

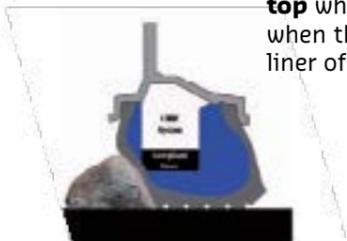
► Tire protection

Driving off-road or on damaged roads typically exposes the vehicle to sizeable impacts. During these **impacts**, the **tire can be damaged** if it gets caught in between the terrain (rocks, curb, pot-hole) and a hard runflat insert.

Solution : The **CRRF Off-road** is a **CRF** with a **rubber top** which **prevents cuts to the inside of the tire** when the runflat device comes in contact with the inner liner of the tire.



Off-road applications



The compliant Off Road system does not damage the tire

► Compatibility

A variety of wheels and tires are available on the market.

Solution : The Hutchinson **CRF** and **CRRF Off-road** can **be adapted** to any one piece drop center wheel and have been utilized in conjunction with all major tire brands.



► Mounting/dismounting

Access to mounting/dismounting equipment is important to ensure timely tire changes.

Solution : The **CRF** and **CRRF Off-road** can be **mounted with hand tools** in any standard tire mounting shop. Hutchinson can supply mounting instructions and on-site training if required.



Conception & réalisation :  www.escape-com.fr - Crédits photos : Hutchinson - HUTCHCRF2014

COMPOSITE RUNFLAT SYSTEM



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We make it **possible**



Hutchinson, the world leader in mobility systems, has been providing mobility systems to security markets for over 80 years. The CRF series of runflats have proven their performance on the most critical security applications.

▶ Tire unseating

The air inside a tire applies pressure on the sidewalls of the tire. This pressure clamps the tire beads on the rim seats. At low pressure, the clamping force on the tire beads decreases drastically, and is not always sufficient to **prevent the tire from unseating or slipping off the wheel.**

Solution : The **CRF** has a patented **integrated bead retainer system** which improves the retention of one of the tire beads on the bead seat of the wheel. As long as at least one tire bead remains seated the vehicle will retain enough traction, braking and steering control to escape even after performing evasive maneuvers such as J-turns.



CRF runflat system

Armoured vehicles can be compromised when immobilized by ballistic or terrain related tire damage. Security vehicles operating in unsafe surroundings must be **properly equipped** in order to be able to complete the mission and **carry the crew to safety.**



Exploded view of a wheel/tire/CRF assembly



Excellent ballistic characteristics

▶ Ballistic resistance

The runflat system must be able to withstand gunfire, in order to ensure the **mobility of the vehicle and the safety of its crew.** This life saving feature is achieved by means of a **ballistic proof material.**

Solution : The thermoset material used in the construction of Hutchinson's **CRF** is reinforced with glass fiber which provides **excellent ballistic characteristics.**

▶ High speed/High load

The typical limitations of runflats are **speed and load carrying capacity.** A runflat system must be able to achieve high speed in inflated mode without generating vibrations and carry high loads without collapsing.

Solution : The **CRF** is made of high quality reinforced composite and has been **approved on high speed as well as high load vehicles.**



Loads up to 6 tons

▶ CRF / CRF Offroad

Hutchinson Runflat systems that are designed for one piece steel and aluminum wheels. Composed of reinforced composite, the CRF and CRF Off-road runflat systems use a screw connection to fit securely around the wheel. The CRF Off-road has an outer layer of rubber for added protection when traveling through rocky terrain.

Solution : Our **SAFETY CRF** solution is designed to achieve **50 km at 50 km/h** while our **ESCAPE CRF** is designed to achieve **15 km at 50 km/h.** We can also supply custom designed CRFs to meet other specifications required by our customers.



Cross section of a CRF mounted on a wheel



No vibrations: the CRF is rated for inflated speeds up to 250 km/h