



USER INSTRUCTION MANUAL



MRG9N Auto Descender

 **CAUTION**

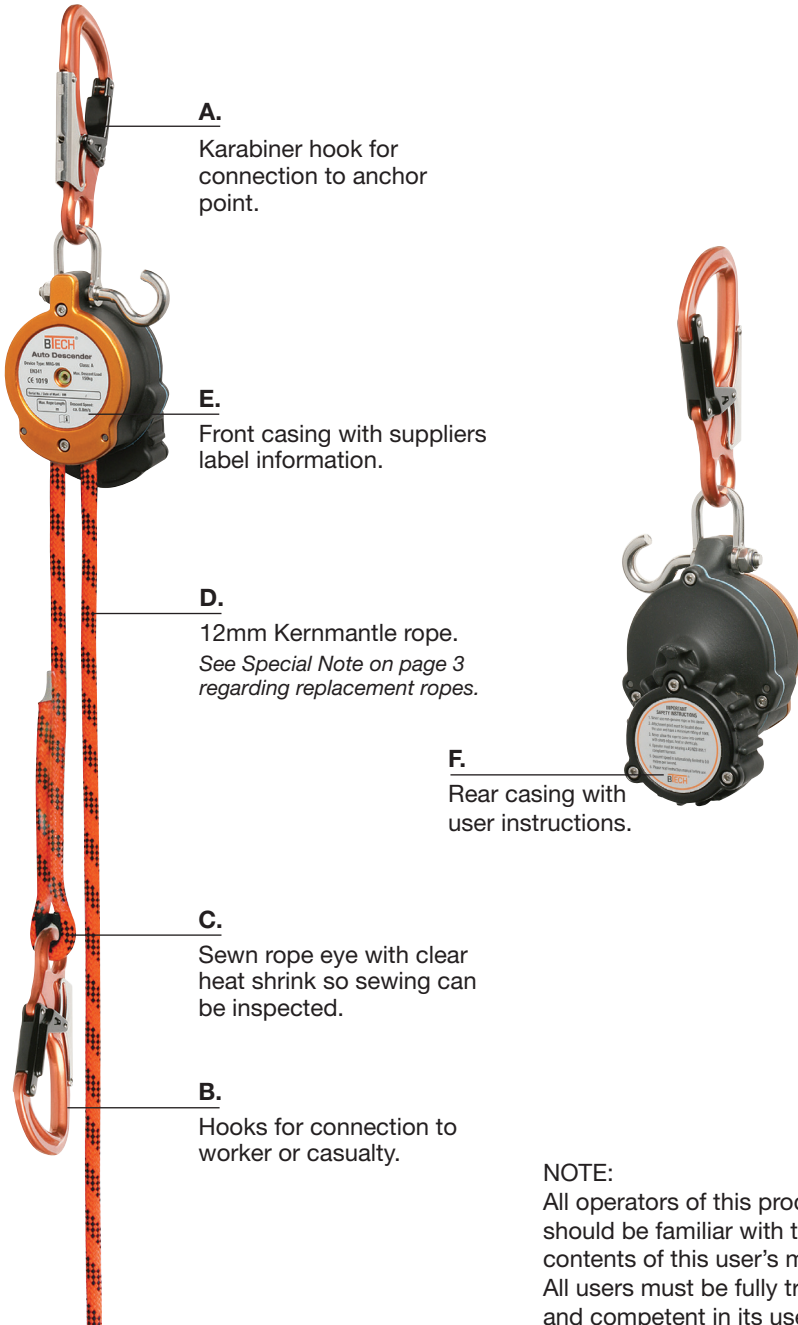


All operators of this product should be familiar with the contents of this user's manual. All users must be fully trained and competent in its use.



This product is exclusively distributed throughout Australia and New Zealand by Beaver Technology Services Pty Limited

www.beavergrp.com.au



A.
Karabiner hook for connection to anchor point.

E.
Front casing with suppliers label information.

D.
12mm Kernmantle rope.
See Special Note on page 3 regarding replacement ropes.

C.
Sewn rope eye with clear heat shrink so sewing can be inspected.

B.
Hooks for connection to worker or casualty.

F.
Rear casing with user instructions.

NOTE:
All operators of this product should be familiar with the contents of this user's manual. All users must be fully trained and competent in its use.

APPLICATION

MRG9N

The MRG9N is a controlled descent device, which has been specifically designed for use by a competent person who has been trained in its use, and who may be faced with evacuation from an elevated workplace.

The MRG9N is designed to descend one or more persons, one after the other (maximum load 150kgs) from heights up to 160 metres.

The MRG9N can be used in the vertical or horizontal axis. The MRG9N once loaded, will “free run” automatically at 0.8 metres per second, lowering the person at a controlled constant speed.

