

Minimum assembly will consist of two hydraulically operated ram type preventers and a Hydril. If double type preventers are provided, the flanged outlets of the preventer may be used for the flow line and kill line. Minimum operating equipment for the preventers will be: (1) An air operated pump(s) and (2) an accumulator(s) with means of obtaining a fluid charge. A regulator is to be provided for the Hydril preventer. Sufficient fluid capacity in the accumulator(s) shall be available to close all the pressure operated devices at the same time with 25 percent reserve. Hydraulic oil shall be used as the operating fluid. Seamless steel piping shall be used to connect from the closing unit to the preventers. The choke manifold and flow line shall be supported by metal stands. The choke lines shall be anchored. No sharp bends or curves will be permitted in the flow line from the preventers to the pits. Easy and safe access will be maintained to choke manifold at all times. The ram type preventers and hydraulically operated valves will be provided with stem extensions, universal joints, if needed, and operating wheels which are to extend beyond edge of derrick substructure.



Minimum assembly will consist of three hydraulically operated ram type preventers, a Hydril GK, a rotating blowout preventer, valves, chokes and connections as illustrated. The two upper ram preventers may be double or singles, open-faced flanged. In lieu of the drilling spool, the flanged outlets of the middle ram preventer, provided they are the correct size, may be used for connecting the two 4-1/16" ID flow lines. If a tapered drill string is used, extra ram preventers will be required. Minimum operating equipment for the preventers will be: (1) Air or power operated pumps, and (2) accumulator(s) with means of obtaining a fluid charge. A regulator for the Hydril will be provided. Sufficient fluid capacity in the accumulator(s) shall be available to close all the pressure operated devices at the same time plus 25 percent reserve. Hydraulic oil shall be used as the operating Seamless steel piping shall be used to connect from the closing fluid. unit to the preventers. The choke manifold and flow lines shall be supported by metal stands or reinforced concrete. The choke lines shall be anchored. No sharp bends or curves will be permitted in the flow lines from the preventers to the pits. Easy and safe access will be maintained to choke manifold at all times. The ram type preventers and hydraulically operated valves will be provided with stem extensions, universal joints if needed, and operating wheels are to extend beyond edge of derrick substructure.