



4X4 ACCESSORIES



VEHICLE RECOVERY

**A BRIEF GUIDE ON THE BASICS
OF VEHICLE RECOVERY**





SAFETY

Personal safety and the protection of property are paramount when considering 4WD recovery.

- Never attempt to recover a vehicle without all the necessary equipment.
- Only use equipment that is properly rated and in serviceable condition. If in doubt, don't use it.
- Ensure that only the people required for the recovery are present. All bystanders should be kept at a safe distance.
- Ensure good communication is maintained between participants and bystanders at all times. This is best achieved by use of UHF radio.

ARB recovery equipment comes in a range of high visibility safety colours. Different strap types are instantly recognisable and come with warning tags that include information such as strap type, rated capacity, material type and precautions.

NOTE: Due to the nature of synthetic fibres, recovery straps require rest periods between use to return to their original length and load capacity. Be aware that excessive pulls on a recovery strap over a short period of time can result in strap failure.





ENVIRONMENTAL IMPACT

Always consider your impact on the environment. As responsible 4WDers we are charged with caring for the areas we visit.

During wet periods, 4WDs can have a devastating effect on our tracks. Long term damage can result in temporary or even permanent track closures. Before travelling, obtain a list of road closures from the relevant state conservation and environment office.

If whilst 4WDing you come across an obstacle, consider a minimum of attempts at passing before trying to recover the vehicle. Excessive wheel spin can cause damage to both the track surface and vehicle components.

RECOVERY POINTS

It is important to ensure that only correctly mounted and rated recovery points are used for vehicle recoveries. Check your vehicle manufacturer's hand book for recovery point locations. Tie down points are not suitable for vehicle recovery so aftermarket recovery points should be sourced. ARB vehicle specific recovery points are engineered and rated for use with a 4.75t bow shackle and 8000kg (17,500lb) minimum breaking strength snatch strap.

Never use a tow ball or tie down point as a recovery point. Tow balls are not made of high tensile material and have been known to fail from stress, with the potential to become lethal missiles. If you are unsure of the type of recovery points on your vehicle, consult the manufacturer.

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RECOVERY DAMPER

The ARB recovery damper is a device that has been designed to restrict the whipping action of a strap or winch rope in the event of failure, therefore reducing the possibility of vehicle damage and personal injury.

Recovery dampers are now mandatory accessories for most 4WD competitions and the ARB recovery damper exceeds current minimum competition weight requirements.

The damper is designed to be worn over the shoulders for ease of carrying and comes in highly visible safety orange with reflective tape for night use.

The ARB recovery damper should be fitted to the middle third of a strap or winch rope. To install, simply pull apart the Velcro tabs and fold the damper over the strap/rope, then press the Velcro firmly back in place. Full instructions are printed inside the damper.

BOW SHACKLES

Only bow shackles that are load rated should be used for vehicle recovery. Load ratings are visible on the shackle and will be in the form of WLL (working load limit) or SWL (safe working load). Shackles with a rating of at least 3.25t should be the minimum and are suitable for attaching one end of a strap. 4.75t rated shackles have a larger eye and are recommended for use with ARB recovery points. They are also suited to applications such as tree trunk protectors where two ends of the strap are fitted in the shackle.

Never over-tighten the shackle pin. Forces exerted on the shackle by vehicle recovery can cause the pin to seize. The correct method is to tighten the pin until it seats, then back off the pin approximately 1/2 to 1 full turn.





SNATCH STRAP

A snatch strap, as the name suggests, is used to 'snatch' a vehicle that can no longer maintain forward momentum under its own power. ie. Bogged or unable to climb due to loss of traction, swamped in a water crossing, stuck on an obstacle or loss of power.



A snatch strap is an elastic recovery device that stores kinetic energy and has the ability to stretch to a significant degree and return to its original length. This elasticity combined with the momentum of the recovery vehicle creates a 'snatching' effect that can extract a vehicle without shock loading the attachment points or vehicle.

When choosing a snatch strap for use, it is recommended that the minimum breaking strength of the strap should be between 2 and 3 times the gross vehicle mass (GVM) of any vehicle it is used with. When using a snatch strap to recover a stranded vehicle, the MBS should be suited to the GVM of the lighter of the two vehicles involved in the recovery process.

