

BM VOLVO

VOLVO – VOLVO BM



Farm tractors – BM-Volvo

New modern tractors with integrated cabs and increased hydraulics were designed. Based on the tractor driveline new construction equipment and forestry machines were developed. New product lines such as wheel loaders, backhoes, mobile cranes, articulated haulers and graders became gradually vital parts of the product program



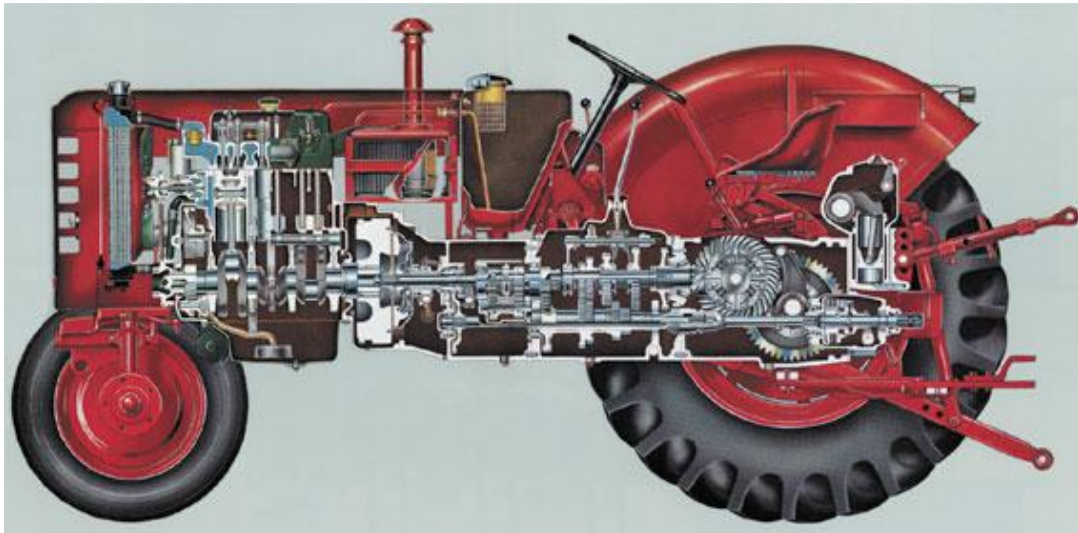
BM-Volvo BM 320 B, 320 D / Bolinder-Munktell / Volvo 320 B, 320 D (Buster)

The time had come to modernize the BM 230 Victor. The BM 320 D Buster was the next stage in the development. It had a three-cylinder Perkins turbulence chamber engine, a Terra-Troll hydraulic system, and a five-speed gearbox with independent power take-off. A two-stage clutch is available as an alternative to a clutch-dependent power take-off. The demand for a small diesel tractor was high in the Nordic Countries, but not so high in other markets, where a Bolinder diesel engine in the tractor would have been preferred. But more of the Buster were made yearly than any other BM tractor. In the 1963, the record year, no less than 5 336 Busters were made. After a time, the Buster also became available with a Volvo gasoline engine as an alternative to the Perkins diesel, but this was not a success. The end of the era of carburettor tractors was past. Even so, 650 units of the BM 320 B were made in 1962-63.

Although the period of manufacture was short, many improvements were introduced. A proper instrument panel with tractor meter was introduced, the design of the pedals was improved, more effective protection for the brakes was fitted, and better seat suspension was added, and so on. But the most significant improvement was the two-speed power take-off. The two-speed power take-off was primarily intended to compensate for shortcomings in the gearbox and gear ratios, but it became something of a sales success. The number of speeds available for machines powered from the power take-off was doubled. This made it possible to exploit the higher available power output for threshing machines, or alternatively to have a lower engine speed, quieter running and better fuel economy with machines with a low power requirement. The Buster had successors in the form of the T 400 and T 430.

BM 320 B, 320 D (Buster)

Engine	Volvo B18 C / Perkins 913
Cylinders	3 / 4
Cylinder capacity, l	1,78 / 2,5
Power, hk	37 / 37
Gears forward/ reverse	5/1 / 5/1
Wheelbase, mm	1950 / 1950
Operating weight, kg	1440 / 1570
Number made	
...1962-1963 (BM 320 B)	650
...1961-1964 (BM 320 D)	15720
Production year	1961-1964



BM-Volvo 350 (Boxer) / Bolinder-Munktell 350 (Boxer)

Two red tractors were launched on 18 March 1959, one branded BM, the other branded Volvo. This model sold more than any other tractor in the history of BM and Volvo. The first series-produced tractor rolled off the line on 12 May 1959. The Boxer, which was newly developed in every respect, was a direct replacement for the BM 35/36. No effort was spared during the three and a half years of development to meet the new demands that had emerged. The 350 type designation refers to the three cylinders of the engine and the “50 hk (Swedish horsepower)” output. One innovation on this model was the fully independent power take-off. As well as being an excellent agricultural tractor, some of which are still in use in the 21st century, it formed the basis of several products in the construction and forestry sectors.

The model became so popular that production had difficulty keeping pace with demand. Special designs were produced, such as the tricycle and the tandem, as well as tall portal tractors for use in vineyards. Counting only “proper” tractors, more units of the Boxer were produced by BM than any other BM tractor. The total number over nine years of production was 28 039 units. In addition, 400 PKD kits (partially assembled) about 10 000 chassis for forestry and construction machinery were produced. Most of these were for the LM 218 rear loader, but they were also used in the DR 631 articulated hauler “Grus-Kalle, (Gravel Charlie)” and its sister machine for timber haulage, the SM 665/667, known as “Timmer-Kalle (Timber Charlie)”.

350 (Boxer)	specifications
Engine	BM 1113
Cylinders	3
Cylinder capacity, l	3,78
Rated output, hk	56
Gears, forward/reverse	10/2
Wheelbase, mm	2 305
Ground Clearance, mm	490
Operating weight, kg	2 370
Production no.	
– BM 350	26 815
– BM 350 I	1 224
– BM 350 PKD	400
Production year	
– BM 350	1959–1967
– BM 350 I	1963–1967
– BM 350 PKD	1964–1967



BM-Volvo 470, 470 I, 471, 473 / Bolinder-Munktell BM 470, BM 471

The diesel engines of the first series were upgraded for the BM 350 and BM 470 (Bison). The engines were now designated 1 113 and 1 114. The output of the larger BM 470 was a remarkable 73 hk. The Bison, as the tractor was called, was also launched as “one of the most powerful tractors in the world”. This engine power was put to good use too, in heavy haulage with dumper trailers. The gearbox had five forward speeds and one reverse. In Sweden the Bison came with a safety frame approved by the Swedish National Board for Occupational Safety and Health, with an option to add a cab. A complete truck-type cab with space for two passengers was available. The total weight was 3 360 kg without safety frame and the wheelbase was 2 175 mm. The brakes were mechanical, fully-enclosed steering brakes which could be coupled together for braking on both wheels. When lots of power was needed on large farms, two Bison tractors were coupled together. This gave a 140 horsepower (hk) four-wheel-drive machine with enormous tractive effort.

The BM 471 Bison was BM’s first true four-wheel-drive tractor. It weighed 3 720 kg without the safety frame. The 471 did not turn out to be a major seller, but around fifty were made during 1962–63. In 1964 the 473 was introduced.

The 470 Bison was also used to pull dumper trailers. This symbolizes the development from red tractor to yellow construction machines which began at that time. Even so, many more tractors would leave the Eskilstuna factory.

