

St. Valentin, July 24th 2017

New Quadtrac CVX brings operational and efficiency benefits of continuously-variable transmission to articulated tracked tractor market

First high-horsepower articulated tracked tractors available with continuously-variable transmission technology / Enhances fuel efficiency through ability to operate at lowest engine rpm for the task in hand / Boosts work efficiency through faster attainment of intended working speed / Reduces operator workload / Quieter, smoother operation / Allows novice drivers to quickly become proficient



PRESS RELEASE

The name behind the world's first articulated tracked tractor is launching the market's first such machines with continuously-variable transmission (CVT), in a move designed to bring the benefits of improved fuel efficiency, ease of operation and reduced operator fatigue to the highest horsepower sector of the tractor market.

New for 2017 is a range of three Case IH Quadtrac CVX models which will complement the existing line of five models with the established standard powershift machines. The new CVXDrive transmission offers the advantages of stepless travel from standstill up to 40 km/h, and can be operated to work at a desired forward speed or engine speed, with Automatic Productivity Management software then able to adjust engine and transmission management accordingly, explains Hans-Werner Eder, Case IH Quadtrac product marketing manager.

"At 613 peak horsepower, the 540 CVX, which is the flagship in the Quadtrac CVX range, offers the highest available power of any CVT tractor," points out Mr Sommer.

"The other models in the range are the Quadtrac 500 CVX and Quadtrac 470 CVX, which have respective maximum power outputs of 558hp and 525hp.

"Case IH is a name synonymous with high-output equipment, and with a history in CVT development for mid-power tractors that dates back 17 years, we are now bringing this technology to the top end of the tractor market, so that owners and operators on the largest arable enterprises can benefit from the same fuel efficiency and operational advantages."

Proven power

Case IH Quadtrac CVX tractors are powered by electronically-controlled 12.9-litre Cursor 13 six-cylinder engines from sister company FPT Industrial, with a single-stage turbocharger on the two smaller tractors and a two-stage turbocharger in the 540 model. On this tractor, the smaller turbocharger delivers low rpm responsiveness, while the second, larger unit provides maximum boost at high rpm. Each turbocharger has its own cooling system to provide 30 per cent faster response under load.

The engines meet Stage IV emissions legislation through the use of the Case IH Hi-eSCR system, which also ensures that fuel efficiency is optimised. On the largest model in the Quadtrac CVX range, the Quadtrac 540 CVX, rated power (according to ECE R120 2) is 543hp, while Engine Power Management, introduced under load, takes this to 598hp, both measured at 2,100rpm rated engine speed. Maximum power of 613hp is achieved at 1,900rpm, and maximum torque of 2,607Nm at 1,400rpm. The tractor has a diesel capacity of 1,230 litres and a DEF (AdBlue) tank that holds 322 litres.

The industry's first CVT in an articulated tracked tractor

Continuously-variable transmissions have, until now, never been available in an articulated tracked tractor. The CVXDrive transmission in the Quadtrac 470, 500 and 540 CVX models brings with it a number of benefits, including ease of use particularly for inexperienced operators, faster acceleration to field or road speed, reduced operator fatigue, full power availability at low ground speeds for special applications/implements, and full hydraulic flow availability at low ground speeds, for applications such as drilling/planting. The result is increased productivity with faster cycle times and maximum fuel efficiency.

Providing stepless travel from 0-40km/h, and 0-18km/h in reverse, CVX allows the storing of three adjustable target speeds from 0km/h to 40km/h, adjustable via the thumb-wheel and buttons on the Multicontroller. The transmission incorporates a kick-down feature which ensures maximum acceleration, and 40km/h is achieved at just 1,640rpm. The transmission features four mechanical ranges, for maximum efficiency and operator comfort, with automated range-changing, and the first time 100% mechanical power transfer takes place is below 10 km/h, matching heavy draft application requirements. Four multi-plate wet clutch packs, mounted on the four planetary gear sets, change the ranges without power interruption, with equal clutch speeds guaranteeing smooth shifting without clutch wear.

The hydrostatic pump and hydrostatic motor are a single unit, with no high-pressure pipes between pump and motor. A variable swash plate on the pump creates different speeds and allows the fixed hydrostatic motor to be operated in both directions. An example of this is the Active Hold Control feature, where the hydrostatic motor eliminates the input speed from the engine.

