



**ADDITIONS-DELETIONS-CHANGES  
SPECIFY**

The blowout preventer assembly shall consist of one single type blind ram "runner" and one single type pipe ram preventer, both hydraulically operated, a "Yard" "GK" preventer, a remote blowout preventer, 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. Coupling and tubing tools to fit the preventers are to be available as needed. 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 4-inch I.D. relief line, except when air or gas drilling. All preventer connections are to be spine-face flanged.

Minimum operating equipment for the preventers and hydraulically operated valves shall be as follows: (1) Multiple pumps, driven by a continuous source of power, capable of fluid charging the total accumulator volume from the nitrogen precharge pressure to its rated pressure within \_\_\_\_\_ minutes. Also, the pumps are to be connected to the nitrogen accumulators; pressure shall be no less than 1500 PSI with the remaining accumulator fluid volume at least \_\_\_\_\_ percent of the original. (2) When required, an additional source of power, remote and equivalent, is to be available to operate the above pumps; or there shall be additional pumps powered by separate power and equal in performance capabilities.

The casing manifold and remote 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 gauge and indicator must be provided for operating the Hydrill preventer. When required, a second pressure reducer shall be available to limit operating fluid pressures to ram preventers.

Gulf Section No. 33 hydraulic oil, an equivalent oil, or better, is to be used as the fluid to operate the hydrostatic equipment.

A pressure gauge and regulator must be provided for operating the Hydril preventer. When required, a second pressure gauge shall be available to limit operating fluid pressures to ram preventers. Gulf Legion No. 33 hydraulic oil, an equivalent oil, or better, is to be used as the fluid to operate the hydraulic equipment.

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