The Bison was also used as platform for the production of both industrial tractors (470 I) and forestry machines.

In the new designation system, the successor to the Bison was called T 800.

470, 470 I, 471, 473

	specifications
Engine	Bolinders 1114
Cylinders	4
Cylinder capacity, l	5,04
Rated output, hk	
... 470	73
... 471	75
... 473	79
Gears, forward/reverse	
... 470	5/1
... 471, 473	5/5
Wheelbase, mm	
... 470	2 175
... 471	2 400
... 473	2 420
Operating weight, kg	
... 470	3 360
... 471	3 720
... 473	4 200
Production no.	
... 470	3 695
... 470 I	474
... 471	50
... 473	90
Production year	
... 470	1959–1966
... 470 I	1962–1966
... 471	1962–1963
... 473	1964





BM-Volvo 400 (Buster) / Bolinder-Munktell BM 400 (Buster)

The BM 320's name Buster was so well established that it was inherited by its successor the 400 Buster. This machine was a new design, with its transmission dimensioned for industrial machines and to be able to take a more powerful engine. The gearbox had four forward speeds and one reverse which, with a high and a low ratio range, gave a total of eight forward and two reverse gears. With the closer gear ratios, the overlap between the gears became significantly better than before. The lowest ratio gave a speed of 1,8 km/h at 1 800 r/min. One innovation was the driving-wheel-dependent power take-off. This feature meant that, with the tractor stationary and the high/low range selector in neutral, stationary machines could be driven at different speeds by selecting a suitable gear. It was even possible to

change the direction of rotation by engaging reverse gear, a feature greatly appreciated by anyone whose threshing machine or potato harvester had jammed. Blockages could easily be cleared and the machinery allowed driving in reverse. The 400 Buster had modern, enclosed disk brakes and Terra-Troll hydraulics. The increasing number of industrial and forestry machines meant that the system for machine designations need to be revised. T signified tractor, so Buster was called T400. Between 1964 and 1969 more than 25 000 machines in the 400 series were produced. Of these, in round figures, 800 were industrial machines, 600 wheel loaders (LM 422), 550 forestry machines (SM 460) and 250 backhoe loaders (GM 410).



T 400 / 400 Buster

Engine	Perkins D 913
Cylinders	3
Cylinder capacity, l	2,5
Rated output, hk	47
Gears, forward/reverse	8/2
Wheelbase, mm	2 100
Operating weight, kg	1 980
Production no.	
– 400, T400	22 589
– 400, T400 I	823
– 400, T400 PKD	547
Production year	
– 400, T400	1964–1969
– 400, T400 I	1965–1969
– 400, T400 PKD	1965–1966

specifications





BM-Volvo 430 / Volvo BM T430

The major technical innovation on the 430 was the Trac Trol fast gear. Every gear could be shifted between a low and a direct setting without using the clutch. This additional gearbox gave the eight-speed gearbox twice as many speeds. Three versions of the 430 were launched: standard, special and industrial. The special and industrial versions had a stronger front axle and steering gear in order to withstand high stresses. It was also available with hydraulically assisted steering. The standard tractor was also available with an adjustable front axle. The tractor had disc brakes on the differential shafts, and an independent and driving-wheel-dependent power take-off.

The industrial variant was painted yellow and had road tires. The robust chassis of the tractor, with strong fixing points, made it highly suitable for mounting all kinds of attachments and equipment. Cab comfort increased during the period of production, with better noise damping, a new torsion-sprung seat adjustable to suit the weight of the driver, and a heating system. In all, 24 889 units were made, of which 1 125 were yellow industrial tractors. In addition, 370 chassis were used for the small SM 462 forwarder.

430	specifications
Engine	Perkins D 25
Cylinders	3
Cylinder capacity, l	2,5
Rated output, hk	44,5
Gears, forward/reverse	8/2 TT (fast gear)
Wheelbase, mm	2 100
Operating weight, kg	2 400
Production no.	
– 430, T430	23 764
– 430, T430 I	1 125
Production year	
– 430, T430	1969–1978
– 430, T430 I	1970–1978



BM-Volvo 600

The successor to the BM 350 Boxer, the 600, had a modern design similar to the 800. Technically, the 600 was constructed in the same way as the Boxer 350. The 600 also came to be called Boxer. However, many improvements were made, such as increasing the hydraulic pressure. This, together with the larger area of the lifting piston, resulted in a much-needed increase in the lifting force. New equipment included a front ramp with space for six 47 kg load weights. Most of the equipment was the same as on the 350 model, so they were fully available right from the start of production. The T 600 was available with a noise-damped cab instead of the simpler version with a clad safety frame. This was especially appreciated by those who often used the tractor for transport purposes. The 600 I industrial tractor had a slightly different cab, but apart from this it did not differ much from the agricultural tractor. Naturally, the industrial tractor had types suitable for use on the road. The front axle was reinforced, the flywheel housing was of nodular iron and the rear axle casings had machined mounting faces for attachments and equipment. A total of 12 794 units were made, of which 594 were the industrial version. PKD (partially-assembled) kits were also sent to the assembly factory in Teheran.

600	specifications
Engine	BM 1113 A
Cylinders	3
Cylinder capacity, l	3,78
Rated output, hk	51
Gears, forward/reverse	10/2
Maximum speed, km/h	30
Wheelbase, mm	2 305
Operating weight, kg	2 910
Production no.	
– 600	12 200
– 600 I	594
– 600 PKD	1 500
Production year	
– 600	1957–1970
– 600 I	1967–1970
– 600 PKD	1967–1970



BM-Volvo 650 / Volvo BM T650

This model replaced the well-known Boxer, which, after many years' production, had changed its designation from 350 to 650. The 650 was a completely new tractor. In addition to innovative thinking in terms of comfort and safety, there were also numerous other new features, compared with its predecessor the 600, such as a new engine, new transmission with fast gear, new hydrostatic steering system with adjustable steering wheel, new rear axle, new dry disc brakes and much more besides. The four-cylinder engine had replaceable wet cylinder liners and a five-bearing crankshaft. For vibration-free running, the engine had a balancing system consisting of two counter-rotating weights connected via a pinion. There was also a thermostat in the induction manifold. The in-house-developed cab could be fitted with a cab ventilator mounted in the position of the roof hatch.

This meant that the cab could be ventilated with fresh air which had passed through large paper filters. In time, air conditioning was offered as an option.

The 650 was supplied with independent and driving-wheel-dependent power take-offs, each operated with a separate plate-type clutch. Much improved Terra Trol Mark II hydraulics was introduced into production in February 1975.

Production continued for 12 years. During that time, many minor and major improvements were introduced. 26 120 agricultural and military tractors were made. Of these, 1 502 were yellow industrial tractors and 2 080 were in the form of PKD (partially-assembled) kits for the assembly factory in Iran and other chassis for external superstructure builders.



650

Engine
Cylinders
Cylinder capacity, l
Rated output, hk
Gears, forward/reverse
Wheelbase, mm
Operating weight, kg
Production no.
– 650, T650
– 650, T650 I
– 650, T650 PKD
Production year
– 650, T650
– 650, T650 I
– 650, T650 PKD

specifications

BM D 42
4
4,2
80
8/2 TT (fast gear)
2 440
3 900
26 120
1 502
2 080
1970–1982
1970–1982
1971–1976





BM-Volvo T 675 / Bolinder-Munktell BM T 675

The yellow T 675 transport tractor was based on the Boxer tractor and the loader chassis of the LM 218.

