SKIDDERS

Rab Easton looks at how skidders are still used in modern forestry.

Timber harvesting has changed drastically over the last few decades. Not too long ago almost all the trees felled in the forests were extracted to roadside by a skidder. Most of the skidders used by private forestry contractors and firewood merchants were merely standard agricultural tractors with a forestry winch attached. This period (the 1970s) saw the Forestry Commission harvesting a high volume of the timber used in the UK and they had their own mechanical engineering division for servicing/repairing vehicles and modifying agricultural equipment for forestry use. A successful product of this era was the Faulstone Skidder, a converted Ford County 754 with an Igland double drum winch, logging blade, robust safety cab and forestry guarding. Many are still in use today.

Another large company supplying skidders was James Jones & Sons Ltd, who had their own engineering division at Larbert which was also heavily involved in timber haulage. They were once a major force in the supply of forestry equipment with their products shipped worldwide.

Skidders have now been eclipsed in the UK by the 'cut to length' system which uses harvesters and forwarders and is generally a more efficient, less labour-intensive method of harvesting timber.

While this may sound like the demise of the skidder, this is not the case and they still have a key role to play in modern forestry.

Skidders are a much safer alternative for extracting trees on steep ground working in conjunction with harvesters/forwarders; they can extract large volume trees that would otherwise have to be processed on site or left to decay. They are also ideal for estate work, small volume harvesting contracts and excellent for clearing smaller windblown areas/roadways.

Many skidders have a high road speed of around 40km/h and are "road legal", which reduces transport costs when needed to be moved frequently.

A high volume of the global timber production is extracted by skidder as many forests grow on steep, high-altitude mountainsides for which the process would otherwise be extremely difficult and time consuming.

Although in the UK we only extract a small percentage of our timber by skidder, we greatly benefit by having the latest in skidder technology due to the high demand for skidders in other countries.

Many manufacturers are offering a wide range of skidder models which will handle tree sizes up to large mature hardwoods. Here, we are listing a selec-

Left: John Deere 640
Below: Welte W130

The Equus is a solid and well-built skidder using tried and trusted components. It is available with an extensive selection of extra equipment including a remote control for winch operation and another for driving from outside the vehicle. It is proving to be popular and Equus is currently producing three to four skidders every month. They are 2.45m wide and weigh 8.5 tonnes and can easily be converted to a clam bunk skidder, forwarder or harvester by attaching a telescopic loader. They also include a well laid out cabin with good vision.

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HSM Forest 805HD

This is an established German manufacturer which was created in 1957 and was initially involved with the sales and distribution of the Canadian Timberjack skidder. In 1978, the company introduced its first skidder, the HSM 704 fitted with an Adler winch.

This model uses the four-cylinder IVECO 170hp Tier 4 engine with the HSM high-speed drive and a NAF two-step transfer gearbox and axles. A choice of double drum Adler winches provides a maximum 16 tonne pulling capacity and 100m drum capacity for 16mm rope. It has a tilting, panorama, comfort safety cabin (for easier servicing) and an air suspended swivel seat. It is easily manoeuvred with a 45-degree steering angle and 530mm of ground clearance.

This skidder is popular in central Europe due to its long service life and reliability. They are comfortable and easy to operate with excellent vision. Moreover, there is an option for remote operation of the winches and drive and a Mesara or Epsilon telescopic loader can be fitted in order to convert the unit into a harvester or forwarder. A customer at HSM has a lot of input regarding his or her machine and equipment, colour scheme extras, etc. can be specified. This skidder is 2.36m wide in standard form but has wider wheel options for extra stability and flotation, taking it up to 3.0m wide.

www.hsm-forest.net

POWER ON

tion of mid-range 4WD models suitable for dragging small to mature trees up to 14 tonnes.

Equus 175N Frame Steered Skidder

Slovenian company Equus was active in forestry engineering for many years before producing its first skidder in 2014. It manufactured and sold 30 skidders in its first year.

The engine is a four-cylinder IVECO 170hp Tier 4 engine with hydrostatic drive and a two-speed gearbox: first gear 0-18km/hr, second gear 0-40km/hr (on the highway 4WD can be disengaged and the unit is capable of travelling 100km without stopping) – with NAF Axles. A double drum winch with a pulling capacity of 16 tonnes is also included and has the drum capacity for 200m of rope. It has a two-door safety cabin fitted with Lexan Magard safety windows and the seat rotates 270 degrees.

John Deere 640/648L Grapple Skidder

John Deere's roots in forestry go back to the 1930s when the Model D agricultural tractor was used as a skidder. JD was active in the forestry equipment market throughout the decades until the purchase of Timberjack in 2000, which transformed the company into one of the world market leaders in timber >>

>> harvesting equipment.

John Deere's own six-cylinder 237hp Tier 4 engine is used along with their Continuously Variable Transmission (CVT) to provide smooth and fuel-efficient operations and a top speed of 24km/hr. It is fitted with an 18 tonne pulling capacity winch and 1.63m³ hydraulic grapple, complete with a continuous rotator. The spacious cabin has excellent noise reduction, a rotating seat and tilts for easier servicing. It weighs almost 18 tonnes and is 3.23m wide with 555mm of ground clearance.

This is a solid, heavy duty out and out skidder designed to extract trees in extreme conditions. The L series machines benefit from 'extended life axles' for a service life of at least 15,000 hours. It has a well laid out cabin with the latest JD Link (remote monitoring of machine health which can troubleshoot problems and track equipment activity) as well as Timbernavi, which is a jobsite mapping system.

www.johndeere.com

Pfanzelt PM Trac

A family business established in 1991 and still owned and managed by Paul Pfanzelt in Bavaria, Germany, Pfanzelt started off by manufacturing geared and chain-driven cable winches and developed the PM Trac skidder in 2005.

