# Rivian’s tank turn: impressive tech with limited practical use



Rivian’s "tank turn" feature, first highlighted in viral videos dating back to 2019, has drawn significant attention in the electric vehicle sector for its unique ability to rotate the vehicle 360 degrees on the spot, mimicking the manoeuvre of a tracked military tank. This innovative function is available on the company’s all-electric R1T pickup truck and the R1S SUV, both equipped with four independent electric motors. The technology allows the wheels on one side of the vehicle to spin in the opposite direction to those on the other, enabling the vehicle to “spin on a dime.”

The 2025 base model Rivian R1T features impressive specifications, including dual electric motors generating 533 horsepower and 610 lb-ft of torque, providing a 0-60 mph acceleration time of 4.5 seconds and an all-electric range of approximately 270 miles. Despite the technical feat of the tank turn, the manoeuvre has limited practical application and several constraints that impact its use and sustainability.

For optimal functionality, this feature necessitates soft, loose terrain such as sand, snow, mud, or soft dirt. Attempting a tank turn on hard-packed earth or paved surfaces can lead to drivetrain damage and is unlikely to be successful due to insufficient traction. Importantly, this manoeuvre also causes significant ground disturbance, gouging the surface beneath the vehicle — a factor that conflicts with the widely respected “tread lightly” ethic among off-road enthusiasts who prioritise environmental preservation. Rivian executives have confirmed that the tank turn feature may not align with the company's focus on respecting natural trails and avoiding trail damage, suggesting it may remain more a showcase of technical prowess than a mainstream feature.

The energy cost of executing a tank turn is substantial, as spinning the heavy R1T requires considerable battery power. This high energy consumption could limit the usability of the feature in remote environments, where conserving battery life is crucial.

Rivian is not alone in exploring similar capabilities. Mercedes-Benz has incorporated a comparable “G turn” feature in its electric G-Class model, the G580 EQG. It also utilises four individually controlled electric motors to enable a 360-degree rotation on suitable surfaces but restricts the manoeuvre to two rotations per use to safeguard the drivetrain and prevent misuse. Hyundai is developing an advanced "E-corner" system through its Hyundai Mobis division, which extends beyond just a tank turn to potentially allow multi-directional movement like crab walking. This modular system integrates electric motors, steering actuators, suspension, and braking into each wheel independently. Hyundai aims to deploy this technology in urban-oriented vehicles such as the Ioniq 5 later in the decade.

Off-road purists typically prefer vehicle features that enhance control and stability, such as terrain management systems, skid plates, crawl control, advanced suspension, and adjustable approach angles, rather than aggressive manoeuvres like tank turns. Such features aid in navigating and overcoming challenging terrain safely without causing environmental damage.

The publicity surrounding Rivian’s tank turn has undoubtedly served as an effective marketing tool, generating widespread interest and helping distinguish the brand in a growing electric truck market. The feature’s sheer spectacle captures public imagination, even if its practicality remains questionable. The Mercedes “G turn” and ongoing developments by Hyundai and Stellantis, which has filed a patent for a similar system in a combustion engine vehicle, suggest a broader industry interest in exploiting individual wheel control for enhanced manoeuvrability.

In summary, while the tank turn showcases the possibilities enabled by electric drivetrains with independent motor control, it is ultimately seen as a flashy gimmick rather than a practical feature with a sustainable future. Its limited use case, environmental impact on trails, and high energy demands may restrict its adoption beyond demonstration and specialty applications. Whether it will evolve into a more broadly usable technology remains to be seen, as the industry continues to balance innovation with practicality and environmental responsibility.

Source: [Noah Wire Services](https://www.noahwire.com)

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