BM T 675

Engine
Cylinders
Cylinder capacity, l
Rated output SAE, hk
Gears, forward/reverse
Maximum speed, km/h
Wheelbase, mm
Operating weight, mm

1968 specifications

Bolinder-Munktell 1113 TR
3
3,78
60
10/2
25,2
2300
3885





BM-Volvo 800 / Volvo BM T 800

Now the time had come to produce a really big tractor. The 800, which replaced the BM 470 Bison, broke the 100 hk barrier with its six-cylinder Volvo D 50 engine.

Compared with the Bison this machine was a new design. The gearbox, with eight forward speeds and two reverse, divided into a high range and low range, was of a similar type to the gearbox in the 400. The brakes were also of the same type as those of the 400, with dry, enclosed disc brakes on the differential shafts. The independent power take-off for the new 800 was designed on the same principles as on the Boxer, with a separate plate-type clutch. The same clutch was also used for the driving-wheel-dependent power take-off. As with the small tractor, a range of PTO speeds were available with the tractor stationary, and the direction of rotation could be reversed. The power-assisted steering made the tractor both easy and convenient to steer. The seat comfort was enhanced by applying scientific findings relating to suspension, damping and a choice of settings, as well as a soft upholstered top. The safety frame was of our own design, as well as the cab interior cladding of glass and sheet steel, a first step towards an in-house manufactured cab.

A cab from an external manufacturer was available as an optional extra.

The 800 was the first BM tractor with a dry air cleaner with paper filter, built-in cyclone pre-cleaner and pressure drop indicator, an alternator rated at no less than 475 W, cold starting operated electrically from the cab, and so on. It was also the first that could be supplied with proper front weights, ten at 47 kg (10 individual 47 kg weights). For markets that required a cab, there was a spacious, well-equipped steel cab. The industrial variant, the 800 I, had nodular iron in the flywheel housing, rear axle casing and rear axle housing, industry-treaded tires and instead of the tubular axle on the agricultural machines, a steering axle from the two-wheel-drive loaders. Terra Trol Mark II, with major improvements, was introduced into production in February 1975. At the same time the cab was upgraded in various ways, including more headroom and greater glass area.

The new D 60 engine was introduced in the mid-1970s.



800	specifications
Engine	Volvo D 50
Alt. Engine	Volvo D 60
Cylinders	6
Cylinder capacity, l	
– D 50	5,13
– D 60	5,48
Rated output, hk	
– D 50	106
– D 60	115
Gears, forward/reverse	8/2
Wheelbase, mm	
–D 50	2 655
–D 60	2 690
Operating weight, kg	4 900
Production no.	
– 800, T800	4 466
– 800, T800 I	149
Production year	
– 800, T800	1966–1979
– 800, T800 I	1966–1968





BM-Volvo 810, 814 / Volvo BM T 810, T 814

In 1969, two turbo variants of the 800 were launched: the two-wheel-drive 810 and the four-wheel drive 814. These were the first turbo tractors from the company, but turbo technology was already well developed at Volvo. The 814 had an exceptionally strong front axle, in principle the same driven steering axle with planetary gears as was fitted to the LM 640. This axle, which was designed for high stresses, had been in use for several years and was thoroughly proven. The hydrostatic steering made the 814 very easy to steer. Eventually it was also fitted to the two-wheel-drive versions. For “cab markets” there was a cab from an external manufacturer. The cab was mounted on rubber and internally clad with sound-insulating and sound-absorbing material to keep down noise.

It was also equipped with an effective heater and defroster system. The 810 and 814 were the first tractors from the company with both 1 000 r/min and 540 r/min power take-offs. Terra Trol Mark II, with major improvements, was introduced into production in February 1975. At the same time the cab was upgraded in various ways, including more headroom and greater glass area. 3 550 units of the 810 and 1647 units of the 814 were produced

The new D 60 engine was introduced in the mid-1970s.

810, 814	specifications
Engine	Volvo TD 50
Alt. Engine	Volvo TD 60
Cylinders	6
Cylinder capacity, l	
– D 50	5,13
– D 60	5,48
Rated output, hk	
– D 50	140
– D 60	147
Gears, forward/reverse	8/2
Wheelbase, mm	2 840
Operating weight, kg	
– 810, T810	5 370
– 814, T814	6 370
Production no.	
– 810, T810	3 550
– 814, T814	1647
Production year	1969–1979



BM-Volvo Parca 714

The Parca 714 was incorporated into the tractor range when company ASJ was acquired in July 1969. The 714 was a four-wheel-drive giant with all four wheels the same size. A six-cylinder Scania engine gave the tractor ample tractive force, enough to pull an eight-share plow. The machine was designed on the basis of a rigid frame which in turn was assembled together with the cab. The cab, which had a heater and a defroster, was large, with space for two passengers.

Engine, gearbox and distribution gearbox were mounted on vibration dampers on the frame. The six-speed gearbox, with synchromesh on all gears except first and reverse, was made by ZF. The machine had hydrostatic front-wheel steering and a differential lock on the rear axle. The tractor had hydraulic vacuum servo brakes drum brakes on all four wheels.


714 Parca	specifications
Engine	Scania D 8
Cylinders	6
Cylinder capacity, l	7,8
Rated output, hk	155
Gears, forward/reverse	6/1
Maximum speed, km/h	26
Wheels	18.4-34
Operating weight, kg	7 000
Production year	1965–1970



Farm tractors – Volvo

In the beginning of the 1940's the Volvo product range had extended to include a small agricultural tractor, which was destined to bring Volvo tremendous success in this area. The production of tractors, which took place alongside the car production in Göteborg, went on to expand at such a rate that it completely overshadowed the car sector during 1946

a product of Swedish steel



OPERATING ON GASOIL, GASOLINE OR KEROSENE

VOLVO

tractor T 42-43

When it was decided to embark on building a Volvo tractor, the following requirements had to be fulfilled.

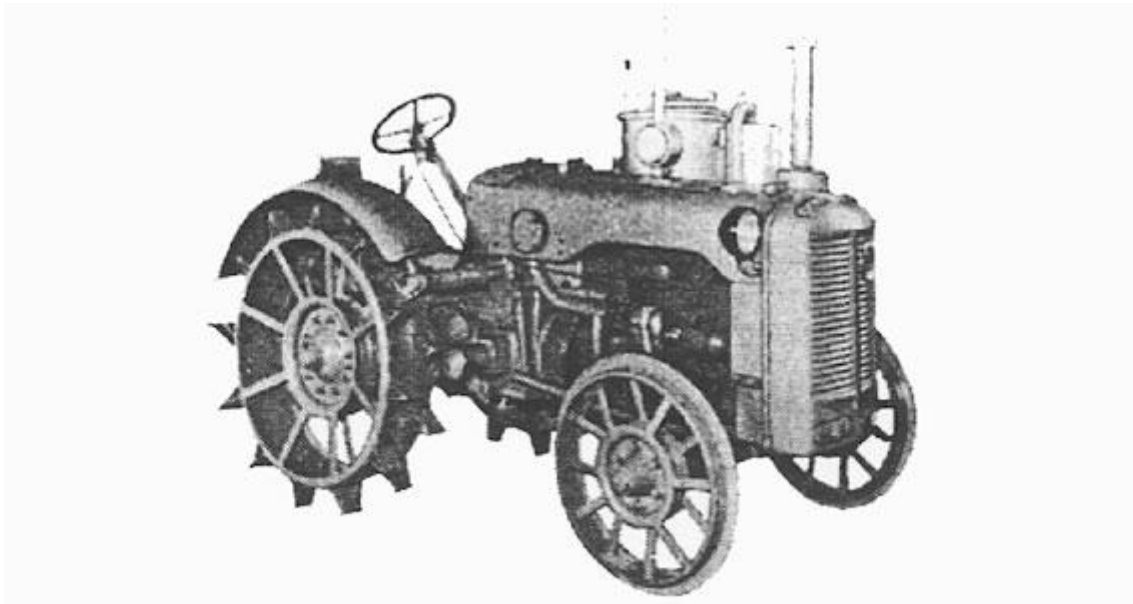
- More power than existing tractors
- At least 5 speeds
- Electric starting and lighting
- Pneumatic tires for transport
- Extreme accessibility.

