

SRK-15[®] Manual

Featuring the Military Compact Descender (MCD-G)

Application, Function, Training
Inspection & Maintenance

TSL[®]
TECH SAFETY LINES

English



CE CERTIFIED BY TÜV
SÜD TO EN 341:2011/2D



DESCENT DEVICE IN
ACCORDANCE WITH
ANSI/ASSP Z359.4-2013



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WARNING

Activities involving the use of this equipment are inherently dangerous. You are responsible for your own actions and decisions.

Before using this equipment, you must:

Read and understand all Operating Instructions.

Get specific training in its proper use from Tech Safety Lines, Inc. or an Authorized Agent of Tech Safety Lines, Inc.

Have knowledge of its capabilities and limitations.

Understand and accept all risks involved.

FAILURE TO HEED ANY OF THESE WARNINGS MAY RESULT IN SEVERE INJURY OR DEATH.

SPECIFICATIONS

MCD-G

Designed and Certified to EN 341:2011/2D, PPE Regulation (EU) No. 2016/425
Please visit <https://www.techsafetylines.com/eu-declaration-of-conformity/> to access this product's EU Declaration of Conformity.

The MCD-G is independently certified by Underwriters Laboratories as meeting ANSI/ASSP Z359.4-2013, the standard for Safety Requirements for Assisted Rescue and Self-Rescue Systems, Subsystems and Components.

Maximum Descent Height:	180 Meters
Load Rating:	1 Person (60 kg – 125 kg)
Minimum Temperature:	-20°C*
Wraps on Shaft:	3,5
Speed of Descent Range:	0,5 – 2 m/s*
System Minimum Test Load Without Failure:	2268 kg
Service Life of Metallic Components:	Indefinite If Not Used
Service Life of Rope, Plastic, & Textile:	10 Years
Rope Description:	6 mm Technora® 12 Strand Braid, Natural Color
Rope & Anchor Strap Minimum Breaking Strength (MBS):	29,8 kN
Rope & Anchor Strap Decomposing Temperature:	500°C
Descent Energy Rating E:	372,000 lbf

*In Wet Conditions the Minimum Temperature is -4°C.

