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DEALER INQUIRIES INVITED

WHEELIE MONSTER

do was impossible.

Being told that something can't be done is throwing down the gauntlet to men like Bob Thompson. They thrive on doing the impossible. Bob had the incentive to continue his design and build an exhibition truck that was all new—a truck that would do the impossible. He also wanted to develop this idea into something usable beyond the show truck circuit.

The result, a year and a half later, was Santanimal, a 1985 Ford F-250 that is capable of doing 360-degree turns within its own wheelbase and 360-degree turns *while* doing wheelstands. In addition, the truck can stay up on its rear wheels indefinitely—even *when the engine isn't running!*

Before you say, "That's impossible," keep in mind that Santanimal is no ordinary monster truck and that Bob Thompson is no ordinary truck builder. Bob's company, Santana Trucking and Excavation, is one of the more creative companies in its field. Its motto, "We move the earth," really has direct application in the exhibition truck field because the company has the contract with both the King Dome and Tacoma Dome to bring in the dirt for all the truck pulls and other motorized events. Being at these stadiums for the events was the seed for that napkin drawing.

Bob's business, trucking and excavation, also played a part. Bob wanted to design a vehicle that could be used up on the North Slope oil fields in Alaska. Vehicles up there have to be able to operate under extreme temperatures and conditions. They must also be able to cross delicate tundra without harming it.

It may seem like a long way from the Tacoma Dome to the Arctic tundra, but when you take into account Bob's business, the distance shortens considerably. It turns out that the drive system for a wheelstanding monster truck is perfect for use on Arctic oil fields. If you've ever seen heavy-duty construction equipment at work, you may know what we're getting to. The operation of large excavation equipment depends upon the



A close-up view underneath shows the Goodyear Super Terra Grip tires and the rear axle tube and pivot pad. Hydraulic motors in the tube control wheel movement. The chassis is custom fabricated and covered with plate aluminum.

use of hydraulics. So it is with Santanimal.

This 8½-foot-tall behemoth depends upon hydraulic pumps and lines to do its tricks. There is no transmission, driveshaft, U-joint, differential, suspension system, or axle behind the powerful 460 Ford V-8, which has been bored out to 495-c.i.d. Likewise, the front wheels have no axle, driveshaft, transfer case, steering linkage, shock absorbers, or springs. Those axles you see in the accompanying photographs are merely metal tubes that house hydraulic servos, pumps, and lines.

Exactly how Santanimal works is a trade secret. Bob wouldn't give us all the details, and we've promised not to give away the family jewels. We can say, however, that the powerful Ford 460 engine is hooked directly to the main hydraulic pump. This pump has the same function that a transmission has in a conventionally driven vehicle—to transfer power to the driven wheels.

Each wheel on Santanimal has its own hydraulic drive motor. Fluid in the main pump is directed to the drive motors in each axle tube. These motors control the forward or reverse motion of the wheels. The truck moves forward or is reversed by increasing pressure in the lines and controlling the direction of fluid flow. To make the truck back up, fluid direction is reversed.

We've mentioned, and you've probably noticed, that Santanimal has no steering linkage. The wheels do not turn from left to right, yet the truck can rotate 360 degrees in clockwise or counterclockwise directions. How does it happen? Simple, Bob merely



Bob Thompson, owner of Santanimal, relaxes with a cup of coffee and an issue of *Four Wheeler* underneath his parked exhibition show truck. Try this with your wheelstander!

SPECIFICATIONS

Owner	Bob Thompson, Redmond, Washington
Vehicle	1985 Ford F-250
Wheelbase (in.)	155.0
Width (ft.)	10.5
Length (ft.)	20.0
Height (ft.)	8.5
Height on two wheels (ft.)	15.0
Weight (lbs.)	12,000
Chassis	Custom
Drive train	Hydraulic pumps
Engine	Ford 460, bored out to 495 cubic inches
Aspiration	Dual Predators
Horsepower	500 (est.)
Wheels	20-inch, aluminum
Tires	44x41x20 Goodyear Super Terras
Drivers	Ken Peterson, Mike Minkler

stops one or more wheels from spinning. A left turn, for example, requires that the left rear wheel stop and that the left front wheel turn slowly. While this is happening, the two right wheels turn at normal speed.

To make a turn once the truck is doing a wheelstand, the same principle applies. Bob stops one rear wheel from turning and applies power to the other wheel. The truck then turns in a circle on the pivot pad hanging from its rear undercarriage.

Wheelies are a bit more complicated. To do these, a certain amount of forward motion is required. Then the main hydraulic pump transfers a series of weights from behind the cab to the rear of the pickup bed. We guess that the operation of this is similar to that of the weight transfer system seen on sleds at exhibition truck pulls.

To be a true monster truck, you've got



Stewart-Warner gauges housed in a hand-fabricated aluminum dashboard and console alert the driver to engine and pump functions. See if you can figure out how the steering wheel controls wheels that don't turn!

to be larger than life. Santanimal certainly qualifies. The truck is 10½ feet wide, 20 feet long, and 15 feet high in wheelstand position. It also weighs in at about 12,000 pounds, has more than 360 feet of hydraulic line, and is built on a specially designed chassis that has been underplated with aluminum.

Santanimal's Ford 460 engine is also larger than life. This husky powerplant has been bored out to 495-c.i.d. and produces approximately 500 horsepower. The engine has TRW pistons, Isky camshaft, Offenhauser manifolds, Moroso oil pan, Mallory ignition, Accel distributor, and two Predator carburetors. It not only produces lots of power, but since it runs open exhaust, it's also loud. When this truck is started, you hear and feel it. The ground shakes.

Obviously, controlling 500 horsepower and four independently driven wheels via hydraulic pumps requires controls that are a bit different than on your streetable 4x4. Santanimal is controlled via a selection of toggle switches, levers, knobs, and the steering wheel. Readout information about the engine and various pumps is supplied via Stewart-Warner gauges and various indicator lights mounted into a hand-fabricated aluminum instrument panel and console.

Since its completion in October 1985, Santanimal has appeared in Seattle, Washington; Vancouver, Canada; and Anaheim and San Diego, California. Each time the truck has performed, the crowd has gone wild. They like the bright color, noise, and spectacle; we think they also like being mystified by a truck that does the impossible. □

