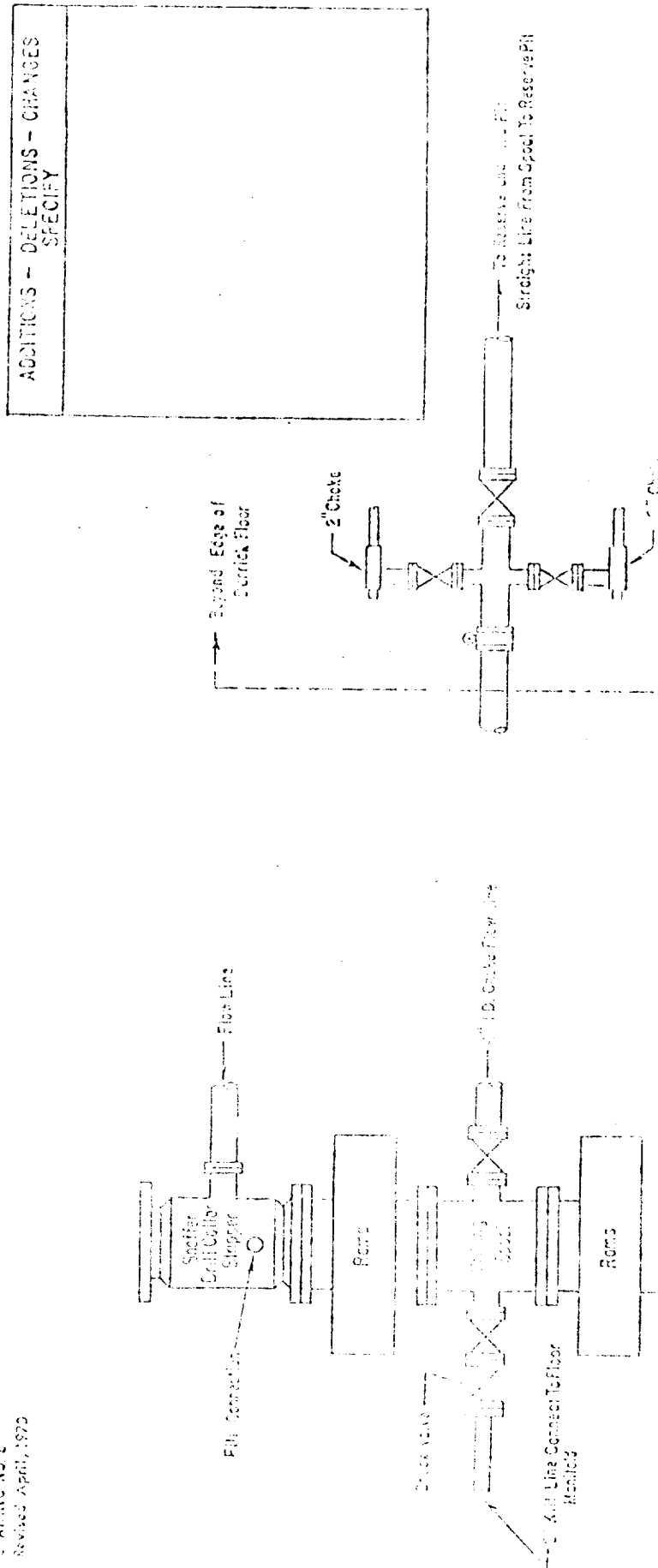


Fig 12
Blowout Preventor Diagram



ADDITIONS - DELETIONS - CHANGES
SPECIFY

The blowout preventer assembly shall consist of one BOP, ram preventer and one pipe ram preventer, both hydraulically operated; a Shear Tool Works stripper, valves, chokes and connections, as illustrated. If a tapered drill string is used, a ram preventer must be provided for each size of drill pipe. Casing and tubing rams to fit the preventers are to be available as needed. The ram preventers may be two singles or a double type. If correct in size, the flanged outlets of the ram preventer may be used for connecting to the 4-inch I.D. choke flow line and kill line. The sub-structure height shall be sufficient to install a rotating blowout preventer.

Minimum operating equipment for the preventers shall be as follows: (1) Pump (A), driven by a continuous source of power, capable of closing all the pressure-operated devices simultaneously within _____ seconds. The pump (A) is to be connected to a closed type hydraulic operating system. (2) When required, accumulators with a precharge of nitrogen of not less than 750 PSI and connected so as to receive a fluid charge from the above pump (A). With the charging pump (A) shut down, the pressurized fluid volume stored in the accumulators must be sufficient to close all the pressure-operated devices simultaneously within _____ seconds after closure, the remaining accumulator pressure shall be not less than 1000 PSI with the remaining accumulator fluid volume of least _____ percent of the original (A) when required, an additional source of power, remote and equivalent, is to be available to operate the above pump (A) or there shall be an accumulator pump (B) operated by separate power and equal in performance capabilities.

The closing manifold shall have a separate control for each pressure-operated device. Controls are to be labeled, with control handles indicating open and closed positions. A pressure reducer and regulator must be provided if a H/dill preventer is used. Gulf Legion No. 39 hydraulic oil, or equivalent or better, is to be used as the fluid to operate the hydraulic equipment.

The choke manifold, choke flow line, and choke lines are to be supported by man-stands and adequately anchored. The choke flow line and choke lines shall be constructed as straight as possible and without any bends. Any access is to be maintained to the choke manifold. All valves are to be selected for operation in the presence of oil, gas and drilling fluid. The choke flow line valve connected to the drilling head and all ram type preventers must be equipped with stem extension, universal joint, if needed, and hand wheels which are to extend beyond the edge of the derrick substructure. All other valves are to be equipped with handwheels.

3000 PSI WORKING PRESSURE
BLOWOUT PREVENTER HOOK-UP