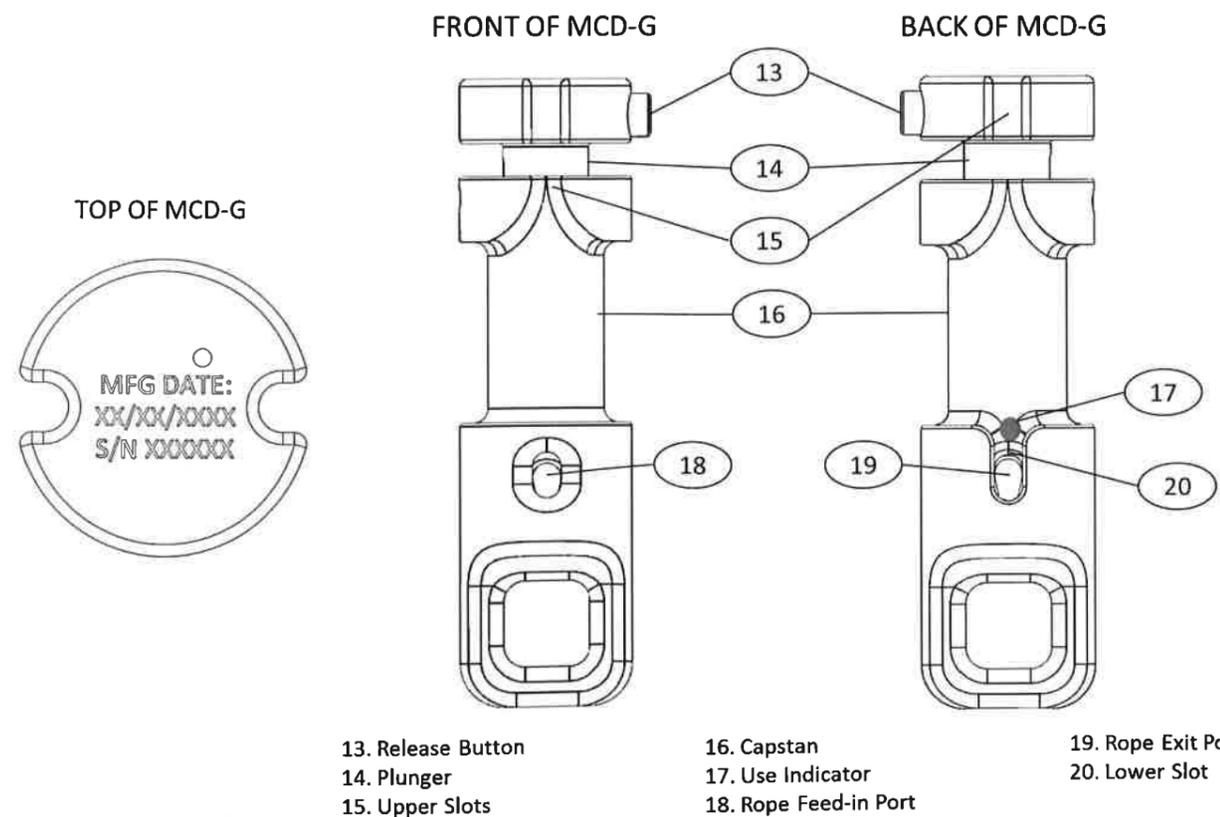
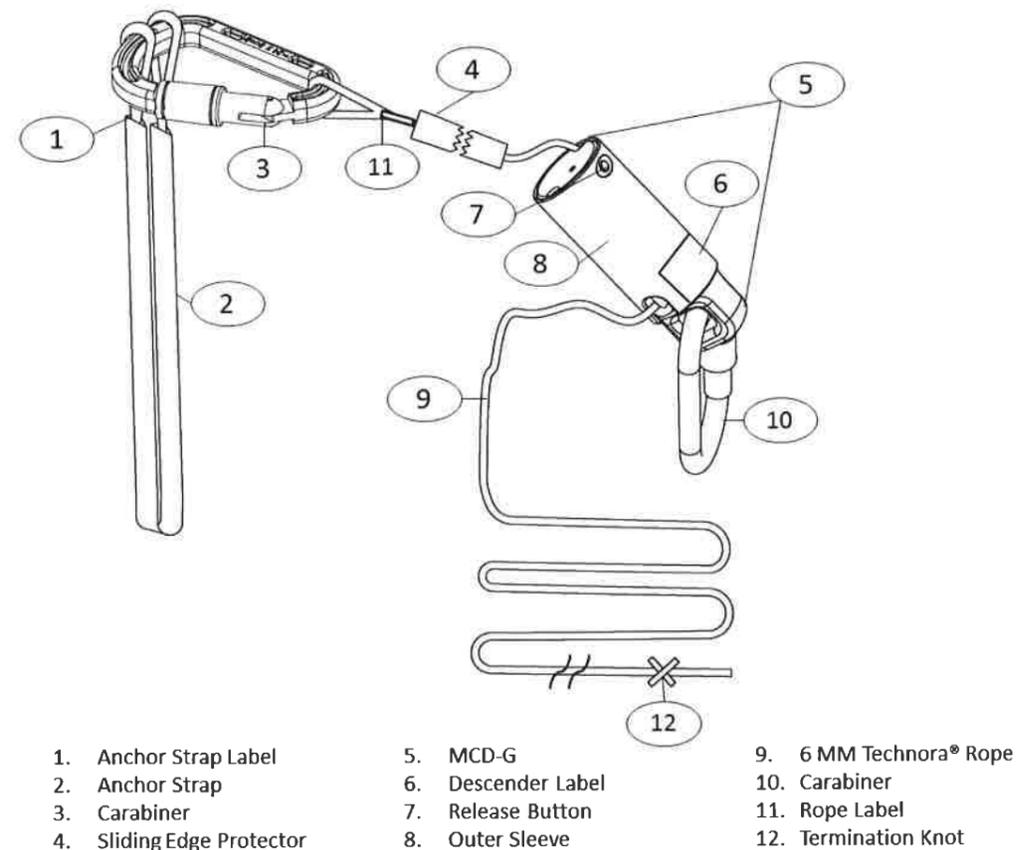
*Speed of Descent will vary depending on User's Weight.

MCD-G DIMENSIONS:

Diameter:	5 cm
Length:	15,2 cm
Weight:	0,45 kg

NOMENCALTURE OF SRK-15 PARTS:

Figure 1



SRK-15 BAG LABEL:

Figure 2



COMPONENT LABELS:



Figure 3



Figure 4



Figure 5

KIT PACKING INSTRUCTIONS:

Kit packing and preparation must be done by a trained and competent person.

Inspect the rope before packing the system.

1. Ensure a termination knot at the end of the rope that is opposite to the terminated eye.
2. With the bag vertical, place the knotted end of the rope inside the bag.
3. Flake rope into bag randomly - DO NOT coil the rope.
4. Tamp rope as the bag fills up.
5. Once the rope is flaked into the bag, the MCD-G, carabiners and anchor strap should all be placed on nearest to the zipper.
6. The MCD-G should be as close to the terminated eye as possible, to allow ease of use in a descent.