Preliminary plans with regard to the design were already drawn up as far back as 1940, when different experts were asked to express their opinion as to what features should be embodied in a Swedish tractor.

The pros and cons of the different tractors which are most used in Sweden were carefully studied.

These investigations have resulted in a sturdy economical Swedish tractor embodying all that is best in tractors and powered by a modern Volvo engine.

Volvo offers you a first class, modern and low priced tractor.



Volvo T 41

Volvo's first model was the T 41. It was a sister model to BM's GBMV-1. It had a four-cylinder carburettor engine for producer gas operation.

T 41	specifications
Engine	Volvo A 4 G
Cylinders	4
Cylinder capacity, l	4,48
Rated output, hk	40
Gears, forward/reverse	5/1
Wheelbase, mm	1 800
Operating weight, kg	2 450
Production no.	500
Production year	1943–1946



Volvo T 42

The Volvo T 42 was a development of the T 41. It has a four-cylinder carburettor engine which ran on kerosene. The Volvo engine was designated A 4 F. It had an output of 48 hk. The Volvo A 4 B engine was also used.

T 42	specifications
Engine	Volvo A 4 F
Cylinders	4
Cylinder capacity, l	4,48
Rated output, hk	48
Gears, forward/reverse	5/1
Wheelbase, mm	1 800
Operating weight, kg	2 450
Production no.	400
Production year	1945–1947



Volvo T 43

The best known model of the three tractors in the 40 series is the T 43. It had a 48 hk Hesselmann A 4 H engine, which was the same size as the engine in the T 41 and T 42 but significantly more powerful. The Hesselmann engine had both fuel injection and electric ignition. It was powered by fuel oil, except on starting, when a small amount of gasoline was injected with the starter pump.

T 43	specifications
Engine	Volvo A 4 H
Cylinders	4
Cylinder capacity, l	4,48
Rated output, hk	48
Gears, forward/reverse	5/1
Wheelbase, mm	1 800
Operating weight, kg	2 450
Production no.	1 600
Production year	1946–1950



Volvo T 55/Bolinder-Munktell BM 55

The successors to the Volvo T43 and the BM 20 were the T 55 and the BM 55. These tractors were painted red or green depending on whether they were to be sold as a Volvo tractor or a BM tractor by the respective dealer network. From 1958 on, all BM/T 55s were painted green.

T 55	specifications
Engine	Bolinders 1054
Cylinders	4
Cylinder capacity, l	4,48
Rated output, hk	57
Gears, forward/reverse	5/1
Wheelbase, mm	2 175
Operating weight, kg	2 950
Production no.	1 256
Production year	1953–1959





Volvo T 230 / Bolinder-Munktell BM 230, Victor

All 230s, both Volvo and BM, were painted red from 1 May 1960.

In the spring of 1958, the T 230 was upgraded, with higher engine output.

T 230	specifications
Engine	Bolinders 1052
Cylinders	2
Cylinder capacity, l	2,24
Rated output, hk	
– Original	29
– Upgraded	31
Maximum speed, km/h	
– Original	26
– Upgraded	22,9
Wheelbase, mm	1 850
Operating weight, kg	1 650
Production no.	4 976
Production year	1956–1961





Volvo T 425 Krabat

Tractors used to be designed so that the driver had to climb up to the seat from the back. By the time the T 15 and its successor the T 425 were launched, a different approach was used. With longer tractors, the driver seat was easy to get to. The engine was the Volvo B 16 C gasoline engine. The standard version of the 425 had a differential lock. This was unusual and was a strong marketing argument.

1961 saw an important step in the development of the 425, with the new five-speed gearbox (from chassis number 15001 on) and the Terra Trol hydraulic system. With Terra Trol there was no longer any need for support wheels on attachments carried by the hydraulics. Technically this was the same tractor as the Bolinder-Munktell BM 425 but painted red.

T 425 Krabat	specifications
Engine	Volvo B 16 C
Cylinders	4
Cylinder capacity, l	1,58
Rated output	
...at max r/min, hk	32
...at normal r/min, hk	23,5
Gears, forward/reverse	4/1, later 5/1
Maximum speed, km/h	29, later 29,8
Wheelbase, mm	1 915
Operating weight, kg	1 350
Number made	
...including BM 425	11 193
Production years	1957–1962



Volvo 320 B, 320 D (Buster) / Bolinder-Munktell / BM-Volvo BM 320 B, 320 D

The time had come to modernize the BM 230 Victor. The BM 320 D Buster was the next stage in the development. It had a three-cylinder Perkins turbulence chamber engine, a Terra-Trol hydraulic system, and a five-speed gearbox with independent power take-off. A two-stage clutch is available as an alternative to a clutch-dependent power take-off. The demand for a small diesel tractor was high in the Nordic Countries, but not so high in other markets, where a Bolinder diesel engine in the tractor would have been preferred. But more of the Buster were made yearly than any other BM tractor. In the 1963, the record year, no less than 5 336 Busters were made. After a time, the Buster also became available with a Volvo gasoline engine as an alternative to the Perkins diesel, but this was not a success. The end of the era of carburettor tractors was past. Even so, 650 units of the BM 320 B were made in 1962–63.

Although the period of manufacture was short, many improvements were introduced. A proper instrument panel with tractor meter was introduced, the design of the pedals was improved, more effective protection for the brakes was fitted, and better seat suspension was added, and so on. But the most significant improvement was the two-speed power take-off. The two-speed power take-off was primarily intended to compensate for shortcomings in the gearbox and gear ratios, but it became something of a sales success. The number of speeds available for machines powered from the power take-off was doubled. This made it possible to exploit the higher available power output for threshing machines, or alternatively to have a lower engine speed, quieter running and better fuel economy with machines with a low power requirement. The Buster had successors in the form of the 400 and 430.

320 B, 320 D (Buster) specifications

Engine	Volvo B18 C / Perkins 913
Cylinders	3 / 4
Cylinder capacity, l	1,78 / 2,5
Power, hk	37 / 37
Gears forward/ reverse	5/1 / 5/1
Wheelbase, mm	1 950 / 1 950
Operating weight, kg	1 440 / 1 570
Number made	
...1962-1963 (BM 320 B)	650
...1961-1964 (BM 320 D)	15 720



Volvo 470 Bison

The Volvo 470 Bison was a tractor for the larger farm areas and had a very strong Bolinder engine to match the promise of high efficiency and performance.