NOTE

- The use of this device will be determined by the competence of the operator and the specifics of the evacuation scenario.
- The operator must be wearing a correctly fitted full body harness compliant with AS/NZS1891.1
- A certified or appropriate anchor point of sufficient capacity and rating is required to attach the MRG9N (See AS/NZS1891.4 for guidance).
- The device should only be used for the purpose of rescue and should not be used for the lowering of loads.
- The use of a combination of components or sub systems, which have not been certified by Beaver Technology Services, is not recommended, as this may interfere with the safety function of each product.

Please refer to Table 1 for product information

Specifications MRG9N

Table 1

Maximum descent	160 metres
Maximum load	150 kilograms
Minimum load	30 kilograms
Descent speed	0.8 metres per second
Rope size	12mm Kernmantle
Service classification	Multi use, inspect after evacuation
Operating temperature	-30° to +40° degrees C
Class	A for EN 341

SPECIAL NOTE: Only rope approved by BTS to be used in this device, failure to do so could lead to serious injury or death.
Please contact BTS for further information.

INSPECTION

Before use the MRG9N must be subjected to a visual inspection and functional test. The function test is performed as follows: Pull once on the left rope and once on the right rope, the rope must be relatively hard to pull (some resistance) and the speed should remain constant.

If there is any doubt regarding the state of the MRG9N, the rope or connectors, then the unit needs to be inspected by a trained competent person.

Damaged devices, ropes, connectors or harnesses should not be used.

- ◆ **If the device becomes wet, all metal components must be dried with a cloth. The rope must be air dried under normal room temperature environmental conditions.**
- ◆ **After being used for a rescue have the device inspected by a trained competent person.**
- ◆ **The MRG9N needs to be inspected by a factory certified person every 12 months (regardless of whether it has been used or not).**

INSPECTION / SERVICE of an MRG9N used as a training device

After each training session:

- The device must be fully inspected for any damage, to the body or casing of the unit.
- The rope must be inspected for wear and if necessary cleaned to bring rope back to original condition.
- If rope shows signs of black due to pulley wheel wear, it should not be used until it is inspected by a competent person.
- The device has been tested to 1000 descent metres with a 150kg load.
- ◆ **If used frequently for training, the service interval by a certified inspection person should be monthly.**

SERVICE INTERVALS

The device must be inspected annually (more frequently if stored in humid / damp or harsh conditions) by a competent and authorised service agent.

Following an emergency and /or evacuation event - remove the unit from service and consult a service agent or Beaver Technology Services on 02 8811 3500, sales@beavergrp.com.au.

Each inspection should be logged in the table provided at the back of these instructions.

TRAINING

Carrying out a rescue or evacuation from a dangerous situation is a responsibility that should only be undertaken by competent persons that have received the necessary training from a certified training organisation.

Beaver Technology Services have many strategic alliances with service providers for training, including specialist training for higher complex and technical rescue, in areas such as Power Distribution and Wind Energy.

Training teams can be mobilised to many areas of Australia to deliver training where specialist training provision is not available.

For more details on training requirements contact Beaver Technology Services.

02 8811 3500 or email: sales@beavergrp.com.au

PRE USE CHECKS

Perform a thorough visual inspection of the MRG9N and the rope, taking into account the condition of the housing, connectors, rope and where the rope enters the device.

Pull a short length of rope through the device ensuring that there is some resistance.

Inspect for:

Markings

It is a requirement that all markings on the product be clear and legible - Check the legibility of all markings and instructions for this device to be fit for use.

Correct and efficient operation

Pull rope through and check for smooth and efficient movement, some resistance will be felt. Incompatible rope must not be used within the device as this will affect the systems integrity (use only BTS approved rope in the unit).

Distortion

Pay attention to the body, connectors on both the rope and the body, checking for distortion or excessive wear.

Damage to exterior surface / Corrosion

Powder / dust emanating from the case when operated, changes in colouring or pitting of casing, connectors etc. are all signs that the device needs attention and it should be removed from service and sent to Beaver Technology Services for a full inspection.

Insufficient connector gate closure

Check for smooth spring gate closure action and alignment.

Worn or loose components

Look and feel for loose movement or any unfamiliar noise when operating, if you notice any remove from service for inspection.

Seizure of moving parts

Check for evidence of misuse, overloading and or degradation that may have resulted in internal component seizure.

Missing or broken components

Check "kit" items against known quantity and serial numbers.

Devices used for training

For devices which are used for training, one section of the rope may become black. This is because descent is carried out on the same section of the rope each time it is used. The black coating can reduce the grip of the pulley wheel within the device and cause slippage. The black coating should be washed off with warm water and left to naturally dry before any further use.

