

Winches

A winch is a mechanical piece of equipment that specializes in winding out or pulling in or winding up or letting out the tension of a wire rope, a rope, wire cable or a cable. In its most basic form it is constructed of a spool together with an attached hand crank. More complex winches are found at the heart of machines such as steam shovels, tow trucks and elevators. Sometimes the spool can be known as the winch drum. Elaborate designs have gear assemblies which can be powered by pneumatic, internal, hydraulic or electric combustion drives. Various winches can consist of a solenoid brake or a mechanical brake or a pawl and ratchet device to be able to stop it from unwinding unless the pawl is retracted.

Normally, the rope is stored on the winch. There is a similar piece of equipment known as a capstan which does not store the rope. In sailing, when a line is trimmed on a sailboat, the crew member works the handle of the winch utilizing one hand while tending the other to be able to maintain tension on the turns. Some winches have a cleat or stripper to maintain tension. These designs are known as "self-tailing" winches.

Usually, a winch is utilized in big theatrical productions as a part of the mechanics to be able to move background. Occasionally there are likewise winches actually imbedded in the stage so as to help transfer the many larger set pieces off and on the stage.

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