

Winches

Winches are mechanical devices that can wind out, or pull up the tension of a wire cable, cable, wire rope or a rope. These tools, in its most simple form, are constructed of a spool and a hand crank. More complicated winches are found at the heart of machinery like steam shovels, tow trucks and elevators. Sometimes the spool can be referred to as the winch drum. Elaborate designs have gear assemblies that could be driven by hydraulic, electric, pneumatic or internal combustion drives. Various winches may comprise a mechanical brake or a solenoid brake or a ratchet and pawl apparatus in order to stop it from unwinding unless the pawl is retracted.

Generally, the rope or cable is stored on the winch, nonetheless the capspan, a similar machine, does not store the rope. In sailing, when trimming a line on a sailboat, the crew member operates the handle of the winch making use of one hand while tailing the other so as to maintain tension on the turns. Some winches have a stripper or cleat so as to maintain tension. These designs are referred to as "self-tailing" winches.

Frequently, winches are utilized offstage as part of the mechanism to transfer staging in big theatrical shows. Many times the winches are actually embedded in the stage floor and utilized to be able to move large set pieces off and on stage.

The new generation of winches have been made for snow and water sports allowing the riders to be pulled quickly across a body of snow or of water. This could stimulate a riding experience which is usually supplied by a boat, snow mobile or a wave runner.