470 Bison	1961 specifications
Engine	Bolinders 1114 TR
Cylinders	4
Cylinder capacity, l	5,04
Rated output, hk	
– at 1 500 r/min	61
– at 1 800 r/min	70
Maximum speed, km/h	
– at 1 500 r/min	22,8
– at 1 800 r/min	27,4
Wheelbase, mm	2 175
Operating weight, kg	3 360
Production year	1959–1966





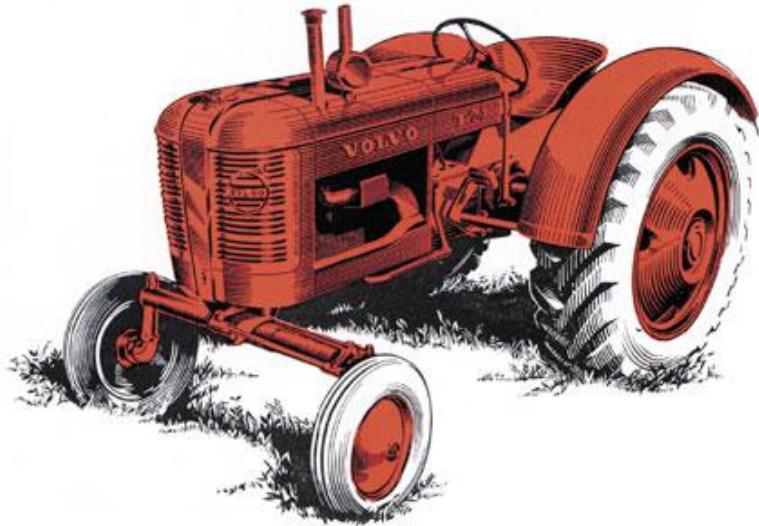
Volvo T 15

The Volvo T 15 was a small gasoline-driven tractor which was produced to compete in the smallest market segment. Originally the tractor was only intended to be sold as a Volvo product but it was soon included in the BM range as the BM 15 or Terrier.

The T 15 model designation was soon changed to T 425, which was the last Volvo tractor to be made. The engine used was the B 14 gasoline engine, 120 000 of which had been produced for the Volvo PV 444 car and later for the Volvo Amazon.

T 15, Kroat	specifications
Engine	Volvo B 14 C
Cylinders	4
Cylinder capacity, l	1,41
Rated output, hk	29
Gears, forward/reverse	4/1
Wheelbase, mm	1 915
Operating weight, kg	1 350
Production no.	975
Production year	1956





Volvo T 21, T 22, T 23

This series became Volvo's bestseller. In many instances it was this tractor that replaced horses on small farms. The T 21 had the same five-speed gearbox as the BM 10. The tires among other things were the same on both tractors. However, the engine in the T 21 (compare the ignition bulb engine of the BM10) was intended to run on kerosene. The engine was a four-cylinder overhead valve unit which delivered 22 hk at 1 500 r/min.

It had independent hydraulic systems, with the hydraulic oil pump driven directly from the engine. Developed from the T 21, the T 22 had better brakes and larger wheels, among other improvements. The T 23 was designed to run only on gasoline. It had a higher output, 28 hk at 1 800 r/min.

T 21, T 22, T 23

	specifications
Engine	Volvo C 4 F
Cylinders	4
Cylinder capacity, l	1,98
Rated output, hk	22
Alt. Engine	Volvo C 4 B
Alt. Cylinders	4
Alt. Cylinder capacity, l	1,98
Alt. Rated output, hk	28
Gears, forward/reverse	5/1
Wheelbase, mm	1 700
Operating weight, kg	1 255
Production no.	
– T 21	1 800
– T 22	9 469
– T 23	556
Production year	
– T 21	1946–1952
– T 22	1947–1952
– T 23	1950–1952



Volvo T 24, T 25 / Bolinder-Munktell BM 24, BM 25

The next stage in the development of the T 20 family was the T 24 and T 25. These were some of the improvements: increased engine power, wheelbase lengthened to 1700 mm, bigger wheels, and better standard equipment, including hydraulic lift and power take-off. The total weight also increased slightly.

The T 24 was fitted with the Volvo CF 22, a 2,2 liter kerosene engine which developed 27,5 hk at 2 000 r/min.

The T 25 was fitted with the Volvo CB 22, a 2,2 liter gasoline engine which developed 31 hk at 2 000 r/min.

T 24, T 25 / BM 24, BM 25

Engine

– T 24

– T 25

Cylinders

Cylinder capacity, l

Rated output, hk

– T 24

– T 25

Gears, forward/reverse

Wheelbase, mm

Operating weight, kg

Production no.

– T 24

– T 25

Production year

specifications

CF 22

CB 22

4

2,2

27,5

31

5/1

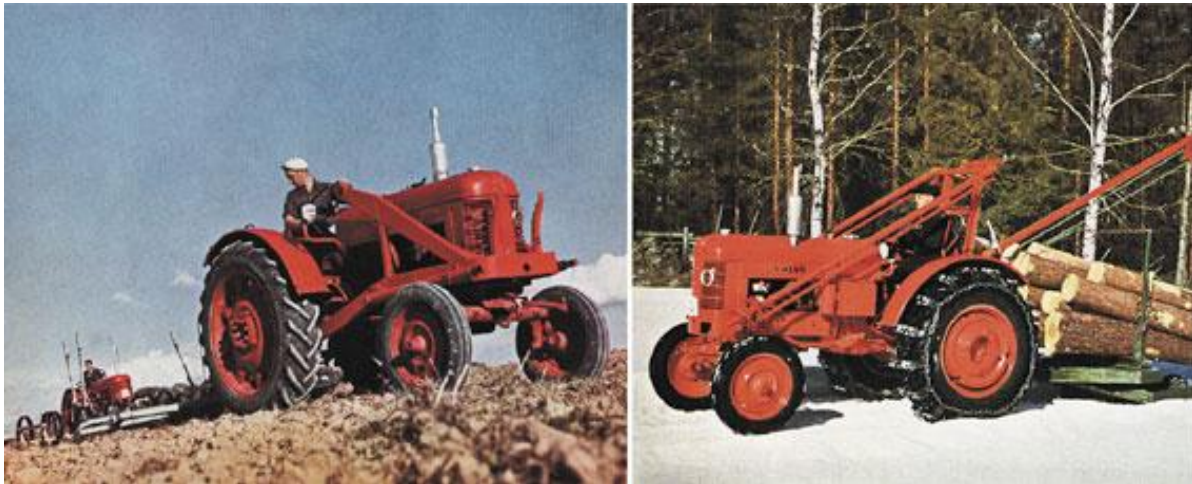
1 770

1 570

9 825

6 445

1952–1959



Volvo T31, T32, T33, T34

The T 30 series was built on the same principles as the T 20 series, but they were slightly larger. The chassis was designed so that front loaders and various attachments could be fitted. The tractor had a small turning radius and high ground clearance thanks to the portal rear axle. It became popular for hauling timber, thanks to the increased comfort of the sprung and damped seat and its ability to reach more than 27 km/h at full throttle. Power take-off and hydraulic lift were available as extra equipment.

The T 31 had a four-cylinder Volvo D 4 F kerosene engine. The T 32 had a four-cylinder Volvo D 4 B gasoline engine. The T 33 and T 34 were designed to work on crops grown in rows. The tractors had a telescopic front axle with stepped variable track from 129 to 171 cm and narrower wheels, 6.00-19 front and 11-38 rear.

T 31, T 32, T 33, T 34	specifications
Engine	
– T 31, T 33	Volvo D 4 F
– T 32, T 34	Volvo D 4 B
Cylinders	4
Cylinder capacity, l	3,46
Rated output, hk	
– T 31, T 33	36
– T 32, T 34	45
Gears, forward/reverse	5/1
Wheelbase, mm	1 960
Operating weight, kg	2 280
Production no.	
– T 31	6 919
– T 32	2 483
– T 33	788
– T 34	284
Production year	
– T 31	1949–1957
– T 32	1950–1956
– T 33	1950–1957
– T 34	1952–1956



Volvo T35, T36 / Bolinder-Munktell BM 35, BM 36

Volvo T 35 and T 36 tractors were technically the same as the BM 35/36 but painted red.

