

Toyota Explores Next GEN RAV4 Possibilities with “RAV-X” at the 2024 SEMA Show

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LAS VEGAS (Nov. 5, 2024) – Toyota has pushed the boundaries of automotive innovation with the unveiling of the Toyota RAV-X, a radical small crossover concept inspired by the spirit of off-road race vehicles, at the 2024 SEMA Show.

The RAV-X is the brainchild of Toyota Service Parts and Accessories Development (SPAD), a team focused on accessories and performance upgrades. For SEMA 2024, SPAD engineers took on the challenge of taking the RAV-X from concept to reality, handling everything from initial sketches and CAD designs to 3D-printed parts and final assembly.

This groundbreaking concept is designed and engineered to echo the rugged endurance reputation of the Dakar Rally. Renowned for its grueling desert challenges, Dakar is a testament to the toughness, ingenuity, and excellence required to conquer extreme environments. The SPAD team focused on creating a vehicle that would emphasize agile off-road capability and high-speed performance.

“The vision behind the RAV-X was to create a halo vehicle concept for the RAV4 lineup,” said Jakin Wilson, senior engineering manager, Toyota Service Parts and Accessories. “By leveraging the knowledge and capability from years of high-performance off-road vehicle development, the engineers created a concept that is true to the off-road enthusiast,” Wilson said.

Building on the stock RAV4’s everyday utility, the RAV-X is all about off-road prowess. A 2024 RAV4 PHEV served as the foundation for the build, providing power on the order of 302 net combined horsepower before being paired with a ram air intake. The low center of gravity due to the battery placement made it an ideal platform for off-road performance.

SPAD engineers worked their magic under the chassis, crafting long-travel suspension with bespoke components that increased vehicle height by 2 inches (51 mm) and track width by 6.3-inches (160 mm). Custom, fully adjustable, 2.5-inch internal bypass shocks are found front and rear. Dual Speed Compression adjustment allows precise tuning of the shock absorbers to smooth out the terrain and enhance vehicle handling and control. Front external reservoirs and rear piggyback reservoirs are added to keep shock oil temperatures in check when wheeling the vehicle off road. Ensuring the vehicle can repeatedly tackle the high desert terrain at speed, the SPAD engineers developed forged aluminum front lower control arms and forged aluminum rear upper supports.

High clearance front and rear skid plates armor the undercarriage while raised rocker panels contribute to increased clearance. A Dakar-inspired front bumper with integrated cooling ducts and bespoke fender flares with front-wheel ventilation efficiently move air throughout. To fill the wheel wells, the team placed 17×8.5-inch forged aluminum wheels mounted with 265/65R17 tires at each corner. Together, these components provide the necessary clearances for enhanced approach and departure angles. The result is a vehicle that excels in off-road dynamics, pushing the limits of what a small crossover can achieve.

The RAV-X’s aerodynamic styling includes an aggressive rear spoiler along with strategic venting throughout the front fascia designed to relieve engine and front wheel well pressure zones. A high-clearance dual exhaust integrated into the rear bumper further streamlines the overall package.

“This Toyota RAV-X is more than just a concept; it’s a bold statement of what’s possible when innovation meets performance, said Mike Tripp, group vice president, Toyota Division Marketing, Toyota Motor North America. “RAV4 is one of our most popular and versatile vehicles; with RAV-X we’re showing an entirely new possibility of just how cool and adventurous a small crossover like this can be.”

The RAV-X concept embodies Toyota’s commitment to pushing the limits of automotive engineering and design. RAV-X will be on display at the 2024 SEMA Show November 5-8 at the Las Vegas Convention Center in the Toyota booth (Central Hall, Booth 22200). Enthusiasts and industry professionals alike are encouraged to

visit Toyota's exhibit at the 2024 SEMA Show to experience the RAV-X firsthand and discover the potential that lies ahead for small crossover vehicles.

Vehicle referenced is a special project prototype vehicle, modified with parts and/or accessories not available from Toyota that may void the vehicle's warranty, may negatively impact vehicle performance and safety, and may not be street legal.