

Challenger MT900C

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SERIOUS MACHINERY



MT900C
430 - 570 hp

Biggest is best

Improvements in some key areas of operation and design mean the new Challenger MT900C is not only the largest, heaviest commercially-available wheeled tractor ever built – it’s also the world’s premier articulated machine and could transform the way you farm.

Developed by Challenger using the extensive knowledge and long experience of high horsepower tracked tractors, the MT900C delivers immense power and traction for the most demanding primary cultivation work.

In addition to having the largest frame, the MT900C tractors boast the biggest engines, drivelines and axles, the most spacious cab and the best operator visibility in the industry.

MT900C Series

Model	Rated hp	Maximum hp*
MT945C	430	473**
MT955C	460	506
MT965C	510	583
MT975C	570	609

* Measured @ 1,800 rpm to ECER24 standards

**Manufacturer's estimate



These tractors are powered by Caterpillar ACERT C15 15.2 litre or C18 18.1 litre engines. The Caterpillar Full Powershift transmission, designed specifically for the MT900C, works with the ACERT technology to minimise shift harshness and improve the machine’s overall efficiency.

With the longest wheelbase of any agricultural articulated tractor, it is extremely manoeuvrable, with an unexpectedly tight turning circle and perfectly calculated weight transfer from front to rear for maximum stability and traction.

At 145mm, the bar axles too are the biggest and strongest in the industry. Both are pressure-lubricated from the transmission sump to reduce friction and power loss and providing constant protection from wear. Heavy-duty, double reduction final drives convey the power to the ground.

A closed-centre, pressure-flow compensating hydraulics system, with 166 l/min pump, is the standard specification, although a 223 l/min version is available as an option. Load Independent Flow Division ensures normal operation is maintained, regardless of the implement’s hydraulic demand.

The serenely spacious cab offers completely new levels of comfort, visibility and ergonomic design, providing a serious boost to operator productivity.

Ease of maintenance and service has been thoughtfully taken into account in the design, with all oil and filter checks undertaken at ground level - as are the articulation’s lubrication points.

The greatest power on the land...

The Challenger MT900C was designed with the large-scale commercial grower in mind. The large displacement 15.2 litre C15 and 18.1 litre C18 engines deliver immense power in the working range and a higher torque reserve, which means larger implements can be pulled – and deeper – to cover more hectares per day than with a lesser machine.

The principal benefit of a low horsepower-per-litre ratio (28.3 – 31.5, dependent on model) is that there is generally less stress on engine components, particularly at peak power output. This is augmented by the Caterpillar MEUI (mechanical electronic unit injection) injectors, which allow precision control of the timing and quantity of fuel injected during each engine cycle, making for a more complete burn at a lower temperature.

Caterpillar engines automatically sense inlet air temperature. In very cold conditions, ether is injected automatically to ensure the engine starts readily every time.

The engines in MT900C Series tractors have the ability to maintain power over a wide range of operating conditions, with the range-topping MT975C, at rated power, generating in excess of 600 peak horsepower. Maximum torque is achieved at 1,400rpm but, critically, the engine will maintain near maximum torque in the 1,200-1,600rpm range. This allows the MT900C Series to pull through areas where other high horsepower tractors would have to downshift.



...smoothly delivered

The Caterpillar full powershift transmission is designed specifically to match the power and torque curves of the engines, to enable each gear to cover a wider segment of the working range. A very low first gear allows for safe attachment of implements and greater precision in low-speed operations.

With an automatic shifting function, the transmission has three specific operating modes. The Max Output mode senses engine load and speed then shifts, based on changes to either.

Constant Ground Speed mode allows the operator to select a speed and then the tractor will up-shift and throttle back automatically to find the peak power range, maximising fuel economy at the same time. This mode will also downshift if a heavy load is encountered but will also up-shift to as high a gear as possible to keep engine revs and fuel consumption as low as possible.

Constant Engine Speed mode allows the operator to maintain engine speed and reduce gears – and forward speed – in the event of power loss through implement pull. This mode can be used for PTO powered implements or to keep the tractor in the peak rpm range. The CAT transmission uses the same electronic architecture as the engine to give unrivalled responses in field conditions.



New hydraulic features

The MT900C retains the highly valued Load Independent Flow Division hydraulics system, in which if all six valves are in use and the flow demand exceeds the pumps capacity, the flow to each is lowered by a percentage in order to maintain operations.

