

Q&A with Peter Simson, Director, Tyron Runflat.

In the constantly evolving theatre of operations, saving and protecting lives in high mobility vehicles is critical.

Recent changes have seen the focus shift increasingly to urban operations where wheeled vehicles have a major advantage over tracked, heavily-armoured vehicles. The line between wheeled or tracked vehicles has further broadened with the significant growth of ultra-maneuvrable 6x6 and 8x8 wheeled platforms.

Tyron Runflat helps military operators overcome the challenges associated with maintaining manoeuvrability in environments where tyre strike is a constant threat, whether via ballistic attack or simply rapid deflation. Tyron's All-Terrain Runflats manage the durability and capability of wheeled vehicles to run on one or more deflated tyres, ensuring the strategic safety and protection of personnel and the mobility of ground forces.

Q: What is a runflat?

Simson: All-Terrain Runflat technology goes back some 40 years, with the intent to give a wheeled vehicle with one or more tyres deflated the potential to continue to manoeuvre to a place of safety, over any terrain.



Q: How Do They Work?

Simson: Mounted to the rim and inside the tyre, they fill a percentage of the internal air capacity of a tyre. On rapid deflation, the tyre will run on the runflat insert instead of collapsing directly onto the wheel rim, which will cause a lack of traction.

Q: There are multiple types of runflats available – which is the best kind?

Simson: The main kinds of runflats are rubber, composite or plasticised materials for All-Terrain Runflats for use on military, security and 4x4 vehicles. Here at Tyron we primarily produce rubber runflats, as we consider this to be the best material for the task.

Q: What are the advantages of rubber?

Simson: Rubber absorbs shock from impingement caused by curb strikes, potholes and operating in generally hostile environments. It also drastically reduces the vibration and stresses that are transmitted through the runflat to the wheels, axles and drive shafts allowing you to continue with little change to the handling of the vehicle whilst retaining a degree of comfort for the driver and passengers. As a compliant material, rubber also prevents damage caused to the tyre from impingement between the runflat and the inside of the tyre – all

of which are documented issues that leading tyre manufactures have sent out circulars in regard to.

Q: Do Tyron All-Terrain Runflats meet Finabel standards?

Simson: Yes, they exceed them, thanks to our beadlock technology. Without adequate compression of the tyre beads against the flanges of the wheel (beadlock), the vehicles are incapacitated with deflated tyres. With only the 'drag' from the deflated tyres, the wheels will slip inside the tyres on level ground, let alone trying to negotiate any obstacles or inclines. Military vehicles are required to be able to continue their mission and/or return to base with one or more of the vehicle's tyres deflated. Therefore, the military Finabel 20.A.5 and A.20.A Standards demand a guaranteed minimum runflat performance of 50km, preferably 75km; and a minimum of two hours off-road negotiating hills and obstacles like curb strikes with two tyres deflated. Our rubber runflats are over manufactured in width to allow for the manufacturing tolerances of the wheels and tyres, ensuring tyre bead compression during the installation, guaranteeing the beadlock.

Q: What logistical requirements do Tyron runflats have?

Simson: We have developed our modular, multi-piece runflat, the Tyron ATR-MP, specifically to keep logistical requirements low. Typical one-piece systems require a large hydraulic press to insert or remove the runflat from the assembly when changing tyres. This requires the wheel and tyre assembly - or indeed the whole vehicle - to be taken to a base with the appropriate equipment on site. Or in many cases, the logistical challenges and costs include freighting the assemblies to a third-party base or even another country. Our patented Tyron ATR-MP, however, is designed to be fitted and removed with standard workshop tools in the field. Not only do they make large, heavy, and expensive hydraulic machines obsolete, they significantly reduce the costs of logistics mentioned above, and the significantly reduced vehicle down time means the soldier remains best supported and protected.

For more information on the range of Tyron Runflat solutions please email: peter@tyron.com
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