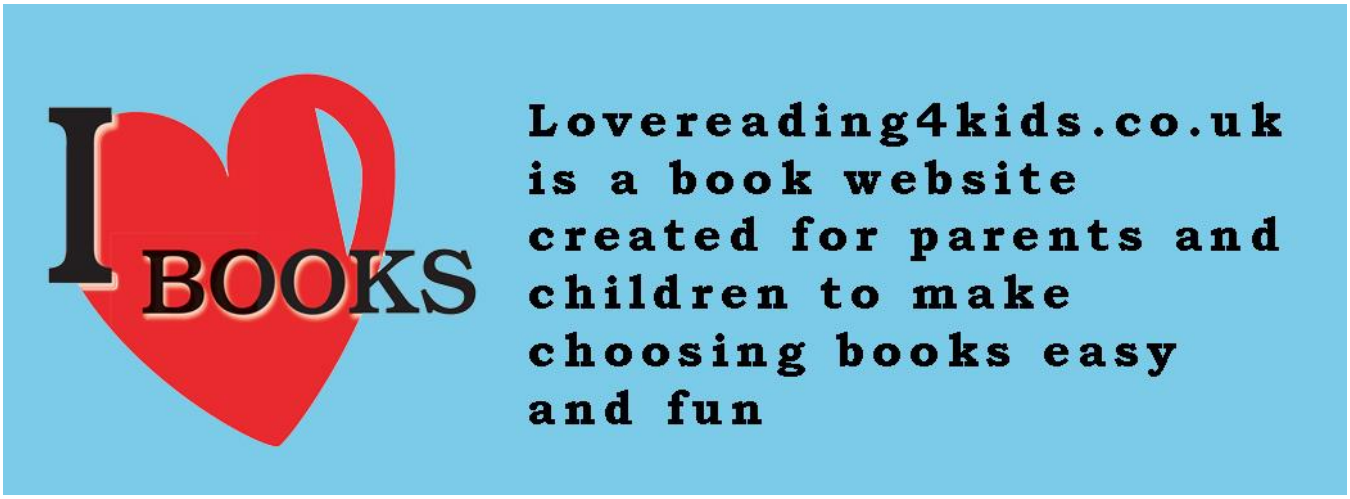


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My Little Book of Tractors

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Words in **bold** are explained in the glossary on page 60.



Contents

What is a tractor?
4 The modern tractor
6 Steam power
8 Traction engines
10 Petrol engines
12 Two-wheel tractors
14 Four-wheel tractors
16 Multi-wheel tractors

What jobs can tractors do?
18 On the farm
20 In the fields
22 Combine harvesters
24 Crop pickers
26 Row crop tractors
28 Power tools
30 Loaders
32 Diggers
34 Hedgerows and forests
36 Snow ploughs and blowers

Tractors with tracks
38 Gun tractors
40 Bulldozers
42 Snow tractors
44 Farm tractors with tracks
46 Military tractors

All shapes and sizes
48 Small tractors
50 Giant tractors
52 Excavators
54 Airport tractors
56 Emergency tractors
58 Competition tractors

60 Glossary
62 Index

The modern tractor

Tractors of different types have been used on farms for more than 200 years, and farmers today rely on the modern tractor to do all sorts of jobs.

» This tractor is pulling a hay rake that sorts hay into neat rows.



» Some tractors have a roll bar to protect the driver should the tractor tip over. Others have enclosed cabs.



Tractors have wide wheels that spread their weight and stop them sinking into soft ground. The tyres have deep, chunky **treads** to give them good **grip**.

» The driver sits in the middle of the tractor. This helps him steer straight across a field.



Steam power

Before there were tractors, horses were used to pull **ploughs**. That began to change when the steam engine was invented early in the 19th century.

By 1850, steam engines placed at the side of a field could use cables to drag a plough across the field. Unlike horses, the steam engine never grew tired or needed to rest.



» Pulling a plough was hard work for horses, but easy for a steam engine.

» This engine has its chimney folded ready to be transported. It has wheels but was still pulled by a horse.

Traction engines

Traction engines first appeared in the 1860s. These were powered by steam, not pulled by horses.

» This engine has a roof to keep the rain off.

Traction means 'pulling'. It is from the word 'traction' that the modern tractor gets its name.



« Traction engines were heavy and would get stuck in the mud.



» A traction engine's steering wheel steered the front wheels, just like a modern tractor.

Petrol engines

By the beginning of the 20th century, **petrol** engines were being used to power tractors.

Petrol engines were lighter than steam engines. A petrol tractor could drive across a field without sinking in and damaging the field. This meant that a petrol tractor could pull a plough across a field.



» The Ivel of 1902 was the first successful petrol-engined tractor.

« Early tractors had metal or wooden treads instead of rubber tyres.

» By the 1940s tractors had smaller petrol engines. They also had rubber tyres.

Two-wheel tractors

Tractors with two wheels are sometimes called walking tractors because the driver walks behind.



« Controls for the engine and the brakes are on the handlebars of this early walking tractor.

Walking tractors were invented at the beginning of the 20th century and are still in use today.

» This farmer in Thailand is using a walking tractor in his rice field. Rice is grown in flooded fields.



« A walking tractor can pull a trailer. The driver sits on the trailer.

Four-wheel tractors

Most tractors have four wheels. The rear wheels are often much bigger than the front wheels.



» This tractor has all-wheel drive and large wheels at the back and the front.

Tractors with larger rear wheels usually have rear-wheel drive. This means that the engine powers the rear wheels. Big rear wheels grip the ground better.



» This early tractor has metal spikes on its rear wheels that help it to grip soft ground.

» Smaller front wheels make a tractor easier to steer.

Multi-wheel tractors

Heavy tractors have lots of wheels. Extra wheels spread the tractor's weight across the ground to stop the tractor sinking in.

» With eight wheels, this tractor is too wide to drive on normal roads.

« All of the front wheels turn in order to steer an eight-wheel tractor.

» Six wheels give this tractor good grip, and it is narrow enough to drive on roads.



Tractors with lots of wheels and all-wheel drive can pull bigger, heavier equipment. Large fields can be ploughed much faster.