If the GVM is not stated on the identification plate or registration certificate of the vehicle, consult the owner's handbook or vehicle manufacturer.

It is important that the correctly rated snatch strap is used. If a strap with a too heavy breaking strength is used on a light vehicle, the desired stretch may not be achieved and more stress will be placed on the recovery points.

ARB supplies snatch straps in 8000kg (17,500lb), 11,000kg (24,000lb) and 15,000kg (33,000lb) minimum breaking strength (MBS). ARB snatch straps are manufactured from 100% nylon webbing and feature reinforced eyes for additional durability.

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IMPORTANT NOTE

WARNING
INCORRECT USE MAY
RESULT IN INJURY
OR DEATH!



Vehicle **OCCUPANTS** and **BYSTANDERS** have been **KILLED** by flying projectiles (such as tow balls) when recovery straps have been attached incorrectly.

NEVER attach recovery straps to vehicle fittings such as tow balls, tow bars, tie-down points or tow hooks.

ONLY attach recovery straps to an **APPROVED** recovery point device that is suitably rated for use with the strap.

BEFORE attempting a vehicle recovery all passengers must exit the vehicles and stand as far away as possible.

- Persons intending to use the strap should consider completing a nationally recognised four wheel drive training course or contact a four wheel drive club for comprehensive advice on the proper selection and use of the strap.
- The strap must not be used for lifting or conventional towing.
- Persons intending to use the strap must ensure that the strap is not damaged and in a usable condition.
- The strap's strength and stretch are reduced when the strap is saturated with water.





- An ARB recovery damper, heavy bag or blanket must be draped over the strap during use to reduce any unintentional rebound of the strap.

While a recovery is being performed, only the persons involved in the recovery should be in either of the vehicles. All other persons should be situated at a safe distance (1.5 times the length of the strap is recommended) from either of the vehicles involved in the recovery process and to the side of the line of the recovery.

Persons involved in the recovery process must:

- a) Passengers must exit the vehicle and be kept at a safe distance (more than 1.5 times the length of the strap is recommended, or as far away from that point as possible)
- b) NEVER situate themselves within the path of the vehicle performing the recovery.

WARNING

Always follow product instructions. It is important to correctly attach the vehicle recovery strap to a motor vehicle. A standard tow ball or vehicle tie down point is not designed for this purpose and may result in the strap or a vehicle component detaching from a motor vehicle and striking and seriously injuring or killing a person. Only attach the strap to a vehicle recovery point or device that is suitably rated for use with the strap. Incorrect use has previously resulted in serious injury and death.

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MAKING THE RECOVERY

The method for using a snatch strap is quite simple; however improper use can cause serious damage or injury.

1. The recovery vehicle should be placed within reach of the snatch strap and if possible directly in line with the direction of pull. If this is not possible due to insufficient length, two straps may be joined using the correct method. Never join snatch straps with a bow shackle, as this may become a lethal missile in the event of strap breakage.
2. The strap should be unrolled and connected to an approved recovery point on each vehicle ensuring that the strap is not twisted. Approximately 2-3 metres of slack strap should be left between the vehicles. **NEVER** attach recovery straps to vehicle fittings such as tow balls, tow bars, tie-down points or tow hooks.
3. Fix an ARB recovery damper or blanket to the strap approximately mid-way between the vehicles.
4. Clear all bystanders from the recovery area to at least the prescribed minimum safe distance.
5. With communications maintained between both vehicles, the recovery vehicle should gently accelerate to take up the slack and proceed on, allowing the kinetic energy of the strap to pull out the stranded vehicle. For best results the stranded vehicle can assist by trying to drive at the same time. If the vehicle is not recovered on the first attempt, a little more speed by the recovery vehicle may be needed.

NOTE: Excessive speed and continual jerking action whilst using a snatch strap may result in damage to the recovery point, chassis and drive line of both vehicles. Where proper use of the snatch strap is not successful, an appropriate sized recovery winch should be used.

6. Once free, the recovered vehicle should take care not to run over the snatch strap as damage to the strap may occur.
7. Only once both vehicles are stationary and secured should the snatch strap be removed.