ROPE AND SLING INSPECTION - PRE USE CHECKS

Check the components of the product and check that no parts of the assembly have been removed or supplemented by inappropriate fittings.

Inspect ropes and slings for:

Cuts

Ropes and slings used with these products are very susceptible to cut damage as they are frequently used in situations where contact with the work surface is unavoidable. Ensure that the construction of the ropes and slings are given a visual and tactile inspection along its entire length as cuts can occur on the inside without being visible from the outside. Any evidence of cutting warrants disposal.

Abrasion

Abrasion is caused by constant movement of the material against the work surface and effectively reduces the strength of the fabric in a manner similar to cutting. Visual indications are excessive “furring” of the surface of the material. An assessment of the sling / rope condition should be made and any major abrasion warrants disposal.

Exposure to heat and burns

Nylon and polyester are susceptible to damage by heat from either friction or direct contact with a heat source. Neither should be exposed to a heat source with a temperature above 50 degrees Celsius. Pay particular attention when looking for heat damage on rope as friction burns can occur without the users’ knowledge. Visual and tactile (touch) inspections of heat damaged fabric usually reveal glazing with a smooth surface.

Chemical damage

If a rope or sling has come in contact with an unknown chemical or contaminant then it must be discarded.

Ultra violet degradation

Oil based fabrics such as nylon are affected adversely by prolonged exposure to sunlight. (Nylon can lose 4% of its overall strength after 300 hours in the bright sunlight). Ropes are more commonly exposed to this type of damage as they are frequently left “on site” for extended periods in certain work environments. One of the key indicators of damage is usually in the form of a faded colour in the materials.

Elongation

This can be caused through falls or misuse - prolonged loading and lifting for example. Where elongation is evident - **WITHDRAW FROM SERVICE** immediately. It is sometimes possible to detect evidence of elongation through close scrutiny of knots and / or sewing and splice thimbles which may appear distorted.

Kinks and twists

Check for “kinks” and twists in rope construction, which may render the product unusable and therefore unsafe. Rope obstructions such as knots or kinks - entering the units during descent could result in the unit locking mid descent and being irreversibly damaged.

NOTE

If any of the above is in doubt the equipment should be withdrawn from use.

Never attempt to make alterations or additions to the equipment without the written consent of Beaver Technology Services. Repairs are only to be carried out by Beaver Technology Services or its authorised service agent.

Pre-use checks may not be able to be performed in an emergency situation where an immediate response is required. Therefore it is vital that all equipment including ancillary products are serviced and maintained in accordance with their working life.

USE

The MRG9N needs to be removed from the carry bag and the Karabiner hook on the top of the unit needs to be attached to an anchor point. (Guidance on anchor point strength is given in AS/NZS189.4-2009).

The rope needs to be removed from the carry bag fully, ensuring that there are no tangles or knots.

Always ensure there is sufficient rope length on the MRG9N for the user to reach the selected safe area or to ground level.

CAUTION: When preparing to descend ensure that you are connected correctly and cannot fall. Also ensure that there are no obstacles, obstructions or hazards in your descent path. Never allow the user to be left suspended or prevent the system from lowering the user once activated.

Pull one end of the rope through the MRG9N until one of the hooks is positioned near the descender (the other hook should be at ground level). The hook is then connected to a fall arrest rated attachment point on an approved harness (Harnesses should be to AS/NZS1891.1).

Adjust the rope until it is taut between the MRG9N and your harness.

CAUTION: Never drop onto a slack rope.

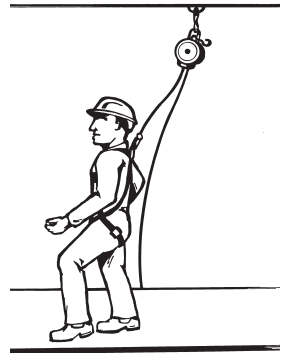
You can now descend and your speed is controlled by the device. Once on the ground you disconnect the hook from your harness and ensure that the rope is not tangled or caught on an obstacle.

A second person can now connect to the hook on the other end of the rope. The same procedure as for the first person is used, again connect the hook to a fall arrest rated attachment point on an approved harness. Remove the slack from the rope ensuring that it is taut before starting the descent. If there are multiple people needing to descend then these can occur using the same procedure.

CAUTION: Protect the rope from sharp edges, welding sparks, heat sources, naked flames, paints and other destructive or damaging risks.

Please Note:

In some States or Territories the users of this equipment may need to hold documented and accredited training. Please check with your local regulatory authority for their requirements.





MRG9N Auto Descender

Inspection Log

Model No. Serial No:

Date introduced into service

Date	Comments	Signature

This product is exclusively distributed throughout
Australia and New Zealand by Beaver Technology Services Pty Limited

www.beavergroup.com.au