The PM Trac uses a six-cylinder 178hp Deutz engine and a ZF type S-matic gearbox with three driving ranges from 0-50km/hr. A configuration of Pfanzelt manufactured winches can be fitted to both the front and rear of the tractor, giving it the ability to pull up to 12 tonnes. The pneumatic safety cabin has an electric rotating 350-degree seat which weighs 11 tonnes, is 2.3-2.5m wide and has 600mm ground clearance.

The PM Trac might look fairly similar to an agricultural tractor but don't let that fool you - it's built on a strong chassis designed to work in tough forestry conditions. The cab is mid-mounted so all attachments are mounted above the rear axle using the quick and easy Pfanzelt System for Attachment. Attaching cable winches or other Pfanzelt/forestry equipment takes less than 20 minutes without using tools. This is a versatile skidder with a quadruple PTO (540, 540E 1000, 1000E rpm and PTO management) for multiple forestry applications.

www.pfanzelt-maschinenbau.de

Tigercat 610E

Tigercat was created in 1992 when a small group of experienced Canadian forestry professionals teamed up with the Ontario-based fabrication company MacDonald Steelto design and build the 762 feller/buncher.

Tigercat uses its own FPT Tier 4 205hp engine with a hydrostatic drive managed by Electronic Control Technology for increased fuel economy. With a maximum speed of 21km/hr, the skidder is 3.3m wide and has 635mm clearance weighing 15.875 tonnes. The large tilting safety cabin has a rotating seat, good visibility and is neatly laid out.

There is an option of a 16-tonne double drum winch with a capacity of 220m or 180m with 14 or 16 mm cable or a single drum 18-tonne winch with a 1.21m³ hydraulic grapple. Tigercat uses Remotelog Telematics to monitor fuel consumption, work activity, geographic location, etc. and is capable of sending diagnostic messages to the operator. The winch, blade, grapple and drive can be operated remotely from outside the cabin. This is a strong, stable, powerful rugged skidder and if it is maintained properly it will have a prolonged service life.

www.tigercat.com

Top: Pfanzelt PM Trac
Above: Equus 175N

Welte W130

Founded in 1952 by Alexander Welte, the organisation was initially involved with making superstructures for timber hauliers until designing and manufacturing the Forstmann cable skidder in 1965.

This model uses the Volvo Penta four-cylinder tier 4 190hp engine with an SCR catalytic convertor and driven by a hydrostatic two-speed power drive capable of 40km/hr. It is 2.6m wide and has 689mm of ground clearance. The-two-door tilting safety cabin is spacious, comfortable and has a rotating seat.

It is 2.6m wide with 689mm of ground clearance and different sized winches with up to 16 tonnes of pulling power are available. The W130 can be used as a forwarder or harvester as well as a skidder and >>

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HSM Forest 805HD

there are many other attachments available. Welte work closely with the engineering university in Freiburg and incorporate the latest fuel saving and world leading environment protection technology into their machines. This is a robust, strong, reliable skidder which is both strong and operator friendly.
www.welte.de

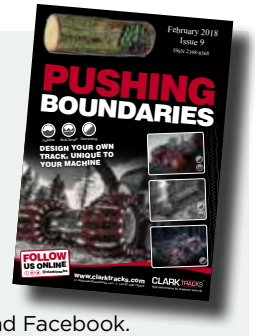
I have listed just a small selection of the skidders manufactured. This is not favouritism on my part; I have chosen them because I have either tried them personally or know of someone who uses them. Other manufacturers produce equally good quality skidders but with such a large selection it was impossible to list them all.

A last point to consider is the availability and cost of spare parts/servicing kits and whether engineers with specialised equipment are essential for repairs and servicing.

RESOURCES

It is well worth using social media logging sites/forums to contact operators who are using the skidders that you are interested in which should give you an honest and accurate opinion of performance and reliability from operators using them daily which will be a big help in making your final decision.

Tip: Become a member of the **Forest Machine Operators Blog** on Facebook. This very active group has almost 23,000 members!



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An opportunity not to be missed

Tim Liddon FICFor looks at the MacKinnon Report and Recommendations

Following Jim Mackinnon's report and recommendations published late in 2016, work to improve the planting approvals process is now all but complete.

Confor has been working to support the Forestry Commission and other stakeholders to make the approval of sustainable forestry planting schemes simpler, quicker and less costly, so that more trees are planted in the right places more quickly. This is not just the application process but rather end-to-end – from gestation to planting.

Following a recent meeting to review progress, Jim Mackinnon, the author of the report, said that recent progress was 'highly encouraging, not least the way in which recommendations have been refined and developed with a view to achieving better outcomes'.

The 2018 training seminars are being run in March and if you are considering a woodland creation application I hope you will have attended and are now putting into practice the guidance that is being made available. By doing this we can work together to deliver Scotland's ambitious woodland creation targets.

I would just end with a challenge. The guidance and process have been refined and I am sure that they will be fit for purpose. However, during this process it has become very apparent that culture needs to change on all sides – if it does not then we, the whole Forest Industry, will have missed its opportunity.

Applicants need to engage, consult and seek views on their proposals and they need to follow due diligence. Stakeholders need to positively engage. I hope that FCS can move to a can-do culture, and draw back from the minutiae recognising professionalism in the industry.

MacKinnon Report highlights

Improvements to how the Forestry Grant Scheme is publicised and how woodland creation is promoted

Better reporting of data on woodland creation to track progress and help businesses plan ahead

Agreement on an approach to reduce the bureaucratic burden through earned recognition

Improved Woodland Creation guidance drafted and nearing publication

Programme of woodland creation training seminars developed and delivered jointly between ICF and FCS involving the industry as well as FCS and stakeholders to help embed the new guidance across all sectors