MODEL NO.
SERIAL NO.

OPERATOR INSTRUCTIONS

REDPOINT® DESCENDER

with Field Replaceable Line

⚠ WARNING

Climbing is a dangerous activity. Operators of the Descender are responsible for the safety and supervision of climbers using this equipment. MSA requires all operators to be trained before using this product. These instructions must be provided to operators before use of the Descender and retained for reference by operators. Owners and operator must read, understand (or have explained), and heed all instructions, labels, markings, and warnings supplied with this product, and with any associated products intended for use with the Descender. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.

Facilities using the Descender should refer to, and abide by the Outdoor Industry Climbing Association's Accepted Industry Practices which provides guidelines for the indoor climbing industry, including age restriction, waiver forms, belay checks and climbing facility operating procedures. Also refer to and abide by the Climbing Wall Industry Group's Engineering Standards, the climbing industry standard for load distribution and anchor point placement for artificial climbing walls. Instructions contained herein supercede any information in these publications. Both publications are available through the Outdoor Recreational Climbing Association (ORCA).

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1.0 DESCENDER MODELS AND SPECIFICATIONS

TABLE 1. DESCENDER MODELS COVERED BY THESE INSTRUCTIONS

MODEL	DESCRIPTION	LINE	LINE LENGTH	HOUSING SIZE	APPROX. NET WEIGHT
10024873	DESCENDER WITH WEBBING LINE & SWIVEL CARABINER ATTACHMENT	0.8" NYLON/SPECTRA WEBBING	39ft.(11.9m)	16 x 9.5 x 7.5 in (40 x 24 x 19cm)	34.5 lbs (15.6 kg)
10027646	DESCENDER WITH WEBBING LINE & SWIVEL SNAPHOOK ATTACHMENT	0.8" NYLON/SPECTRA WEBBING	39ft.(11.9m)	16 x 9.5 x 7.5 in (40 x 24 x 19cm)	34.5 lbs (15.6 kg)
10027798	DESCENDER WITH WEBBING LINE WITHOUT ATTACHMENT ELEMENT. OWNER TO PROVIDE AUTO-LOCKING CARABINER.	0.8" NYLON/SPECTRA WEBBING	39ft.(11.9m)	16 x 9.5 x 7.5 in (40 x 24 x 19cm)	34.5 lbs (15.6 kg)

1.1 SPECIFICATIONS

- Decent rate is 1.6 ft/s (0.5 m/s) minimum to 6.6 ft/s (2m/s) maximum. Descent rate will increase for heavier climbers.
- Maximum capacity is 310 lbs (140 kg). Minimum recommended capacity is 75 lbs (34 kg). Climbers less than 75 lbs will descend at a rate slower than 1.6 ft/s.
- Materials: Housing: Zinc plated carbon steel. Line: 0.8" wide nylon and Spectra™ webbing, minimum breaking strength 3,500 lbs (15.6 kN) (when new). Internal components are plated steel or aluminum.
- Certified to BSEN 364:1993

2.0 TRAINING

It is the responsibility of the purchaser of the Descender to assure that operators read and understand these Operator Instructions, and are trained in:

1. how to properly inspect, use, transport, store and maintain the Descender.
2. how to properly install the Descender.
3. proper attachment locations and methods, including compatibility of connections to eliminate the possibility of accidental disengagement
4. the consequences of improper use of the Descender and associated equipment, and of failure to follow instructions and training.
5. how to instruct climbers on the proper use of the Descender.
6. how to supervise climbers using the Descender.

It is the responsibility of all operators of the Descender to ensure that all users (climbers) are:

1. properly fit and secure in a climbing harness.
2. properly attached by the Descender carabiner or snaphook to their climbing harness.
3. instructed on proper techniques for ascending and descending using the Descender.
4. instructed on what to do in the event that a slack line condition, or improper retraction rate is observed while climbing.