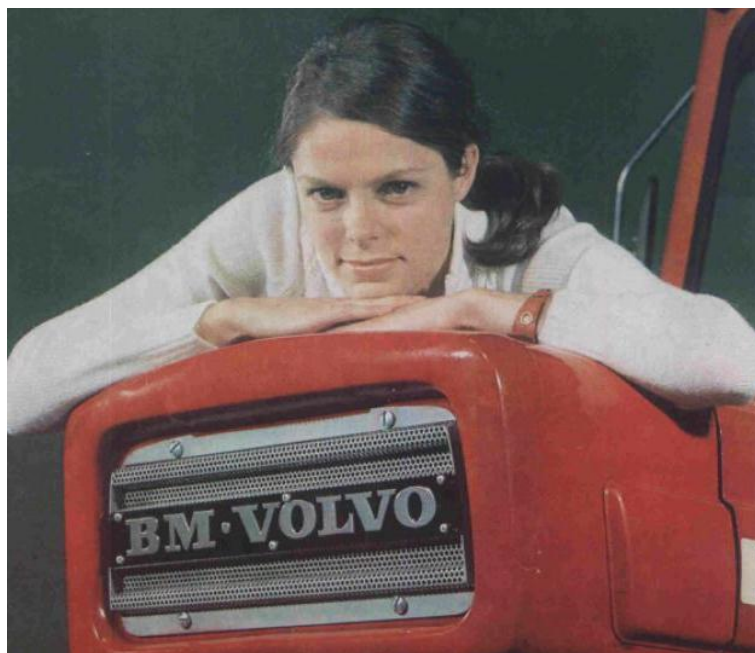
T 35, T 36	specifications
Engine	Bolinders 1053
Cylinders	3
Cylinder capacity, l	3,36
Rated output, hk	42,5
Gears, forward/reverse	5/1
Wheelbase, mm	1 960
Operating weight, kg	2 460
Production no.	
– T 35	825
– T 36	1 632
Production year	
– T 35	1953–1958
– T 36	1953–1959



Farm tractors – Volvo BM

In 1973 the company changed its name to Volvo BM AB and the products were branded Volvo BM.

As a result of declining profitability, the Board decided to phase out tractor manufacture in 1979 and the last agricultural tractor left the company in 1984.





Volvo BM T 430 / BM-Volvo 430

The major technical innovation on the T 430 was the Trac Trol fast gear. Every gear could be shifted between a low and a direct setting without using the clutch. This additional gearbox gave the eight-speed gearbox twice as many speeds. Three versions of the T 430 were launched: standard, special and industrial. The special and industrial versions had a stronger front axle and steering gear in order to withstand high stresses. It was also available with hydraulically assisted steering. The standard tractor was also available with an adjustable front axle. The tractor had disc brakes on the differential shafts, and an independent and driving-wheel-dependent power take-off.

The industrial variant was painted yellow and had road tires. The robust chassis of the tractor, with strong fixing points, made it highly suitable for mounting all kinds of attachments and equipment. Cab comfort increased during the period of production, with better noise damping, a new torsion-sprung seat adjustable to suit the weight of the driver, and a heating system. In all, 24 889 units were made, of which 1 125 were yellow industrial tractors. In addition, 370 chassis were used for the small SM 462 forwarder.

T 430	specifications
Engine	Perkins D 25
Cylinders	3
Cylinder capacity, l	2,5
Rated output, hk	44,5
Gears, forward/reverse	8/2 TT (fast gear)
Wheelbase, mm	2 100
Operating weight, kg	2 400
Production no.	
– T 430	23 764
– T 430 I	1 125
Production year	
– T 430	1969–1978
– T 430 I	1970–1978



Volvo BM T 500

The T 500 was a completely new tractor. In terms of size it came between the T 430 and the T 650. The driveline from the engine back came from IH. This included everything from gearbox, rear axle and brakes to power take-off and hydraulic lift. The gearbox was a four-speed synchromesh stepped gearbox with high and low ratios and reverse. This gave a total of eight forward speeds and four reverse. An alternative version with additional hydraulically-operated fast gear doubled the number of speeds. The T 500 was fitted with a modern rear axle with planetary gears and wet, hydraulically-operated disc brakes. The power take-off was fully independent and was operated hydraulically via a multi-plate clutch.

The tractor was reliable, flexible and easy to drive. This was due, among other things, to the hydrostatic steering. The hydraulic system was integrated with the transmission and shared the same oil. The cab, manufactured in-house, was designed so that the entire driver's position, with floor, seat, instruments and controls, etc, formed a self-contained unit separate from the tractor itself. There was no metal-to-metal contact anywhere. This effectively excluded noise. Of the 6 662 tractors made, 286 were the industrial variant.

T 500	specifications
Engine	Perkins 4.236 (D 39 T)
Cylinders	4
Cylinder capacity, l	3,86
Rated output, hk	61
Gears, forward/reverse	8/4 TT (fast gear)
Wheelbase, mm	2 170
Operating weight, kg	2 850
Production no.	
– T 500	6 376
– T 500 I	286
Production year	
– T 500	1975–1978
– T 500 I	1976–1978



Volvo BM T 650, 650 / BM Volvo 650

This model replaced the well-known Boxer, which, after many years' production, had changed its designation from 350 to T 650. The T 650 was a completely new tractor. In addition to innovative thinking in terms of comfort and safety, there were also numerous other new features, compared with its predecessor the T 600, such as a new engine, new transmission with fast gear, new hydrostatic steering system with adjustable steering wheel, new rear axle, new dry disc brakes and much more besides. The four-cylinder engine had replaceable wet cylinder liners and a five-bearing crankshaft. For vibration-free running, the engine had a balancing system consisting of two counter-rotating weights connected via a pinion. There was also a thermostat in the induction manifold. The in-house-developed cab could be fitted with a cab ventilator mounted in the position of the roof hatch. This meant that the cab could be ventilated with fresh air which had passed through large paper filters.

In time, air conditioning was offered as an option. The T 650 was supplied with independent and driving-wheel-dependent power take-offs, each operated with a separate plate-type clutch. Much improved Terra Trol Mark II hydraulics were introduced into production in February 1975.

Production continued for 12 years. During that time, many minor and major improvements were introduced. 26 120 agricultural and military tractors were made. Of these, 1 502 were yellow industrial tractors and 2 080 were in the form of PKD (partially-assembled) kits for the assembly factory in Iran and other chassis for external superstructure builders.

T 650	specifications
Engine	BM D 42
Cylinders	4
Cylinder capacity, l	4,2
Rated output, hk	80
Gears, forward/reverse	8/2 TT (fast gear)
Wheelbase, mm	2 440
Operating weight, kg	3 900
Production no.	
– T 650	26 120
– T 650 I	1 502
– T 650 PKD	2 080
Production year	
– T 650	1970–1982
– T 650 I	1970–1982
– T 650 PKD	1971–1976



Volvo BM T 700, T 700 4WD / 700, 700 4WD

T 700 was largely the same machine as the T 650 but equipped with a turbo engine. Externally the T 700 and the T 650 were the same, but there were major difference "under the skin". The turbo resulted in increased combustion pressure and greater stresses, higher temperatures, and so on. This meant stronger transmission and brakes, a different injection pump, radiator and spark arrester, and different pistons.

