

Safety Devices[®]

TECHNOLOGY OF PROTECTION



***Putting automotive safety
at the core of your strategy***



To ensure optimum safety standards, every vehicle, make and model requires a unique design

Roll Over Protection Systems

The essence of any Roll Over Protection System is a tubular steel structure which is fixed to the chassis and built to protect the passenger area of the vehicle – ROPS may be installed internally or externally to the vehicle depending on technical constraints such as curtain air bags. It's sole purpose is to protect the driver and passengers in a roll over incident.

Safety Devices have designed and developed over 2,500 different ROPS for vehicles including the 1959 classic mini, Ferrari, Porsche, Lotus, Land Rover, Toyota, Mitsubishi, a variety of vans and people carriers and highly specialist vehicles such as the Hagglund Snowcat. There is no major marque that Safety Devices don't provide a solution for – if it moves Safety Devices can protect it.

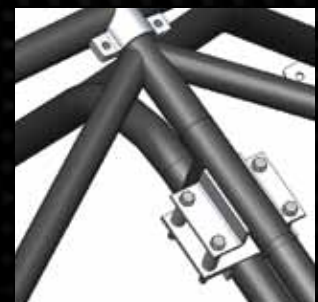
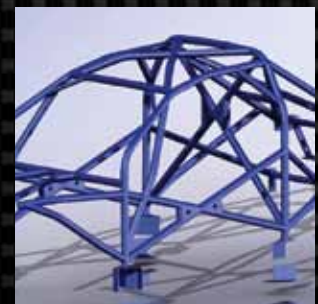
To ensure optimum safety standards, every vehicle, make and model requires a unique design. ROPS are designed and manufactured to be millimetre perfect so the installation process is

clean, simple and relatively fast whilst ensuring intrusion into the passenger space is kept to an absolute minimum. All external parts closely follow the profile of the vehicle to minimise the risk of injury to pedestrians.

Normally the protection system mounts to the strongest parts of the structure – for example through the flat bed of a pick-up. In addition ROPS can provide firm locations for fixing other equipment such as roof racks, spotlights or in military situations, mounting points for weapons.

Applications:

- 4x4 off road
- Sports Utility vehicles (SUV)
- Mini-bus and people carriers
- Specialist construction vehicles
- Expedition vehicles
- Mining, oil and gas exploration
- Military transport and weapons mounting
- High speed passenger vehicles



Putting automotive safety at the core of your strategy

Safety Devices International Ltd is a world leader in the design and manufacture of roll over protection systems (ROPS) meeting the needs of military, humanitarian, industrial and leisure users.

People protection is the principal design objective for Safety Devices' engineers. Whether you are in rough terrain constructing a desert pipeline, transporting supplies for an aid agency, moving soldiers in hostile territory or taking adventurers on safari - Safety Devices' protection saves lives.

With over 35 years of experience, originally in the high-tech world of motor sport, Safety Devices has developed and proved safety systems to fit almost any vehicle. Designs are rigorously tested by in-house engineers, externally validated and fully certified. The Company supplies in excess of 2,500 systems a year and offers installation services anywhere in the world.

Health and safety in hazardous environments has never been more important. Accidents happen and Safety Devices' ROPS provide the most efficient and best solution to what is, in the end, a human problem.



Design and testing

Every year we develop designs for new models brought to market. Initially we measure vehicles using “state of the art” laser scanning equipment and analyse the locations of airbags and other in car technologies to ensure that our cage will be compatible without compromising existing safety features.

In-house design engineers undertake detailed CAD modelling to produce the best ergonomic design. Some ROPS are completely internal however more often than not, newer models require external parts.

Rigorous stress analysis of prototype systems is undertaken before calculations are submitted to the Motor Industry Research Association (MIRA) for validation. Independent certification is available on request.

Safety Devices employ the highest standard in the industry. Our current range of ROPS are built to meet the OGP’s specification and also to withstand the following minimum forces:

Vertical 7.5 times gross vehicle weight +150kg

Fore/aft 5.5 times gross vehicle weight + 150kg

Lateral 1.5 times gross vehicle weight + 150kg

Safety Devices is also able to provide custom design and manufacturing services if needed.



Development

Once approved, our designs go through jig production, a process by which the physical template of the design is used to create a manufacturing fixture for repeatability, here, in our Newmarket facility. This process requires close scrutiny to ensure all subsequent ROPS meet the dimensional constraints of the vehicle.





Made from the best quality, fully traceable steel to BS6323pt4/grade CFS3

Manufacturing

All ROPS are manufactured to the highest industry standards from the best quality, fully traceable steel to BS6323pt4/grade CFS3. Tube is cut to length using a CNC plasma cutter taking information direct from the Company's CAD system. We employ qualified welders and ensure rigorous quality control before any product leaves the factory. After fabrication each product is sandblasted, zinc primed and powder-coated to BS standard BS6497 in either black or grey. Each ROPS is given its own unique reference number which is imprinted on the footplate ensuring full traceability for life.

Installation

Installation of a Safety Devices ROPS is relatively straightforward since the structure is delivered as individual parts and bolted together inside the vehicle. Limited lifting of internal upholstery/trim and cutting of the bodywork is necessary - this can be undertaken by an approved installer or a competent garage. Fitting instructions are included with every product. On request Safety Devices can send their own engineers to install in the field where fitting of a standard ROPS should take between one and two days.

Fire retardant padding is available and recommended to be applied to all internal parts of the ROPS.

Clients

Safety Devices works with many of the largest Corporations and many Governments around the world. The Company leads the field in automotive safety. That's why many of the world's largest organisations wouldn't use anyone else.

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