Figure 6

SRK-15 Product Overview

Warning! This device is for rescue purposes only! The information contained in the manual is vital to your safety!

The **SRK-15** is a manually operated controlled descent system designed to provide a means of self-evacuation or escape from elevated areas using custom designed 6mm high-strength rope. (Fig. 7)

The device offers the following unique features:

- Compact design
- Anchor provision
- Edge protection
- Aluminum alloy construction
- Active and Passive brake systems
- Spring-loaded activation
- Configuration variety



Figure 7
SRK-15 with components removed from bag

FUNCTION

The **SRK-15** features the MCD-G as the designated descent controller of this Self-Rescue kit. A specially designed rope is wrapped around a friction cylinder (capstan) for descent speed control.

Passive braking is supplied by an internal, spring-loaded plunger. Retracting the outer sleeve releases the rope from the passive brake system and allows for controlled descent.

Active braking is supplied by increasing the downward pull on the outer sleeve of the device.

NOTE: This device is to be used for rescue purposes only.

DESIGN STATEMENTS

1. The MCD-G has been designed with a Passive Braking System to allow the descent to stop when the outer sleeve is released. The MCD-G also features an Active Braking System which may be useful in cases where the user has panicked and would otherwise be subject to an uncomfortable descent speed. Active braking is supplied by increasing the downward pull on the outer sleeve. The amount of braking power is proportional to how hard the user pulls downward on the outer sleeve.
2. The **SRK-15** is not designed for fall arrest. The system will absorb only a minimum shock load. Extreme care must be taken to avoid dynamic loading of the system. The user must avoid any slack between the user and the anchor point.
3. Use only approved equipment supplied with the product and described in these instructions. **WARNING: Serious injury or death can result if using the product or any component in an unauthorized manner.**
4. Severe strength reduction, sometimes over 66%, will occur as a result of unprotected rope traveling over ledges or around corners. Edge protection must be used in cases where the rope could sustain damage from passing over such hazards. A knot in the rope may reduce its strength by 50% or more.
5. Rope failure may result from improper storage, handling, or use other than the intended function. Store product in a dry place away from exposure to UV, chemicals, extreme temperatures, etc.
6. Only the provided 6 mm Technora® braided rope is to be used with the MCD-G. Substituting another rope is prohibited.
7. The rope is designed for ONE USE ONLY. If the **SRK-15** is used, return entire **SRK-15** to Tech Safety Lines or its authorized agent for inspection and installation of new rope.
8. This device is designed and certified to EN 341:2011/2D, the European standard for personal fall protection equipment - Descender devices for rescue and is certified to ANSI/ASSP Z359.4-2013, the American standard for Assisted-Rescue and Self-Rescue Systems.

TRAINING

Prior to use, the user must engage in practical training conducted by an Authorized Trainer in a safe, controlled environment. As with all rescue gear, it is necessary to practice with the **SRK-15** to develop skill and confidence.

Suspension of personnel on this equipment during training or practice sessions must be backed up by an independently anchored fall arrest system or appropriate belay method attached to an anchor capable of holding 2268 kg.

Note: Neither this document nor training on the **SRK-15** certify the user in the proper operation of fall arrest equipment.

Any training descent shall be supervised, witnessed, approved, and documented by an Authorized Trainer in the use of the **SRK-15**.

INSPECTION

1. Only Tech Safety Lines or entities authorized in writing by Tech Safety Lines shall make repairs to the **SRK-15** or its components. No unauthorized repairs and/or modifications of its components are allowed.

2. The end user is tasked with the inspection of the **SRK-15** prior to each use. If the **SRK-15** is used in an emergency, the components must be inspected by Tech Safety Lines or their authorized agent prior to being used again. Any rope or anchor strap used in an emergency must be retired and destroyed immediately.

3. When inspection reveals defects, damage, or improper maintenance of any component, the affected component shall be removed from service and replaced or undergo adequate corrective maintenance before returning to service.

4. Remove a system from service if there is evidence of the following:

- Markings or labels are illegible or missing.

Training Objectives

1. The user must clearly understand how the **SRK-15** works and why proper rigging is essential.
2. The user must understand the importance of maintenance, inspection and storage of the equipment, and be able to recognize unacceptable equipment conditions during inspection.
3. The user must demonstrate competent use of the **SRK-15** to the Authorized Trainer.
4. The user must demonstrate the ability to identify and correctly connect to an appropriate anchor.

