Vehicle Sales & Spares Army - Naval - Air Force
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The First Army Approved Functional Run-Flat

[Run flats] "allowed High Mobility Multi-Purpose Wheeled Vehicles to travel up to 30 miles on completely flat tires allowing our Soldiers to remove themselves from hostile environments."

Military: Tactical Runflats

Hutchinson, the world leader in mobility systems, has provided Runflat system solutions to the military and security markets since 1926. Hutchinson family of Tactical™ Runflats consisting of the VPPV, VFI and Countermine VFI are relied upon worldwide by soldiers to ensure mobility and safety in all terrain and combat situations.

The Hutchinson family of Runflats with the VFI™ (Variable Function Insert) and VPPV have become the "gold standard" in military Runflat applications. Hutchinson's Countermine VFI is specially designed to increase protection and survivability from mine blast.

The tires are the primary target to immobilize a wheeled vehicle. It is vital to the crew that a vehicle can escape at high speed or complete its mission with one or all of the tires flat. The VFI™ has withstood some of the harshest wartime conditions and has proven to be priceless to the protection of the crew and its vehicle.

Hutchinson Beadlock Technology

- Increased traction and braking.
- Improved steering control.
- Minimal chance of rollover caused by the unseating of the tire.
- Preventing foreign materials from entering the tire.

Field Mountable Runflats

In the field Runflat replacement is sometimes necessary. Although a mounting station is ideal for such situations its not always possible. Hutchinson has designed a number of field mountable Runflat solutions that make changing Runflats without insertion equipment possible.

Hutchinson Runflat Technology

Hutchinson proposes a variety of Runflat technologies and solutions. Many of these solutions are currently providing protection on military applications worldwide and can be manufactured to meet known standards such as FINABEL or the US Army specifications. Hutchinson can also provide a custom Runflat solution tailored to specific customer needs.

Mine Protection

The rubber material and reinforcements that the Hutchinson VFI™ is composed of permit it to absorb a substantial amount of energy from the mine blast. In combination with the Hutchinson aluminum wheel the VFI™ has shown to significantly reduce the acceleration from a blast.

Independent test results the mine blast acceleration is 80% on a steel wheel without VFI™ compared to a steel wheel with VFI™.
The mine blast acceleration is 145% on a steel wheel without VFI™ compared to an aluminum wheel with VFI™.

Information Hutchinson Run Flat from Army Technology

Hutchinson Runflats are used by the majority of coalition wheeled fighting vehicles seen on today's battlefield, including HMMWVs (Humvees), Strykers, Boxers, Patria AMVs, Piranhas, Fenneks, Pandurs and VBCIs.
Hutchinson, the world leader in Mobility / Runflat systems, has provided Runflat systems to the military and security markets for over 80 years.

The tyres are the most vulnerable part of any wheeled AFV, and as such prove prime targets for attackers trying to immobilize the vehicle. It is therefore vital to the crew and passengers that a vehicle can escape at high speed or complete its mission with one or all of the tyres flat. Hutchinson designs and supplies Runflat systems that have withstood some of the harshest wartime conditions and have proven to be priceless to the protection of both vehicle and crew.

VFI Military Runflats

Hutchinson Runflats benefit from the following features:
Ballistic and mine blast resistance: standard commercial Runflats have a connection that can break upon ballistic impact. Hutchinson's VFI military Runflat is a connection free system, offering unparalleled integrity and protection. It features top-of-the-line rubber and reinforcements which have excellent ballistic characteristics, allowing it to absorb a substantial amount of energy from mine or IED blasts.

Off-road impact resistance: due to its compliance properties VFI is able to absorb impacts without damaging the tyre, whilst significantly reducing the incidental acceleration to a vehicle subsequent to impact.
Off-road mobility/Beadlock: the VFI includes an internal Beadlock, which ensures the clamping of the tire beads on the rim at lowered or zero pressure.

CRF And CRRF Off-Road Runflats

Hutchinson's CRF Runflat is made of high-quality composite material and has been approved on applications up to 250km/h in inflated mode whilst bearing a load of 6t.
The thermoset material that Hutchinson's CRF is constructed from is reinforced with glass fiber which confers excellent ballistic characteristics even at very low temperatures.
During a heavy impact a tyre can get damaged if it gets caught in between the terrain and a hard Runflat insert. The CRRF off-road is a CRF with a rubber top which prevents cuts to the inside of the tyre when they come into contact with each other.

Hutchinson Internal Beadlock

To increase the mobility of a wheeled vehicle operating in soft terrain such as sand, mud or snow, it is necessary to increase the footprint of its tyres, normally achieved through the crew decreasing the tyres air pressure. For

example, a 4x4 at low pressure can easily exceed the footprint of an 8x8 at service pressure.
The Hutchinson internal beadlock ensures the clamping of the tyre beads on the rim at lowered or zero pressure. As a result, the vehicle capabilities are enhanced by increased traction and braking power, improved steering control, and a significantly reduced chance of rollover caused by the unseating of a tyre.

Lightweight Aluminum Wheels

Each new Hutchinson wheel is designed by our in-house engineering department. We design, prototype, test, validate and document our products to meet each stringent and unique customer requirement. Hutchinson lightweight aluminum wheels can save up to 60% of the weight of a comparable steel wheel, whilst retaining the ability to compensate for incidental acceleration after a blast to a higher degree than a steel wheel.

Hutchinson has a patented process of internalizing the air chambers of a central tyre inflation system (CTIS) inside a wheel. This drastically reduces the number of components and subsequently improves the reliability of the CTIS system.

About Hutchinson Runflats

Hutchinson mobility products have proven performance in all major modern conflicts from Desert Storm to today's operations in Iraq, Afghanistan, and Kosovo. Hutchinson is trusted by armies worldwide to ensure mobility and protection for vehicles and crew in all terrains and combat situations.

All Hutchinson Runflats are designed to achieve the Runflat specifications of the customer. They can be manufactured to meet customised requirements or known Runflat standards such as FINABEL, or the US Army's specifications. The Hutchinson range of products offers several levels of protection, depending on the application

The VFI system with integrated beadlock allows a vehicle to maintain outstanding mobility even with all tyres.

8x8 with VFI Runflats and Hutchinson aluminum wheels during on-road Runflat testing.

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The VFI Runflat system is connection-free, a great advantage for ballistic performance.

The CRF is the best Runflat solution for security vehicles equipped with standard one-piece wheels.

Hutchinson manufactures aluminum wheels to fit any application, from 12in to 36in in diameter and up to 20,000lbs (9t) load carrying capability.