The new system allows the operator to select a hydraulic function that may be more crucial than the others in maintaining the full flow demand of that function, while flow to the remaining functions is reduced. Challenger has anticipated the continuation of the trend towards larger and larger implements with greater hydraulic demand by offering a bigger pump option – 223 l/min if required.

New rear linkage and PTO

Available as an option on the MT945C to MT965C is a rear linkage with a 14,000 kg lift capacity. The heavy weight strength, coupled with the articulated design of the tractor, delivers superior performance and greater productivity with linkage mounted equipment. Also available is the new rear Power Take Off system which adds further flexibility to the tractor.



Forces to be reckoned with

Axles, bearings and shafts are component areas in which the MT900C Series really stands out from the competition. The driveshaft has the maximum industrial torque rating, enabling the MT900C Series to handle more than twice the rated torque than that of its nearest competitor.

The axles and bearings, too, are the largest in the industry, designed to cope with the enormous power and torque generated by these tractors. Challenger firmly believes that the more heavy-duty the components, the longer they will last, so reducing further the cost of ownership.

The planetary design of the MT900C's final drive again promotes longer life, minimising service and maintenance requirements and transmitting the load to the axle more efficiently. The differentials employ pressure lubrication, while the rest of the axle uses a dip/splash system for even cooling and optimum performance.

Electro-hydraulic differential locks are a useful option.



Awesome build strength

As would be expected from Challenger, the massive cast and steel plate frame on the MT900C is built to withstand extreme loads while retaining long-term durability.

The long wheelbase provides users with a number of distinct benefits, such as a much smoother and stable ride over uneven terrain, together with more effective ground contact resulting from better weight

distribution. In addition, it enables the tractor to deal easily with changing loads in high draught applications.

The articulation system allows exceptional manoeuvrability for such a large machine, even when fitted with dual wheels. The tri-point connection improves the distribution of force and pulling power, having the additional advantage of being virtually maintenance-free.

The drawbar is attached very close to the centre articulation point, which allows engine power to translate more effectively into drawbar power. This design has the additional advantage of prolonging the structural life of the machine by distributing loads more evenly.

Heavy-duty steering cylinders provide the MT900C with the power to pull through any turn – particularly beneficial where conditions require turning under load.

Selecting the right tyres

Challenger has been careful to only offer tyre options that will perform in line with the massive power generated by the MT900C, and which will be appropriate for the application, ground conditions and topography of the land.

Challenger is one of the few manufacturers to offer the Michelin Axiobib tyre as a factory-fitted option on high horsepower tractors. Particularly suitable for the MT900C, this radial tyre provides greater sidewall flex to support heavy loads and run at lower air pressures. This results in a longer tyre footprint, which in turn means more ground contact, better flotation and less soil compaction.

Unlike some articulated tractors that require steering stops when turning, there are no tyre size restrictions on the MT900C, which puts it firmly at the top of its class in terms of manoeuvrability.



Superb cab environment

Making the most of weather windows can often mean long days and nights behind the wheel. The standard cab specification on the MT900C, together with the host of optional features, go to create the most relaxing, comfortable and easy-to-use workplace around.

With more than 3m³ of space, outstanding all-round visibility and everything at the operator's fingertips, the new MT900C cab takes quality and design to new levels and will represent the benchmark for some time to come.

The driver's seat swivels through a full 25° which, in combination with the forward-positioned rear ROPS posts and curved rear glass, removes much of the strain of monitoring trailed implements. A comfortable instructor seat is standard, as is the parallel sweep front screen wiper.

Other standard features include a decelerator control pedal, enabling better control of engine speed, back-lit switches for easier night working and up to six hydraulic levers positioned in a row for simplicity of operation.



Reliable, robust electrics

One of the principal reasons for investing in a MT900C tractor is the phenomenal work rate it is capable of achieving. So downtime caused by annoying electrical faults is simply not acceptable.

The first decision taken by Challenger's electrical engineers was to use braided wire throughout to minimise the possibility of worn

wiring caused by contact and to provide a higher level of protection for the tractor's electrical system.

Ready starting of the CAT engines, time after time, is assured by the presence of four batteries, each putting out 1,000 CCA (cold crank amps) which also provide all the necessary power required by any implement or monitors.

