

Construction PLANT NEWS

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JCB's innovative 1CX compact backhoe loader can now be purchased on wheels or tracks.

ON THE RIGHT TRACK

Consultant Editor, Nick Johnson puts the new rubber tracked version of the JCB 1CX compact backhoe loader through its paces and discovers a very versatile, all weather machine.



Hard digging prompted the deployment of the stabiliser legs and the use of the front bucket as an anchor.

Amazingly it is 20 years since JCB launched its innovative 1CX wheeled skid steer compact backhoe loader. Over the last two decades this unique small machine has gained improved specification such as an extending rear dipper arm and a higher lift front loader bucket, and now there is a new tracked version that ought to prompt more UK plant buyers to evaluate the mini backhoe loader concept.

Ironically, the British built wheeled 1CX has proved most popular abroad. Produced in the JCB Utility Products factory in Cheadle, the machine is liked in Portugal and Spain, and populations are rising in Brazil, the Middle East, Turkey and the USA.

Here the compact 360° excavator has remained the small digging machine of choice. But the advent of a tracked 1CX, able to provide both excavator and loader performance whatever the weather or ground conditions should help its UK sales potential.

MACHINE APPRAISAL

COMPACT BACKHOE

JCB first showed a concept tracked ICX at the Intermat exhibition in Paris during the year 2000. But it was not until Conexpo 2011, when the wheeled ICX was upgraded, that a pre-production ICXT appeared and now, after an official launch at the Hillhead show this year, the first units are being dispatched to customers.

Offered as an alternative to the wheeled ICT, the new tracked version provides increased climbing ability, much better stability and greater pushing power in soft ground conditions. The machine very effectively combines the operational ability of a small tracked loader (with a skid steer standard quick coupler able to take alternative attachments) with a rear sideshift digger able to utilise backhoe buckets or other attachments.

The compact, 1.8m wide ICXT weighs, depending on the chosen specification, between 4,262kg and 4,342kg. It is powered by a Stage IIIA emissions compliant 36.3kW (49hp) Perkins 404D-22 naturally aspirated 4-cylinder engine and it has a Danfoss / Rexroth hydrostatic transmission to aid driveability.

To facilitate parts commonality, the tracked version of the ICX, utilises the track assemblies from the company's 205T compact tracked loader. Complete with 230mm wide rubber tracks and elevated drive sprockets, these track assemblies are connected (via specially designed adapted plates) in place of the wheels onto a beefed up ICX chassis.

Longer legs

The installation of tracks reduces ground bearing pressure and increases ground clearance from 180mm to 260mm, thereby enhancing rough terrain travel ability. Overall machine height goes up to 2.38m although there are low height canopy and cab options that reduce roof height to 2.23m. The tracked ICXT gets a wider support frame for its sideshift backhoe together with longer stabiliser legs and more substantial 2CX stabiliser feet (that can be fitted with non-marking 2CX Streetpads).

Like the wheeled ICX, the T model has twin loader arms (as opposed to the single side arm of the JCB skid steer and compact tracked loaders). The twin loader arms of the ICXT have (compared with those on the wheeled ICX) been strengthened as the tracked machine takes wide front buckets.

JCB actively promotes the safe side entry door on its skid steer and compact tracked loaders and both the wheeled ICX and tracked ICXT also have a nearside door. The compact backhoe loaders can be equipped with either an open canopy or fully enclosed cab (both fully

This is a modern era 'Drott', albeit more compact, with the bonus of a rear backhoe as standard.



The tracked ICXT has greater climbing ability and better stability than the long established wheeled version.



ROPS and FOPS certified).

The up-and-over rear screen on the cab version provides a means of emergency escape, should it not be possible to fully open the side door (for example, if the machine breaks down in a confined space). The fully enclosed glazed cab comes with heating and there is the option of air conditioning to improve operator comfort.

The ICXT can be supplied with either manual or EasyControl servo levers for backhoe operation. With manual controls, the machine can be configured for the JCB Diagonal, ISO+ and SAE+ backhoe control patterns. The two latter control patterns are available with the more ergonomic EasyControl (which has joysticks on the front of the seat armrests).

With EasyControl it is also possible to have (as an option) a switch so that operators can use SAE+ or ISO+ to satisfy their individual preferences. I like excavator style ISO+ and that pattern was in the EasyControl equipped ICXT in

which I went digging on the JCB Demonstration Ground near Ashbourne in Derbyshire.

