

# Skidder

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A **skidder** is any type of heavy vehicle used in a logging operation for pulling cut trees out of a forest in a process called "skidding", in which the logs are transported from the cutting site to a landing. Here they are loaded onto trucks (or in times past, railroad cars or flumes), and sent to the mill. One exception is that in the early days of logging, when distances to the timberline from the mill were shorter, the landing stage was omitted altogether, and the "skidder" would have been used as the main road vehicle, in place of the trucks, railroad, or flume. Modern forms of skidders can pull trees with a cable/winch, just like the old steam donkeys, or a grapple or a *clam-bunk*.



A slip tongue log skidder used in the 19th and early 20th centuries.

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## History

Early skidders were pulled by a team of oxen, horses or mules. The driver would straddle the cart over felled logs, where dangling tongs would be positioned to raise the end of the log off the ground. The team pulled the tongue forward, allowing the log to "skid" along between the rolling wheels. These were known as "slip-tongue wheels" Starting in the early 1920s, animals were gradually replaced by gasoline-powered crawlers, although some small operations continue to use horses. In other places, steel "arches" were used behind the crawlers. Similar in function to the slip-tongue wheels, arches were used to reduce friction by raising up one end of the load, which was dangled from a cable which in turn ran down the back of the arch, & was raised or lowered by the crawler's winch. Another piece similar to the arch was the "bummer", which was simply a small trailer to be towed behind a crawler, on top of which one end of the log load would rest.

The early mechanical skidders were steam powered. They traveled on railroads, known as "dummylines" and the felled trees were dragged or "skidded" to the railroad where they were later loaded onto rail cars. Some were just steam donkeys, others were more complicated. One popular brand was the Clyde Skidder, built by Clyde Ironworks in Duluth, Minnesota. The Clyde skidder illustrated was photographed at the Marathon Lumber Company logging operations near Newton, Mississippi in the



Clyde Skidder at Marathon Logging Camp ~1921

early 1920s. Although these machines appear to be large and cumbersome, they were true workhorses of their day. The Clyde was capable of retrieving logs from four different points at the same time. Each cable, or lead, was approximately 1000 feet in length. Once the logs were attached and a clearance signal was sent for retrieval, they could be skidded at a speed of 1000 feet per minute. Working conditions around these machines were very dangerous. The largest of these was the Lidgerwood skidder, which not only brought logs to the landing from the cutting site, but loaded them onto railroad cars as well, making it both a skidder & loader. In New Zealand cables were run five miles.

## Modern equivalents

Contemporary skidders are tracked or four wheel drive tractors with a turbocharged diesel engine, winch and steel, funnel-shaped guards on the rear to protect the wheels. They have articulated steering and usually a small, adjustable, push-blade on the front. The operator/logger is protected from falling or flying debris (or parted cables, or rolling over) by a steel enclosure. They are one of the few logging machines that is capable of thinning or selective logging in larger timber. Forwarders can haul small short pieces out, but if mature timber is to be thinned, a skidder is one of the few options for taking out some trees while leaving others. While selective logging can be done badly in a host of ways, taking some trees while leaving some may be a preferred alternative to taking all the trees.

The skidder can also be used for pulling tree stumps, pushing over small trees, and preliminary grading of a logging path known as a "skid road".

A positive thing about the skidder is that while wood is being yarded (pulled), tree particles and seeds are cultivated into the soil.

One disadvantage of skidder logging in thinning operations is the damage to remaining trees as branches and trunks are dragged against them, tearing away the protective bark of living trees. Another concern is the deep furrows sometimes made by skidders in the topsoil, especially when using tires with chains, which alter surface runoff patterns and increases the costs of forest rehabilitation and reforestation.

## Versions

### Cable skidders

On a cable skidder, the cable is reeled out and attached to a pull of cut timber, then the winch pulls the load toward the skidder. The winch or grapple holds the trees while the skidder drags them to a landing area. Cable skidders are less popular than in the past. They are more labor-intensive than grapple skidders because someone (the operator or a second person) must drag the winch line out to the logs and hook them up. This is helpful where it is not possible to drive the machine close to the log (such as in steep hills).



Caterpillar 528 cable skidder in Apiary, Oregon.

## Grapple skidders

Alternatively, some skidders have a hydraulic grapple bucket instead of a winch, and the bucket—attached to the skidder by a boom—grabs and lifts the timber.



Modern dual function grapple skidder

There are three types of 'fixed boom' grapple

skidders. A single-function boom type has two hydraulic cylinders, only allowing the boom to lower in one position. Dual-function booms (as pictured) have four cylinders, which allows for adjusting the boom in two different places. The third type permits the grapple boom to be swung from side to side, allowing spread out trees to be grabbed at once.

In some areas, loggers have combined a hydraulic claw on the side with the blade of their grapple skidders, making it possible to pile logs in some cases. More common on cable skidders, this also permits hauling back bark and tops when returning from a landing area to

## See also

- Feller buncher
- Michigan logging wheels
- Washington Iron Works Skidder

## External links

 Media related to Skidders at Wikimedia Commons

- Development of the Rubber Tired Log Skidder (<http://www.vannattabros.com/skidder.html>)
- RitchieWiki:Skidder (<http://www.ritchiewiki.com/wiki/index.php/Skidder>)

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