Active Hold Control means the tractor, when brought to a halt on a hill, can remain static without the operator applying foot or hand brake. The park brake is automatically applied if it remains in this state for longer than 45 seconds.

In place of the foot throttle found on Quadtrac tractors with powershift transmission, Quadtrac CVX models are fitted with a drive pedal. In automatic mode the foot pedal acts as a true drive pedal, controlling the tractor's ground speed. Maximum ground speed can be adjusted with the thumbwheel and speed range buttons on the armrest-mounted Multicontroller. In manual mode, the foot pedal acts as a conventional foot throttle. The Multicontroller also incorporates a power shuttle switch, which works in parallel with the shuttle lever on the left of the steering column, for convenient direction changes whichever way the operator desires without releasing the steering wheel. The Eco Drive dual hand throttle allows the setting of minimum and maximum engine speeds to maximise efficiency and minimise fuel use, and the engine droop function, which determines the engine speed down to which the rpm can drop under load

The tractor can be stopped temporarily – such as at road junctions – using only the brake pedal, with the tractor, before returning to its previous speed once the pedal is released. Fast reduction of forward speed is possible by drawing back on the Multicontroller. Three different response levels for acceleration, deceleration and power shuttle modulation can be set using the Multicontroller armrest.

Electronic systems designed to boost productivity

Key among the operating systems for the Quadtrac CVX tractors is Automatic Productivity Management (APM), designed to ensure the most efficient operation of the machine, whether the operator or owner target is minimum fuel use or maximum output.

APM co-ordinates the engine and transmission with the Multicontroller and drive pedal, automatically reducing engine speed to the minimum required for the tractor's workload, to minimise fuel wastage. The tractor can also be operated in manual mode, without APM, with the transmission controlled via the Multicontroller and the engine speed via the foot or hand throttle.

A hydraulic system for the most demanding implements

The variable displacement pump which supplies the key hydraulic requirements is a pressure- and flow-compensating type, providing a maximum 216 litres/min of oil flow, (428 litres/min option) to cope with the highest demands. The system operates at a pressure of 210 bar, supplying up to eight remote valves. These and the 8,949kg-capacity rear linkage are controlled electronically via the Multicontroller armrest.

A cab that eases the operator's day

While the established Surveyor cab fitted to the Quadtrac CVX tractors is well-known, there are a few new features on the machines that come courtesy of the CVX Drive transmission introduction. The operator benefits from a slightly-revised Multicontroller armrest, with a dual throttle for minimum/maximum speed settings, and a slightly different Multicontroller joystick to make simple the operation of the CVX transmission, information on which is shown in the 'trademark' Case IH pillar display in the right-hand A-post. This shows engine speed, transmission forward and reverse target speeds, currently-engaged target speed, actual ground speed, a park brake/ neutral/ forward/ reverse indicator, and which speed will be selected if the direction is reversed. Also shown on the display are the fuel and DEF (AdBlue) tank levels.

The tractor to take track technology forward

"CVX can bring a wide range of engine, fuel and work advantages to Quadtrac owners' businesses," believes Hans-Werner Eder. "They include reduced engine speed to optimise fuel efficiency, and, for those operating PTO-powered equipment, enhanced operation through the achievement of uninterrupted peak power via stepless speed progression.

"The addition of continuously-variable transmission to the Quadtrac for the first time means these models have the potential to mark a whole new chapter in the contribution of high-hp tracked tractors to arable agriculture."

Press releases and photos: <http://mediacentre.caseiheurope.com>

Case IH is the professionals' choice, drawing on 175 years of heritage and experience in the agricultural industry. A powerful range of tractors, combines and balers is supported by a global network of highly professional dealers dedicated to providing our customers with the superior support and performance solutions required to be productive and effective in the 21st century. More information on Case IH products and services can be found online at www.caseih.com.

Case IH is a brand of CNH Industrial N.V., a world leader in capital goods listed on the New York Stock Exchange (NYSE: CNHI) and on the Mercato Telematico Azionario of the Borsa Italiana (MI: CNHI). More information about CNH Industrial can be found online at www.cnhindustrial.com.



[Case IH Media Center](#)



www.caseih.com



www.facebook.com



www.youtube.com

For more information please contact:

Marie Mouton

Ph: +43 7435-500 638

Brand Communications Manager Europe, Middle East & Africa

Email: marie.mouton@caseih.com