- There is evidence that the rope has been used or damaged.
- There is evidence of excessive wear or damage to the **SRK-15** or its components in accordance with manufacturer's instructions.
- Anchor strap shows damage due to abrasion, burns, melting or cuts.
- There is evidence of defects or damage to any component including cracks, sharp edges, deformation, corrosion, chemical attack, excessive heating, alteration, or excessive wear in accordance with manufacturer's instructions.
- There is evidence of improper function, improper fit, or alteration of the **SRK-15** or its components.
- Missing components.

Inspection Procedure

1. Check for wear on the capstan of the MCD-G. Any grooving of the capstan will necessitate removal of the device from service.
2. The release button must be operational.

Training Procedure

1. The user or trainer shall construct an independently anchored fall arrest system or appropriate belay method. The user must be attached to this system before exposure to a fall hazard and during any suspension with the MCD-G
2. The user must demonstrate how to correctly rig the MCD-G for controlled descent, attach the system to an approved anchor, attach the unit to the full body harness, and descend to the ground.
3. Training descents may take the form of an Emergency Egress, where the user attaches the **SRK-15** components directly to an anchorage, or of a Self-Rescue, where the user must evacuate from an activated, compatible fall arrest device such as the **StepWise Fall Arrest Lanyard**.

3. Ensure the outer sleeve moves smoothly and freely without binding or sticking. The MCD-G does not require lubrication.
4. Ensure that the Use Indicator is present (see Figure 1). Absence or alteration of the Use Indicator suggests that the device has been used.
5. Ensure there is no significant damage to the rope. While some loose fiber strands may be present, remove from service any rope which has one or more of the 12 cords of the braid severed or significantly abraded.
6. Depress plunger. Ensure that the rope runs smoothly through the device.
7. Reassemble unit, ensuring that there are 3.5 wraps around the capstan, unless instructed otherwise during training.
8. Inspect anchor strap for cuts, tears, melting, burns, or abrasions. Remove strap from service if any of these conditions are found.
9. Inspect the carabiners for proper operation. Improperly operating carabiners must be removed from service.

OPERATING INSTRUCTIONS

WARNING! The **SRK-15** is intended for use by a skilled, trained professional. The user should read this instruction manual completely and be trained by a competent professional in the use and operation of the **SRK-15**.

LOADING PROCEDURE

NOTE: The **SRK-15** is packaged in several different bag styles and component configurations. Use only the bag supplied by TSL. Users are to refer to their initial training for information and instruction on how to attach the rescue kit to the harness to best facilitate system deployment.

1. Remove the outer sleeve from the MCD-G by depressing the release button at the top end of the device. (Fig. 8) Remove the outer sleeve from the unit.
2. Retract and hold plunger. Pull the required amount of rope to wrap around the capstan and reach the chosen anchor point. Slowly release the plunger, ensuring the rope aligns with the lower slot in the base of the capstan. (Fig. 9)
3. Wrap the rope around the capstan of the MCD-G either clockwise or counterclockwise. (Fig. 10)

NOTE: The **SRK-15** will come with 3,5 wraps around the capstan when purchased. User may adjust number of wraps for personal body weight only after receiving approved training.

4. Holding the rope in the upper slot, depress the release button so that the outer sleeve can slip over the capstan. Verify that the outer sleeve has fully engaged with the release button. (Fig. 11)

DESCENT PROCEDURE

1. Remove MCD-G from pouch and attach EN342 triple locking carabiner to attachment point of full body harness in appropriate manner for descent. Pay attention to carabiner orientation, ensuring that the carabiner gate is not side loaded. Make sure the gate is closed and locked correctly. The actual attachment point will vary depending on which style harness the user is wearing. (Figs. 12-15)

NOTE: The system must only be used with a full body harness that meets applicable standards.

2. Exercise caution and judgment in identification and selection of an anchor when operating the **SRK-15**. Always select the strongest possible anchor available.
3. Place anchor strap around selected anchor(s). Anchor strap can be wrapped around the anchor point to eliminate excess length. Alternatively, the user can clip the carabiner that is attached to the woven eye of the rope directly into the anchorage, if it is compatibly sized and dimensioned. Use carabiner to connect to the anchor strap.

NOTE: Ensure that arrow on the MCD-G label is pointing toward the anchor. (Fig. 3 on page 4)

4. Ensure that enough rope is available for the user to reach the selected point of egress.
5. Determine whether or not edge protection is required. If needed, edge protection should be positioned and secured in the area where the rope will contact an edge or abrasion point.

6. Verify that the device is at the optimum point for safe deployment. This includes ensuring that the rope to be used with the unit is sufficient length to reach the ground from intended point of egress. Make sure there are no knots in the rope below the descender.

