

Caterpillar TiltRotate System (TRS) available for Cat® mini excavators

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Caterpillar Work Tools now has a TiltRotate System (TRS) for Cat® Next Gen mini excavators. The new TRS6 and TRS8 models allow attached work tools (including buckets, forks, grapples, brooms, and compactors) to rotate 360 degrees and tilt 40 degrees side-to-side, enabling the machine to reach more work areas from a single position, while maneuvering tools over, under, and around obstructions when excavating, grading ditches, sorting recycle materials, or placing pipe. The new TRS models multiply the mini excavator's versatility and are available in various configurations to match the application.

TRS models have two interfaces: a top interface that connects the TRS to the carrier machine; and a bottom interface that connects various work tools to the TRS. The four configurations for the TRS6 allow the user to choose between an S-Type hydraulic-coupler or pin-on top interface, and, whether the TRS is equipped with an integral grapple (which can be used with a work tool attached). All TRS6 models use an S-Type hydraulic coupler for the bottom interface.

The four configurations for the model TRS8 allow selecting an S-Type coupler for both the top and bottom interfaces, or, a pin-on top interface and pin-grabber coupler bottom interface, and whether the TRS has an integral grapple. (The pin-on/pin-grabber configuration is not available with the integral grapple.)

Design benefits

The compact design of the TRS6 and TRS8 models allow the mini excavator to maintain high digging forces, and a reinforced gearbox with a specially designed bearing ring distributes working forces to reduce stress on the TRS and the host machine. Also, a no-maintenance lubrication system for the rotation system effectively distributes heat. The high-torque rotation system quickly positions work tools, and an integral self-locking mechanism enables digging at any angle required. A single grease point on TRS8 models provides grease to all joints requiring lubrication.

The double-acting tilt cylinder has integrated load-hold valves that sustain holding pressures and prevent cylinder movement under load. The cylinder also features hardened pistons and maintenance-free bearings, and its scratch-resistant, rust-proof surfaces require no maintenance. An integrated, dealer-installed field control kit, which includes specially designed joysticks, suits all boom-and-stick combinations and provides

intuitive control of the TRS and integral grapple. The TRS monitor informs the operator of the attachment's position, and an engagement/disengagement sensor assures that work tools are secured via a safety locking mechanism with an indicator. A bucket-shake feature for TRS8 models, activated by a joystick button, facilitates even spreading of materials.

TRS application

TRS6 models are designed for the Cat 306 CR mini excavator. TRS8 models using the S-Type coupler for both top and bottom interfaces fit models 307.5, 308, 308.5, 309 and 310. One of the two remaining TRS8 models, using the pin-on/pin-grabber interfaces, is designed for the 307.5, 308, 308.5 and 309; the other is designed for the 310.

Source: Caterpillar Inc.