A useful option is a battery isolator which disconnects the batteries from the electrical system when the tractor is not being run for any length of time, prolonging the life of the batteries.

Additional high-power lighting to the front and rear is also available as an option, augmenting the MT900C's already impressive Nightbreaker lighting package.



Impeccable Service and Support

Like all Challenger tractors and machinery, the MT900C is backed by the Challenger dealer network with unrivalled experience and dedication, wherever you are in the world.

Meticulous aftersales care is very much part of the deal when you buy a Challenger, with a commitment to the smooth and profitable running of your business.

Specifications

	MT945C	MT955C	MT965C	MT975C
Engine	CAT® C15 ACERT™	CAT® C15 ACERT™	CAT® C18 ACERT™	CAT® C18 ACERT™
Rated engine power @ 2,200 rpm	430 Hp	460 Hp	510 Hp	570 Hp
Rated engine power @ 2,200 rpm	321 kW	343 kW	380 kW	425 kW
Max power @ 2,000 rpm	473 Hp	506 Hp	583 Hp	609 Hp
Max power @ 2,000 rpm	353 kW	377 kW	435 kW	454 kW
Max torque @ 1,400 rpm	2,134 Nm	2,286 Nm	2,525 Nm	2,828 Nm
Engine displacement	15.2 Litres	15.2 Litres	18.1 Litres	18.1 Litres

Transmission

Type	CAT® Powershift	CAT® Powershift	CAT® Powershift	CAT® Powershift
Forward and reverse speeds	16 fwd x 4 rev	16 fwd x 4 rev	16 fwd x 4 rev	16 fwd x 4 rev
Max transport speed	40 Kph	40 Kph	40 Kph	40 Kph

Rear Linkage

Type	Optional	Optional	Optional	N/A
Draft sensing	Electronic Linkage Control	Electronic Linkage Control	Electronic Linkage Control	N/A
Lift capacity - at link ends	Yes	Yes	Yes	N/A
Lift capacity - at link ends	14,000 Kg	14,000 Kg	14,000 Kg	N/A
Size category	Cat IV	Cat IV	Cat IV	N/A

Specifications common to all models

Hydraulic System

Type	LIFD with Priority function
Number of rear spool valves	Up to six
Max flow	Standard 166 Litre/min Optional 223 Litre/min
Max pressure	200 Bar

Optional Equipment

Climate Control
Deluxe VRS seat
Nightbreaker work lights

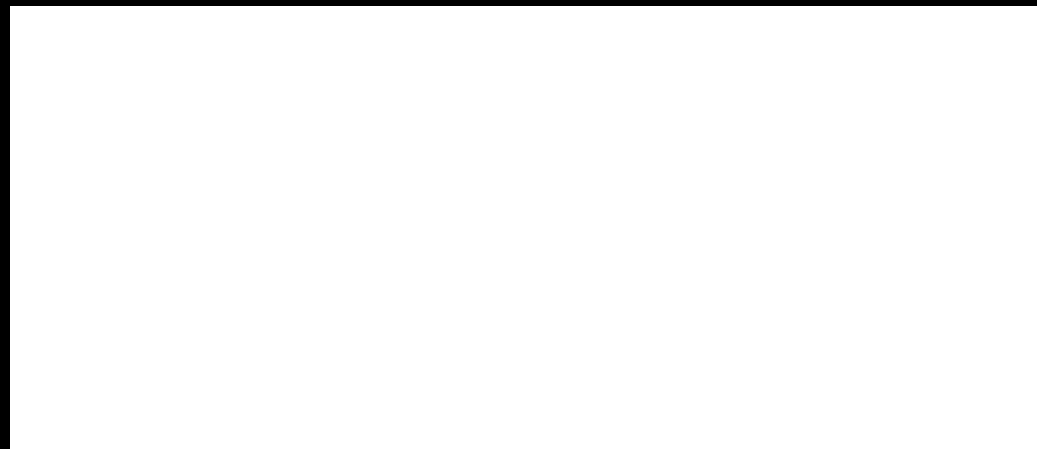
Operator Environment

Noise level	73 dB(A)
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Fuel Tank Capacity

1,500 Litres

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Every effort has been made to ensure that the information contained in this publication is as accurate and current as possible. However, inaccuracies, errors or omissions may occur and details of the specifications may be changed at any time without notice. Therefore, all specifications should be confirmed with your Challenger Dealer or Distributor prior to any purchase.

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