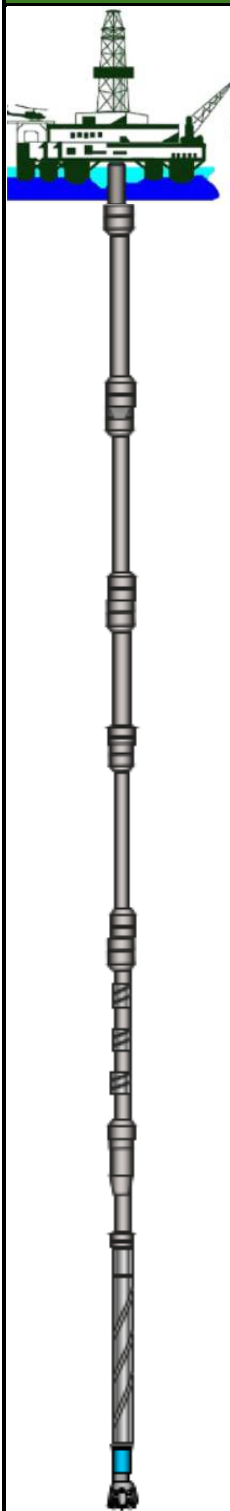

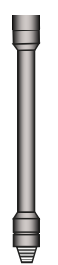
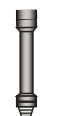
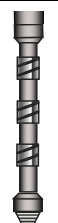

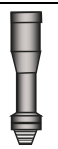


Components of a Drill String

Drill String	String Component		Component Details
		Rig - surface equipment used for well operations	<p>Different Rig's used for well operations;</p> <p>Offshore floating rig - Semi-submersible, Drill Ship - deeper water</p> <p>Offshore fixed leg rig - Jack-up, Submersible - shallow water</p> <p>Platform rig - fixed rig used on production platforms or facilities for well operations</p> <p>Land rig - used on land well operations</p> <p>Workover rig - smaller rig for operations on established well</p>
	Components Used Below the Rig's Rotary Table		
		<p>Landing String (LS)</p> <p>Completion Landing String (CLS)</p> <p>Intervention Riser (IR) (CWOR)</p>	<p>Used in offshore operations and designed as a heavier drill pipe component or special ID pipe component with rotary shoulder connections used to place casing and tubing in the wellbore. Intervention risers could have a OCTG/Casing/Tubing connection in some applications. This is different than the rig contractors drilling riser that connects the rig floor to the rig's BOP components.</p> <p>Typically 30-45' long.</p>
		<p>Drill Pipe (DP)</p> <p>Completion Pipe</p> <p>Workstring</p> <p>Workover Pipe</p> <p>P&A Pipe</p>	<p>Drill pipe is a tubular comprised of a rotary shoulder connection (tool joint) and a tube section for drilling a wellbore.</p> <p>Completion pipe is drill pipe used for completion operations and may have a rotary shouldered connection with a metal-to-metal seal for a pressure rating.</p> <p>Workover pipe could be drill pipe or a tubing/casing OCTG connection designed for rig operations for workover, intervention, well testing and plug & abandonment in wellbores.</p> <p>These types of pipe/tubulars are not permanently installed in the wellbore. They are designed for some type of well operation not production tubulars.</p> <p>Typically 30-45' long.</p>
		<p>Pup Joints (PJ) for Drill Pipe and Landing Strings</p>	<p>Short drill pipe or landing string joints used for space out.</p> <p>Typically 5-25' long'.</p>
		<p>Heavy Weight Drill Pipe (HWDP)</p>	<p>Drill pipe that is thicker and heavier than normal weight drill pipe and typically will have an upset (larger OD section) along the tube for additional weight. The tube could be spiraled also.</p> <p>Used as a transition between the drill pipe and bottom hole assembly.</p> <p>Typically 30-32' long.</p>
		<p>Drill Collars (DC)</p>	<p>Drill collars are a thicker wall tubular that is made of 1 piece of metal with the connection integral to the joint. They are a larger diameter than normal weight drill pipe and heavy-weight drill pipe.</p> <p>Typically 30-32' long.</p>
		<p>Subs</p>	<p>Subs are short tubulars that serve a specific purpose downhole or in the pipe assembly;</p> <p>Crossover subs connects different connections in the string,</p> <p>Bit subs connects the bit to the bottom hole assembly tools,</p> <p>Other subs such as filter sub, float sub, circulation subs, and others have specific functions in the drill string, completion string, workover string, etc.</p>
		Other Tools	Depending on the operation, there are many other components that can be added to a pipe assembly.