DNA Knowledge Base

Black Snake recovery ropes

In 2003 the Black Snake Nylon “Snatch-um” entered the crowded 4WD vehicle recovery market. The rugged, industrial look of the Black Snake was a surprise to the 4WDers accustomed to bright, colourful webbing straps and matching shackles. By 2004, Black Snake Snatch-ums were embraced by the Europeans searching for 4WD products made in Australia for Australian conditions.

The Black Snake (and brands developed by our largest national distributors) found new and challenging markets in the booming open-cut and underground mines scattered throughout Australia and our near neighbours.

The Black Snake provides a heavy duty, industrial grade alternative to web straps, round-slings, fibre rope, chain and wire rope in non-lifting, predominantly vehicle recovery and towing applications. New and exciting applications have been developed, such as underwater moorings, stays and custom-made safety strops for marine and mining.

The Black Snake strop is a high performance item, best suited for tough conditions and dirty environments. With over 150 different types available and 25,000 units supplied, the Black Snake Nylon or KEVLAR® Recovery Strops have carved a niche in the market.

Black Snake Nylon Recovery Strop

Snatch type recovery and towing of 4WD and light commercial, military and mine vehicles

The Black Snake Nylon Recovery Strop provides a heavy duty, industrial strength alternative to webbing snatch straps and kinetic nylon ropes. The Black Snake Nylon Recovery Strop incorporates nylon strands laid in an endless parallel lay construction into galvanised wire rope thimbles and the entire construction is covered in a vulcanised, industrial grade rubber. This construction is very robust and has inbuilt protection for the load-bearing fibres and very good energy dampening qualities. With other nylon webbing straps, kinetic recovery nylon ropes and even nylon round-slings, the fabric construction of those straps and ropes make them susceptible to dirt, mud and abrasion damage and the soft eyes are particularly vulnerable to cutting and fraying from shackles, pins and hooks. The Black Snake Nylon Recovery Strop uses embedded heavy duty thimbles to eliminate cutting and fraying of fibres.

1. Break strength is the applied load at which the recovery strop fails
2. Maximum GVW is the maximum recommended gross vehicle weight of a severely bogged vehicle for a given tow strop
3. Severely bogged vehicle is judged as a vehicle which is resting on its axles or chassis. The vehicle is being dragged with no rolling of the wheels

Abrasion/cut resistant rubber protects the inner nylon fibres from the elements and keeps out oil, water, mud

and dust allowing it to be virtually maintenance free and making it far more durable than other fabric straps A tough, high performance, great alternative to webbing straps High strength Nylon 6.6 load core with high strength to weight ratio Very flexible and light weight for access into awkward spaces and for attachment devices Easy to install with galvanised thimble eyelets embedded into the rubber casing. Perfectly matched with shackles and clevis pins Smooth stretch of up to 20% to assist snatch style recovery Individual serial number for traceability

Black Snake High Strength, Heavy Duty Nylon Recovery

Snatch type recovery and towing of medium to heavy commercial, military, mine vehicles and skid mounted equipment

The Black Snake Heavy Duty Nylon Recovery/Tow Strop provides a high break strength, industrial grade alternative to old style recovery equipment. It is far lighter than wire rope or chain of the same break strength and provides a low shock load, kinetic type of recovery. It is particularly suited for operations in harsh environments. In the higher break strengths of 20 tonne through to 100 tonne, the Black Snake Nylon Recovery Strop is far more durable than nylon webbing straps, kinetic recovery nylon ropes and round-slings. The deeply embedded, galvanized, heavy duty steel thimbles eliminate cutting and fraying from shackles, pins and hooks, which present problems with fabric straps and ropes.

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*All attachments, shackles, hooks must have a greater minimum break strength than the recovery strop
Breaking Strength denotes the applied load at which the Recovery Strop fails. (i.e.: 50 tonne (f) =490.5kN applied force)
Nominal length refers to the measured length of the strop taken from inside each eyelet.
Weights are approximate and are subject to change without notice.

Abrasion/cut resistant rubber protects the inner nylon fibres from the elements and keeps out oil, water, mud and dust allowing it to be virtually maintenance free and making it far more durable than other fabric straps High strength Nylon 6.6 load core with high strength to weight ratio Very flexible and light weight for access into awkward spaces and for attachment devices Easy to install with galvanised thimble eyelets embedded into the rubber casing. Perfectly matched with shackles and clevis pins. Smooth stretch of up to 20% to assist snatch style recovery Individual serial number for traceability Safety in handling is a key and cleaning is not required after use

Thimble Eye Dimensions Nylon Recovery Strops

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Thimble dimensions can vary within the AS1138 Standards and rubber trimming dimensions are approximate due to the manufacturing process.

Black Snake Kevlar® Recovery Strop

Very high break strength for recovery/towing of mine vehicles, heavy commercial, military, and skid mounted equipment

The parallel lay configuration of the KEVLAR® fibres, coupled with high strength steel eyes encased in a thick, rubber cover, creates lightweight, rugged and very high break strength strops. From 300mm up to 20 metres long and ranging from 10-400 tonnes break strength Black Snakes are suitable for most recovery situations in mine operations and heavy duty applications. With over 10,000 KEVLAR® Recovery Strops produced, Black Snakes provide a practical and proven alternative to wire rope, chain or fibre rope/round-sling/webbing straps.

