

The

Earthmover Encyclopedia

**The Complete Guide
to Heavy Equipment
of the World**

Keith Haddock

WHEEL BULLDOZERS

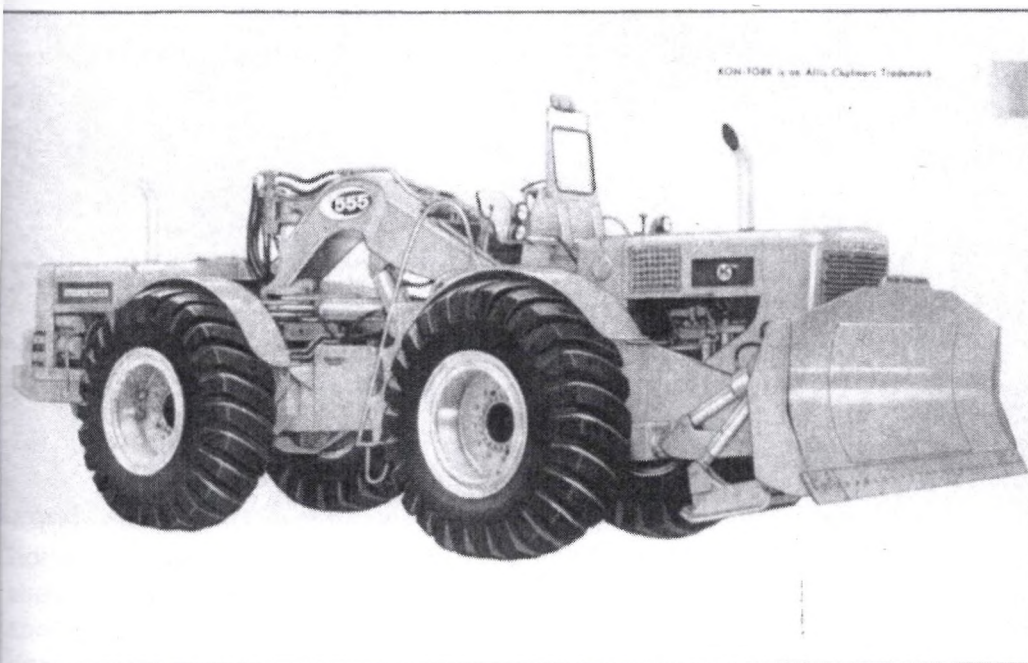
A wheel dozer can be made from any rubber-tired tractor by fitting a bulldozer blade on the front. These wheeled bulldozers range from light-duty attachments on farm tractors, to some of the very largest bulldozer-type machines ever constructed. It is the latter type, usually found in major earthmoving projects and surface mines, that are referred to as wheel dozers. Their obvious advantage over crawler machines is superior mobility and higher travel speed. Used as clean-up machines around large shovels, the wheel dozer can serve several units at the same time, rooting between them at high speed, cleaning the road as it goes. A wheel dozer can run to the dump, sweeping rocks off the haul road along the way; tidy up the dump while maintaining a safety berm; and then return to the shovels, all in a couple of hours. Wheel dozers are favorites on scraper jobs, working as push tractors. They can keep in pace with the fastest of scrapers, and boost their loads to maximum ratings during loading. When the dirt starts boiling over the scraper sides, the wheel pusher makes a hasty retreat in reverse and positions itself in a few seconds so it is ready to push the next scraper. Other wheel dozers are found in coal stockpile maintenance work, and in

heavy bulldozing such as reclamation work. Their perpetual advantage over their crawler cousins is that they don't damage paved roads, a definite asset when working around stockpiles in plants.

