

Winches

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

Normally, the rope is stored on the winch. There is similar machine called a capstan that does not store the rope. In sailing, when a line is trimmed on a sailboat, the crew member operates the winch handle utilizing one hand while tailing the other so as to maintain tension on the turns. Various winches have a stripper or cleat to maintain tension. These designs are called "self-tailing" winches.

Frequently, a winch is used in huge theatrical productions as a part of the mechanics so as to move backdrop. At times there are likewise winches actually imbedded in the stage in order to help move the several larger set pieces on and off the stage.

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