Ultra high strength to weight ratio, flexibility for easy use and handling Low elongation (4%) and low recoil properties from the KEVLAR® fibres and thick rubber cover during recovery provide a safe energy damping feature in case of over-loading the strop Abrasion/cut resistant rubber protects the inner KEVLAR® fibres from the elements and keeps out oil, water, mud and dust allowing it to be virtually maintenance free Easy to install with various shaped eyelets available that are sized to fit standard connections. Special thimbles can also be fitted according to customer requirements Individual serial number for traceability

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Weights are approximate and are subject to change without notice.

*All attachments, shackles, hooks must have a greater minimum break strength than the recovery strop
Breaking Strength denotes the applied load at which the Recovery Strop fails. (i.e.: 50 tonne (f) =490.5kN applied force)
Nominal length refers to the measured length of the strop taken from inside each eyelet.

Black Snake Kevlar® Recovery Strops Typical Eyes

The 10t to 20t break strength Black Snake KEVLAR® range mainly use embedded AS1138 wire rope thimbles. The low elongation properties of the KEVLAR® fibres do not deform wire rope thimbles at these low applied loads. The 30t and 50t Black Snake KEVLAR® range would only use AS1138 wire rope thimbles when the knuckles of larger shackles, or oversize pins are required.

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High Strength Steel Round Machined Eyes Kevlar® Recovery Strops

Custom designed and machined eyes are created from high strength, low alloy steel, hollow bar. A radius is machined onto the inside face of the bore to suit many types of coupling links and also pins of appropriately sized shackles.

Custom designed and machined eyes are created from high strength, low alloy steel hollow bar. The bore hole is designed to minimize elongation under very high loads and to suit appropriately large shackles. For safety, undersize shackles (Jaw width) will not fit.

Black Snake Kevlar® Recovery Strops Modified With Andromeda's® B Thimbles For Bulldozer Rippers

The bulldozer is the recovery vehicle of choice in many open-cut mining operations, quarry and construction sites. With ripper assemblies commonly attached to dozers, recovery gear has the challenge of maintaining integrity and strength in a hostile environment. Andromeda Industries Pty Ltd already had an excellent thimble specifically designed for use with rippers, so we adapted the thimbles for use in the Black Snake KEVLAR® Recovery strops.

Modified cast thimbles supplied by Andromeda Industries Pty Ltd can be installed to one end or both ends of the recovery strop. The B thimble is a product well suited for recovery use with bulldozer rippers.

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Break strength is the applied load at which the recovery strop fails
Applied load vs Elongation (%) curves vary for different sized recovery strops and for different eye combinations
Note: Applied Load of 294kN is roughly 30,000kgf. A 30t Break strength Recovery strop fails above this applied load
The protective outer casing is an industrial NR/BR abrasion resistant rubber vulcanized around the eyes and load bearing fibres

Black Snake Recovery Strops Care and Safe Use

Care

Do NOT attempt a vehicle recovery with this equipment if in doubt of Recovery Strop appearance or suitability

The Break Strength (tonnes) is the applied load at which the Recovery Strop will fail.

All attachments, shackles, links etc., must have a greater minimum break strength than the Recovery Strop Attachment hardware shall only be fitted to the bearing point of the eyes/end fittings in the Recovery Strop This Recovery Strop is to be used for straight line recovery only. DO NOT tie knots or use in a basket hitch with this Recovery Strop DO NOT use the Recovery Strop as a lifting device DO NOT use excessive speed when retrieving the vehicle DO NOT use jerking (uneven acceleration) action when recovering the vehicle NEVER stand on, over, under, directly beside a Recovery Strop or near each end of the Recovery Strop during a recovery attempt.

Safe use

For safe use if in doubt of the forces involved, don’t attempt a vehicle recovery with this equipment

Do not use the recovery strop if there is any sign of: Rubber sleeving cut through Exposed inner core Snagging Heat or chemical damage Presence of foreign matter penetrating the rubber sleeve

ALWAYS protect the Recovery Strop from sharp edges during use The rubber sleeving provides temporary cut & abrasion resistance only DO NOT expose the Recovery Strop to temperatures above 90 degrees Celsius ALWAYS Inspect the Recovery Strop between each use

Repair

Superficial markings/scratches on the rubber cover, or localized abrasion marks are a normal aspect of use. Cuts in the rubber deeper than 5mm and longer than 20mm require repair. If the inner load-bearing fibres, white for Nylon, yellow for KEVLAR® are exposed (but do not appear damaged) and no fibres are cut, immediate repair to the rubber cover may prolong service life. Large cuts can be repaired and replacement of steel eyes can be performed at the manufacturer’s premises.

Warning

ALWAYS follow product instructions. It is important to correctly attach the Recovery Strop to a vehicle. A standard tow ball or vehicle tie down point is NOT designed for this purpose. This may result in the strop or a vehicle component detaching from the vehicle, striking and seriously injuring or killing a person. ONLY attach the Recovery Strop to a vehicle or device that is suitably rated for use with the strop.

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