From the outset, the T 700 was fitted with the new Terra Trol hydraulics and the Trac Trol fast gear. 4 496 machines had been made by 1982. Of these, 205 were the industrial variant. A small number had hydraulic front-wheel drive, one way of providing four-wheel drive on a tractor of this size.

T 700, T 700 4WD

specifications

Engine	Volvo BM TD 42
Cylinders	4
Cylinder capacity, l	4,2
Rated output, hk	90
Gears, forward/reverse	8/2 TT (fast gear)
Wheelbase, mm	2 440
Operating weight, kg	4 050
Production no.	
– T 700, T 700 4WD	4 291
– T 700 I	205
Production year	1976–1982



Volvo BM / BM-Volvo T 800

Now the time had come to produce a really big tractor. The T 800, which replaced the BM 470 Bison, broke the 100 hk barrier with its six-cylinder Volvo D 50 engine.

Compared with the Bison this machine was a new design. The gearbox, with eight forward speeds and two reverse, divided into a high range and low range, was of a similar type to the gearbox in the T 400. The brakes were also of the same type as those of the T 400, with dry, enclosed disc brakes on the differential shafts. The independent power take-off for the new T 800 was designed on the same principles as on the Boxer, with a separate plate-type clutch. The same clutch was also used for the driving-wheel-dependent power take-off. As with the small tractor, a range of PTO speeds were available with the tractor stationary, and the direction of rotation could be reversed. The power-assisted steering made the tractor both easy and convenient to steer. The seat comfort was enhanced by applying scientific findings relating to suspension, damping and a choice of settings, as well as a soft upholstered top. The safety frame was of our own design, as well as the cab interior cladding of glass and sheet steel, a first step towards an in-house manufactured cab. A cab from an external manufacturer was available as an optional extra.

The T 800 was the first BM tractor with a dry air cleaner with paper filter, built-in cyclone pre-cleaner and pressure drop indicator, an alternator rated at no less than 475 W, cold starting operated electrically from the cab, and so on. It was also the first that could be supplied with proper front weights, ten at 47 kg (10 individual 47 kg weights). For markets that required a cab, there was a spacious, well-equipped steel cab. The industrial variant, the T 800 I, had nodular iron in the flywheel housing, rear axle casing and rear axle housing, industry-treaded tires and instead of the tubular axle on the agricultural machines, a steering axle from the two-wheel-drive loaders. Terra Trol Mark II, with major improvements, was introduced into production in February 1975. At the same time the cab was upgraded in various ways, including more headroom and greater glass area.

The new D 60 engine was introduced in the mid-1970s.

T 800

Engine

Alt. Engine

Cylinders

specifications

Volvo D 50

Volvo D 60

6

Cylinder capacity, l	
– D 50	5,13
– D 60	5,48
Rated output, hk	
– D 50	106
– D 60	115
Gears, forward/reverse	8/2
Wheelbase, mm	
– D 50	2 655
– D 60	2 690
Operating weight, kg	4 900
Production no.	
– T 800	4 466
– T 800 I	149
Production year	
– T 800	1966–1979
– T 800 I	1966–1968





Volvo BM / BM-Volvo T810, T814

In 1969, two turbo variants of the T 800 were launched: the two-wheel-drive T 810 and the four-wheel drive T 814. These were the first turbo tractors from the company, but turbo technology was already well developed at Volvo. The T 814 had an exceptionally strong front axle, in principle the same driven steering axle with planetary gears as was fitted to the LM 640. This axle, which was designed for high stresses, had been in use for several years and was thoroughly proven. The hydrostatic steering made the T 814 very easy to steer. Eventually it was also fitted to the two-wheel-drive versions. For "cab markets" there was a cab from an external manufacturer. The cab was mounted on rubber and internally clad with sound-insulating and sound-absorbing material to keep down noise. It was also equipped with an effective heater and defroster system.

The T 810 and T 814 were the first tractors from the company with both 1 000 r/min and 540 r/min power take-offs. Terra Trol Mark II, with major improvements, was introduced into production in February 1975. At the same time the cab was upgraded in various ways, including more headroom and greater glass area. 3 550 units of the T 810 and 1647 units of the T 814 were produced.

The new D 60 engine was introduced in the mid-1970s.

T 810, T 814

specifications

Engine	Volvo TD 50
Alt. Engine	Volvo TD 60
Cylinders	6
Cylinder capacity, l	
– D 50	5,13
– D 60	5,48
Rated output, hk	

– D 50	140
– D 60	147
Gears, forward/reverse	8/2
Wheelbase, mm	2 840
Operating weight, kg	
– T 810	5 370
– T 814	6 370
Production no.	
– T 810	3 550
– T 814	1 647
Production year	1969–1979





Volvo BM 2200

The 2200 was a further development of the T 500 in the sense that it was based on the same "IH-skid", the same Perkins engine, the same Volvo BM cab, all of which gave it the same characteristics as the T 500. Put simply, the 2200, with 56 hk DIN, can be described as a "derated" T 500.

The 2200 was produced only with a cab. Its modern design and the high level of comfort in the cab made the machine a favourite with small farmers. A favourable torque curve with increased torque at low engine speeds gave pulling power comparable with that of earlier models.

2200	specifications
Engine	Volvo BM D 39 T
Cylinders	4
Cylinder capacity, l	3,86
Rated output, hk	56
Gears, forward/reverse	8/4 TT (fast gear)
Wheelbase, mm	2 230
Operating weight, kg	2 945
Production no.	1 819
Production year	1978–1981



Volvo BM 2204

The 2204 was a further development of the T 500 in the sense that it was based on the same "IH-skid", the same Perkins engine, the same Volvo BM cab, all of which gave it the same characteristics as the T 500. Put simply, the 2204, with 56 hk DIN, can be described as a "derated" T 500. The 2204 was the four-wheel-drive variant. The four-wheel drive was the same design as IH used on their machines.

The front-wheel drive was engaged and disengaged by means of an electro-hydraulically operated plate-type clutch. The 2204 was produced only with a cab. Its modern design and the high level of comfort in the cab made the machine a favourite with small farmers. A favourable torque curve with increased torque at low engine speeds gave pulling power comparable with that of earlier models.

2204

Engine
Cylinders
Cylinder capacity, l
Rated output, hk
Gears, forward/reverse
Wheelbase, mm
Operating weight, kg
Production no.
Production year

specifications

Volvo BM D 39 T
4
3,86
56
8/4 TT (fast gear)
2170
3400
320
1979-1981



Volvo BM 2250

The 2250 was a further development of the T 500 in the sense that it was based on the same "IH-skid", the same Perkins engine, the same Volvo BM cab, all of which gave it the same characteristics as the T 500. Put simply, the 2250, with 68 hk DIN, is an "uprated" version. The 2250 had a longer wheelbase, a larger radiator and an oil cooler, as well as more standard equipment.

The 2250 was produced only with a cab. Its modern design and the high level of comfort in the cab made the machine a favourite with small farmers. A favourable torque curve with increased torque at low engine speeds gave pulling power comparable with that of earlier models.