7. Carefully move over the edge, keeping tension on the rope. It is not necessary to hold onto the MCD-G at this point, as the Passive Brake System is engaged.

NOTE: Ensure that the connection to the anchor is arranged so that the descent is not impeded.

8. Once suspended, grasp the outer sleeve with one hand. Retract the outer sleeve slowly to begin descent. At any time, the user may discontinue the descent by releasing the outer sleeve, allowing it to return to its initial position. With the other hand, loosely grip the rope feeding into the MCD-G approximately 0,5 meter from the device, ensuring the rope feeds smoothly and tangle-free into the descender.

NOTE: The temperature of the device will increase with speed of descent. Gloves are recommended.

9. In order to stop the descent, release the sleeve. If movement does not stop completely, push the sleeve firmly upward in the direction of the anchor. This will firmly seat the rope in the brake.

10. As the descent proceeds, the user will move faster. For additional speed control, the user can reduce the retraction of the outer sleeve and/or provide tension on the rope entering the device.

NOTE: The end-of-rope termination knot will prevent travel beyond the rope length. Do not travel to the knot. Avoid approaching the knot with rapid descent.

NOTE: It is vital to always descend in control. Loss of control due to high-speed descents may be difficult to correct and may damage the rope.

* Figures 8 - 15 are on page 8

OPERATING INSTRUCTIONS FIGURES



Figure 8



Figure 9



Figure 10



Figure 11



Figure 12



Figure 13



Figure 14



Figure 15

ROPE INSTALLATION

The **SRK-15** is delivered to the user with the rope installed in the MCD-G. Only **Tech Safety Lines** or entities authorized in writing by Tech Safety Lines shall install rope in the MCD-G. If the originally supplied rope is removed from the MCD-G, or if new rope is needed, the MCD-G must be returned to Tech Safety Lines or its authorized agent for rope installation.

Service Life of Rope: The life expectancy of the supplied rope should not exceed ten (10) years. Even if the rope has not been used, TSL will not accept responsibility for rope kept beyond ten (10) years.

SRK-15 TRAINING UNITS (Warning! All Training Units must be marked as TRAINING UNITS)

The rope in the **SRK-15** is designed for one-time emergency use. The hardware, such as the MCD-G and the carabiners, can be used multiple times. Trainers should have designated training kits with specifically designated training rope, which will be exposed to multiple descents. During training, students must always be backed up with a fall arrest system. Due to the variable nature of descent conditions, Tech Safety Lines cannot predict the maximum number of descents possible for the same rope. A Competent Person fully trained in the operation, maintenance and inspection of the system will determine when the 6mm Technora® training rope should be retired.

The following guidelines are provided to aid the end user in determining appropriate Training Unit usage:

1. The **SRK-15** is not designed as a fall arrest system — **great care should be taken not to subject the MCD-G to an impact load!**

2. Loading the **SRK-15** rope over sharp edges or abrasive obstacles such as brick, cement or metal windowsills should be avoided.
3. No attempt should be made to cut, re-splice, or alter the rope in any way.
4. The rope should not be knotted. Testing has shown that up to 50% of rope strength is lost with any knot in the rope above the descender.
5. The user or trainer shall set up an independently anchored fall arrest system or appropriate belay method. The user must be attached to the system before exposure to a fall hazard and during any suspension with the MCD-G.
6. The rope must be inspected before each use. The rope should be discarded if any of the following conditions are found:

- Cuts that have completely severed one of the 12 cords that make up the rope construction.
- Abrasions that have severely worn one or more of the 12 cords of the braid. This would be characterized as significant “fuzziness” of the rope with obvious damage to the individual fibers.
- Any charring of the rope.
- Major particulate contamination due to sand, gravel or other abrasive materials.
- Damage to the splice or loop such as cuts, distortion, or pullout of the splice.

Training Rope should never be used for emergency descent. Only new, unused rope shall be utilized in emergencies.

Only qualified users fully trained in the operation, maintenance and inspection of the SRK-15 should use the system. Direct responsibility for determining the number of uses and lifespan of the designated training rope and training MCD-G lies with the end user.

Other Warnings:

1. Do not alter this equipment.
2. Do not misuse this equipment.
3. Using combinations of components or subsystems, or both, may affect or interfere with the safe function of each other.
4. Exposing this equipment to chemicals, high heat, severe cold, or other harsh environments may produce a harmful effect. If unsure, consult the manufacturer.
5. Do not use this equipment around moving machinery and electrical hazards.
6. Do not use this equipment near sharp edges and abrasive surfaces.
7. Avoid descending into electrical, thermal, chemical sources or other hazards.

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