NOTE: Be aware that the recovery strap will be under greater load if the vehicle is bogged in mud, sand or is heavily laden.

CAUTION:

Always follow the recovery strap guidelines for safe use.





TREE TRUNK PROTECTOR

Designed primarily to protect a tree from ringbarking, the tree trunk protector can be used to connect a winch rope to almost any anchor point. When choosing an anchor point, ensure that it is capable of withstanding the load you are about to place on it. This is particularly important when using a tree. Make sure the tree is well rooted and try not to place shock loads upon it, as it may be possible to uproot the tree, inturn causing damage to the vehicle or serious injury. ARB tree trunk protectors are manufactured from 100% polyester webbing and are available in 3 and 5 metre lengths so that even the largest trees can be used. Each model has a minimum breaking strength (MBS) of 12,000kg (26,400lb).



The tree trunk protector should be wrapped around the base of the tree ensuring that it is not twisted. Both ends are then brought together and joined via a bow shackle. The shackle then becomes the recovery point to which the winch rope or extension strap is attached.

WINCH EXTENSION STRAP

As the name suggests, this strap is used for the sole purpose of extending the reach of a winch rope. The winch extension strap is simply connected to the anchor point at one end and to the winch cable at the other.

A recovery damper should be placed over the middle third of the winch extension strap and another over the middle third of the winch rope.

If using a snatch block, care should be taken that the strap does not enter the block or damage will result. Any twist should be removed from the strap before it is subjected to any load.

ARB winch extension straps are manufactured from 100% polyester, are available in 20 metre lengths and come in two minimum breaking strength (MBS) ratings - 4500kg (9900lb) and 8000kg (17,500lb).



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SNATCH BLOCK

A snatch block has two main purposes. It can be used to halve the amount of load on a winch, and hence double a winch's capacity. It can also be used to alter the direction of pull if straight ahead isn't the best option.

To attach the snatch block to the rope, slide the plates so that they are 90 degrees apart. Place the rope around the pulley and realign the plates. The pulley is then attached to the anchor point via a shackle through the side plate holes.

ARB snatch blocks come in two styles. The standard model is rated to 7000kg (15,400lb) working load and 14,500kg (31,900lb) breaking strain and is suitable for 6-12mm cable. The ultra light competition model is rated to 9000kg (19,800lb) working load and 17,500kg (38,500lb) breaking strain and is suitable for 8-13mm wire rope and synthetic ropes such as or Dynamica®.





GENERAL CARE AND MAINTENANCE

Never exceed the minimum breaking strength of the strap, snatch block or bow shackles.

- Ensure attachments such as hooks, shackles, chains, rope and clevis pins have a breaking strength equal to or greater than the strap
- Avoid twists and kinks in the webbing
- Always coil your straps during storage
- Never allow your straps to rub against sharp or hot surfaces
- Clean your straps in warm water with a mild detergent and allow to dry thoroughly before storage. The ingress of foreign material such as sand and grit can permanently damage the fibres of the strap
- Inspect the entire length of any strap for nicks and cuts before and after use. If damaged, the strap may fail and should be replaced
- Never use the strap as a lifting device
- Be aware that a strap can lose up to 20% strength when wet
- Keep your standard snatch block lubricated via the grease nipple. Ultra light competition models do not require greasing as they have a self lubricating polymer pulley. Remove any foreign matter from the working surfaces of the pulley
- Inspect all bow shackles for damage. Pins that are hard to turn suggest that the shackle has been overstressed and should be replaced

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HEAD OFFICE

ARB Corporation Ltd
42-44 Garden Street
Kilsyth VIC 3137 Australia
Tel: +61 3 9761 6622
Fax: +61 3 9761 6807
Web: www.arb.com.au
Email: sales@arb.com.au

USA

ARB 4x4 Accessories
720 SW 34th Street
Renton, WA 98057
Tel: (425) 264 1391
Fax: (425) 264 1392
Web: www.arbusa.com
Email: sales@arbusa.com

ARB's range of 4x4 accessories is available from stockists and distributors throughout the world. For details of the one nearest you, please contact us.



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