2250	specifications
Engine	Volvo BM D 39 T
Cylinders	4
Cylinder capacity, l	3,86
Rated output, hk	68
Gears, forward/reverse	8/4 TT (fast gear)
Wheelbase, mm	2 200
Operating weight, kg	3 130
Production no.	
– 2250	1 960
– 2250 I	90
Production year	1978–1981



Volvo BM 2254

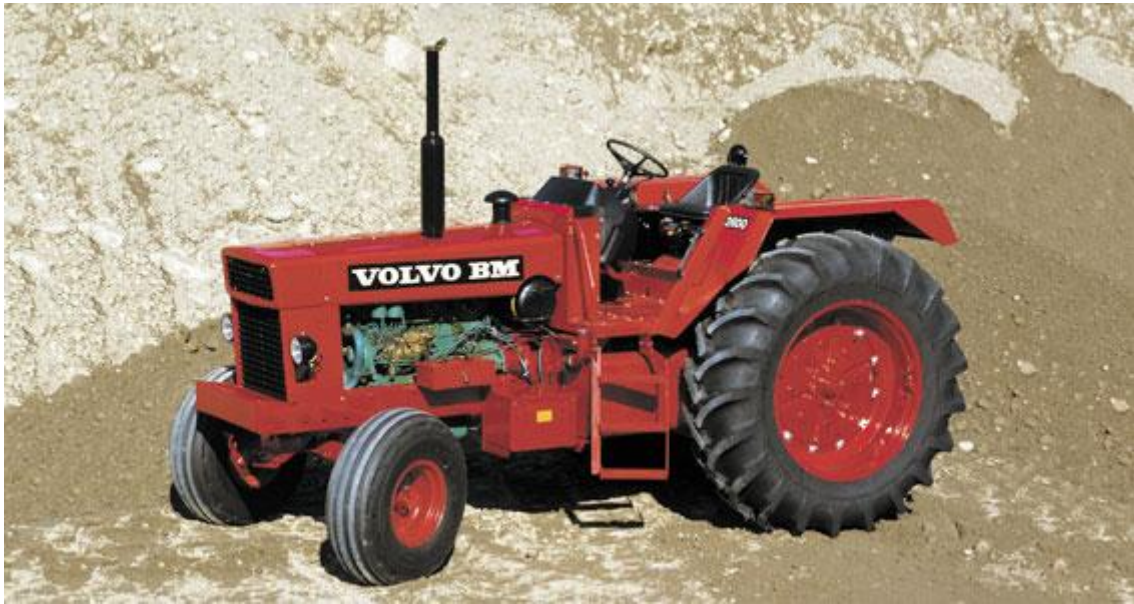
The 2254 was a further development of the T 500 in the sense that it was based on the same "IH-skid", the same Perkins engine, the same Volvo BM cab, all of which gave it the same characteristics as the T 500. Put simply, the 2254, with 68 hk DIN, is an "uprated" version. The 2254 was the four-wheel-drive variant. The 2254 had a longer wheelbase, a larger radiator and an oil cooler, as well as more standard equipment. The four-wheel drive was the same design as IH used on their machines.

The front-wheel drive was engaged and disengaged by means of an electro-hydraulically operated plate-type clutch. The 2254 was produced only with a cab. Its modern design and the high level of comfort in the cab made the machine a favourite with small farmers. A favourable torque curve with increased torque at low engine speeds gave pulling power comparable with that of earlier models.

2254

specifications

Engine	Volvo BM D 39 T
Cylinders	4
Cylinder capacity, l	3,86
Rated output, hk	68
Gears, forward/reverse	8/4 TT (fast gear)
Wheelbase, mm	2 170
Operating weight, kg	3 400
Production no.	865
Production year	1979–1981



Volvo BM 2600

An export model for non-European markets was launched a few years after production of the 2650/2654 began. This was a normally-aspirated version of the two-wheel-drive version. It was designated Volvo BM 2600. The stated output of the normally aspirated Volvo D 60 B engine, was 117 hk SAE, compared with 150 hk for the turbo engine. The 2600 was only available in a platform version, in other words with no cab, usually with a factory-fitted sunshade roof.

Servo operation of the differential lock and power take-off clutch was replaced with mechanical operation. Later this was introduced on the platform versions of the 2650 and 2654. The main market for the 2600 was the Middle East. Because of political instability in that part of the world, sales diminished and a number of 2600s were converted for the Nordic Countries' market. These machines were given the designation 2650 S (special).

2600	specifications
Engine	Volvo D 60 B
Cylinders	6
Cylinder capacity, l	5,48
Rated output, hk	117
Gears, forward/reverse	8/2
Wheelbase, mm	2 740
Operating weight, kg	5 000
Production no.	1 477
Production year	1981–1983



Volvo BM 2650 S

225 examples of the 2650 S (S = special) were made. This was in fact a converted 2600 (the successor to the T 800) which could not be sold on the export markets because of political instability in those regions. Eventually the 2650 S was fitted with a turbo and a cab for the Nordic Countries' market. The 2650 S did not have certain servo functions (diff lock and PTO clutch operation) and there was no fast gear.

The left and right lift links were adjusted from outside with a turnbuckle. Ejector emptying of the air filter was not included; the valve set for external hydraulics was different, and so on. The 2650 S was fitted with wheel weights as standard. However, it was equivalent to the 2650 in most other respects.

2650 S

specifications

Engine	Volvo TD 60
Cylinders	6
Cylinder capacity, l	5,48
Rated output, hk	140
Gears, forward/reverse	7/2
Wheelbase, mm	2 740
Operating weight, kg	7 000



Volvo BM 2650, 2654

The recent transformation of large tractors means a major improvement of the driver's position. A new in-house-manufactured cab with integral climate control system was developed. The outside air was drawn into the cab at the edge of the roof, where the air is normally cleanest. It then passed through large paper filters before being drawn through the unit for heating or cooling. The large cab was especially appreciated by tractor drivers at machine stations, since there was plenty of space on the floor for a cool box containing food. The cab had excellent noise damping and insulation and was mounted on rubber mountings, all with the aim of achieving a good driver environment. The floor was flat, the pedals were suspended, levers and controls were located on panels on the sides. The seat was adjustable, with soft upholstery and had folding armrests. Instruments and indicator lights were grouped in a large combination instrument with central warning. Several electrical functions were operated with a combined control under the adjustable steering wheel. A 1260 W alternator and dual halogen work lights made the machine well suited for working in the most difficult of weather conditions.

The engine was a six-cylinder turbocharged diesel engine with an electric heating flange as the cold-start arrangement. Air cleaning was by means of a dry-type air cleaner with paper filter and blocking filter.

Dust was evacuated via the exhaust system, which was fitted with a spark arrester. Large fuel tanks, 210 liters, meant that the tractor could work all day without refuelling. The gearbox was mechanical, with 4 x 2 speeds, eight speeds in all, with the highest gear barred in 30 km/h markets such as Sweden. Usually the tractors came with a fast gear as standard, giving 14 speeds in all. The fast gear was operated electro-hydraulically, with a rocker switch under the gear lever knob. For even easier operation, the power take-off clutch for the independent and driving-wheel-dependent two-journal power take-off was electro-hydraulically operated, as well as the differential lock on the four-wheel-drive 2654. The front-wheel drive was also engaged and disengaged in this way. The brakes were servo assisted (vacuum servo and hydraulics), dry, outboard calliper-type disc brakes.

With the decline in the profitability of agricultural tractors, the 2654 was the last Volvo BM model to be made at the Eskilstuna factory.

There were export models of the 2650 and 2654 for non-European markets. This was available with only a driver platform instead of a cab.

2650 / 2654

specifications

Engine	Volvo TD 60 B
Cylinders	6
Cylinder capacity, l	5,48
Rated output, hk	140
Gears, forward/reverse	7 (8)/2 TT (fast gear)
Wheelbase, mm	
– 2650	2 740
– 2654	2 860
Operating weight, kg	
– 2650	6 600
– 2654	7 500
Production no.	
– 2650	523
– 2654	1 255
Production year	1979–1983