To check out the back end, I decided to excavate a trench in a virgin area of ground away from the usual digging area. This provided a good test for the machine which I discovered is stable enough for light trenching without the stabilisers down (something that has surprised some traditional backhoe operators who have seen the machine digging with raised legs on YouTube!).

After initially breaking into the ground with the legs up, I encountered harder digging. To prevent the machine being pulled backwards towards the deepening trench I both lowered the stabiliser legs and used the open front clam of the lowered multi-purpose front bucket as an effective ground anchor.

Like the wheeled ICX, the tracked version can be supplied with either a fixed or telescopic dipper on the backhoe excavator. On both

MACHINE APPRAISAL



The manual 'skid steer standard' quick coupler allowed a rapid swap to this useful angling dozer blade.

variants the maximum dig depths are 2.55m and 3.08m respectively.

With the telescopic dipper there is greater load over and dump height and truck loading can be aided, with the EasyControl equipped machine, by being able to operate the backhoe with the seat angled at 45° towards the rear side. It is also possible to travel the machine forwards with the seat facing the rear (by using a rocker switch to select loader / travel operation and depressing an 'override' button on the left hand joystick) – useful for quicker repositioning

when trenching.

Although the machine's single gear pump hydraulic system is not as sophisticated as many mini excavators, the backhoe still performed well. It was controllable and I would not contest JCB's claim that it boosts the power of a 2.5 tonne class mini excavator.

To try out the front loader, I swivelled the seat to the front and activated the forward facing control configuration on the joysticks (left for travel speed and direction and right for the loader arms raise / lower and bucket tilt / crowd). There are safeguards to ensure that correct operating configuration is always selected and that travel is not allowed when the stabiliser legs are down.

The ability to fold up and neatly tuck in the sideshift rear backhoe provides a compact machine that can perform well as a loader in confined spaces. In this configuration the machine seems well balanced and I utilised the 665kg rated capacity multi-purpose bucket to carry out some site grading and to extract material from a stockpile.

The ability to do counter-rotation spin turns aids manoeuvrability and I was impressed by the effectiveness of the Power Management System (PMS) developed by JCB engineers for this machine. PMS, which comes as standard on the tracked ICX, serves to greatly reduce the chances of engine stall when the machine is powered into a pile of material.

As well benefiting from the automatic electronic control provided by PMS, the operator

can utilise a rotary anti-stall dial switch to control ground speed at maximum rpm. These features save fuel and serve to maximise breakout force without spinning the tracks or stalling the engine.

The short sloping bonnet provides good forward visibility although the view to the corners of the multi-purpose loader bucket at ground level could be improved – perhaps with the addition of an extra mirror. For its size, the 1CXT provides good lift capacity and breakout force.

As standard, the 1CXT comes with the long loader arms (an option on the wheeled ICX) and, due to the extra machine height gained from fitting the tracks, maximum load over height is a useful 2.65m, so it is better at loading high-sided road trucks than a long arm ICX.

High flow option

The four-ram loader lift arm geometry provides parallel lift for load retention and an industry standard skid steer manual quick coupler allows the use of many different buckets, pallet forks and other attachments. The standard machine has an auxiliary front hydraulic supply with a flow rate of 45 litres/min. But there is also a 100 litres/min high flow option to power attachments such as a patch planer, a chain trencher or a powered angle blade.

To increase operational flexibility still further the rear excavator can be purchased with a manual quick hitch and there is the option of an auxiliary hydraulic service (complete with a single or double acting changeover switch) to power a dipper mounted auger or a breaker such as the JCB HM115. The machine can also be fitted with another hydraulic service providing a 22 litres/min flow rate to facilitate the use of a JCB HM22 or similar handheld hydraulic breaker (or equipment like a hydraulic submersible pump).

During my test drive I was able to verify the climbing ability of the 1CXT on a steep slope, but the dry conditions did not provide any muddy or soft ground. However, rubber tracked loaders are renowned for their ability to conquer bad ground and the 1CXT should be no exception.

Whilst 1CXT operation demands more skill than a compact 360° excavator (and, in the CPCS scheme, it requires a 180° excavator under 5 tonnes ticket), its ability to carry out a multiplicity of tasks in all weathers, whatever the ground conditions, is a big bonus. It ought to find favour with a variety of end users such as building, fencing, landscaping and road / footpath maintenance contractors. And that would inspire enterprising hire companies to add it into their compact plant fleets.

i For further information on the JCB 1CXT compact backhoe loader use the reader enquiry number below

CIRCLE READERLINK 069



The short sloping bonnet provided a good view of the narrow slot created by this trencher attachment.

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