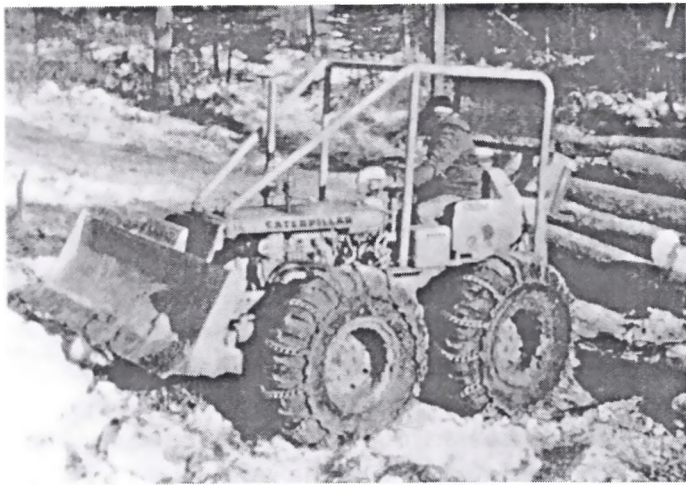
Cables from a tractor-mounted winch first operated the early wheel dozers, like the early wheel loaders. Some attempts to operate dozers and loaders by hydraulic power were made in the 1920s, but cable-operated machines were still being sold into the 1950s. By the 1960s, the transition to hydraulically operated dozer blades and loaders was complete.

Many wheel dozers were developed from wheel loaders by fitting a dozer blade in place of the loader arms and bucket. This adaptation was only a success where the machine was used for light-duty tasks. For the heavy work, manufacturers now realize that wheel dozers must be designed as wheel dozers from the ground up, and built with proper transmissions, gear ratios, and strong frames for mounting the dozer arms. These essential features provide maximum reliability in adverse conditions.

The first large rubber-tired dozers suitable for earthmoving applications were those produced by none other than earthmoving pioneer R.G. LeTourneau, beginning



Allis-Chalmers 555. Ranking as one of the largest wheel dozers ever built, the 75-ton Allis-Chalmers Model 555 wheel dozer was designed on an unusual concept. Launched in 1962, it was part of a mix-and-match combination of prime movers and scrapers, which included the Allis-Chalmers 562 twin-engined scraper. The 555 was simply a two-wheeled prime mover coupled through an articulated joint to a rear-powered push unit—in effect, a twin-powered scraper without its bowl. Front and rear engines were identical A-C 25000 diesels giving a total of 774 flywheel-horsepower. In 1963, Allis-Chalmers released the smaller D-30 and D-40 dozers, rated at 184 and 310 horsepower.



Caterpillar DW2. Some of the earliest Caterpillar wheeled dozers were conversions of its standard crawler tractors. They were initially developed by certain Caterpillar dealers, and found a niche market in special applications. Before long, Caterpillar was offering them as its own products. The DW2 shown is based on the 5U Series D2 of 50 flywheel-horsepower made in the 1950s. Equipped with tire chains, Balderson dozer blade, and rear winch, it is being used as a log skidder. *Keith Haddock collection*

in 1947. He developed four sizes known as the Model A, B, C, and D Tornadozers. The huge 750-horsepower Model A Tornadozers never really reached beyond experimental stage. The 300-horsepower Model B, 143-horsepower Model D had limited success, but Model C and its successor the Super C became the best seller for the company and lasted in production until 1972, by which time it belonged to the LeTourneau Westinghouse (Wabco) line. All Tornadozers had mechanical drive to all four wheels, and electrically operated blade controls. Tornadozers were steered by braking or slowing the wheels on one side, one of the first applications of the skid steer principle applied to a wheeled machine.

R.G. LeTourneau also built some world record beating wheel dozers after the sale of his earthmoving equipment business to Wabco in 1953. The two 100-horsepower "Crash Pushers" built in 1955 for the Air Force were developed from an earlier "Tree Creeper" of similar six-wheel design. Starting in 1956, LeTourneau launched the intriguing K Series dozers. These included models with three, four, and six wheels.



Caterpillar DW6. Caterpillar also offered its D4 and D6 tractors as wheeled options. The DW6 was offered as far back as 1952 when about 100 of the then-current 9U D6 were built for sugar cane operations. Beginning in 1962, up to 200 DW6 tractors were produced based on the 44A Series D6, which replaced the 9U Series in 1959. The engine in those machines was rated at 115 flywheel-horsepower. The example is shown fitted with a push block and double-drum rear winch for pulling scrapers. *Keith Haddock*