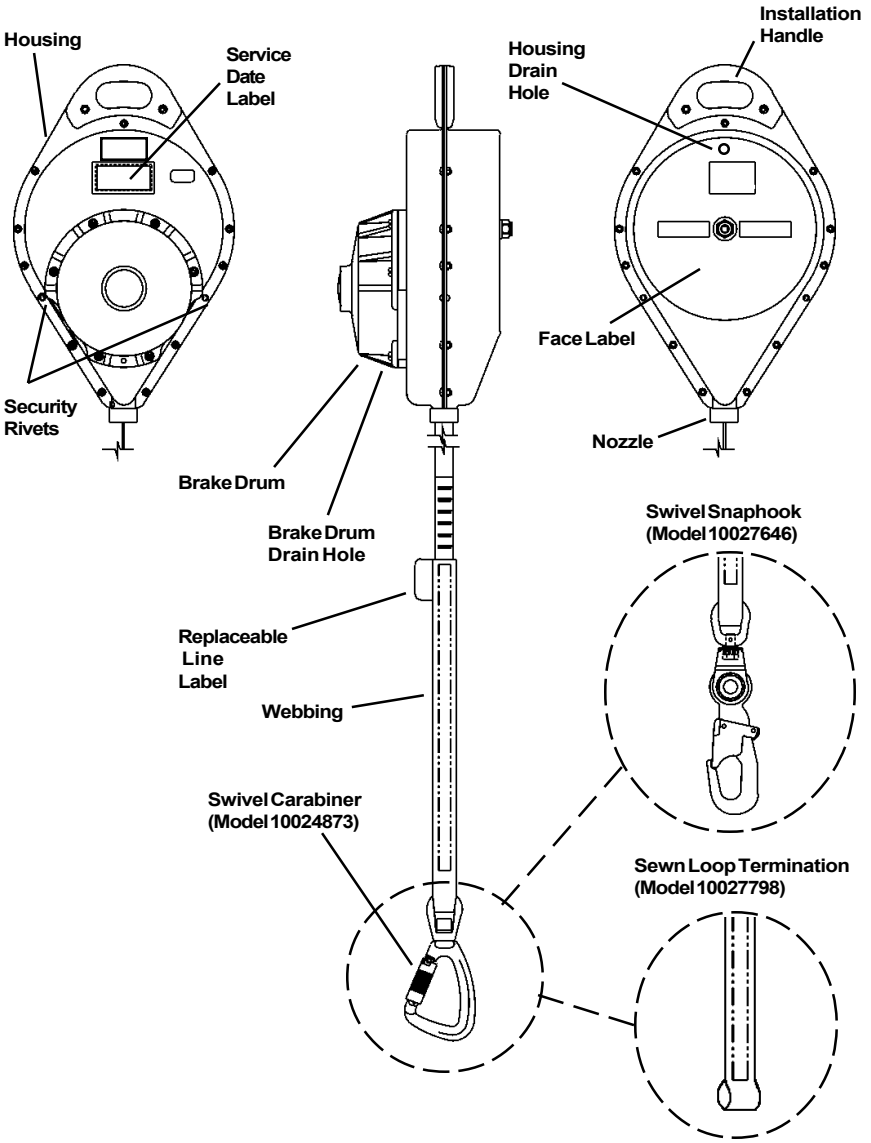
3.0 DESCRIPTION OF MSA DESCENDER

The Descender is a controlled descent device for the recreational climbing industry. It is installed overhead in indoor climbing gyms, on portable climbing walls, or challenge courses. The device provides a hands free belay for the climber, thereby eliminating the need for an additional climber or attendant to serve as belayer. The Descender may be installed on a climbing wall where a top-rope would typically be used. (See section 4 for installation guidelines). Unlike a top-rope, however, the climber cannot hang suspended by the Descender once he or she has let go of the wall. The climber will always be lowered to the ground at a continuous, controlled rate. The Descender is NOT designed for lead climbing. The line automatically retracts into the unit, permitting repeated descents. The Redpoint Descender comes equipped with a replaceable line. The line may be replaced in the field by the end user. See instructions provided with the Line Replacement Kit for specifics on how to replace a worn or damaged line, carabiner, or snaphook. See Section 10.1 for information on ordering a replacement line.

3.1 DESCENDER HOUSING ELEMENTS

3.1.1 INSTALLATION HANDLE

Connection point for anchoring the Descender to the climbing structure. Also serves as a carrying handle. Anchoring elements should always secure through the installation handle. (See section 4 for installation instructions.)



3.1.2 BRAKE HOUSING

A bronze housing that contains the brake mechanism. A hole in the bottom of the brake housing permits brake dust to exit the unit. Always orient the Descender vertically with this hole facing down.

3.1.3 SECURITY RIVETS

Serve as evidence that the unit has been tampered with by other than an authorized factory representative. NEVER open the housing or attempt a field repair. Serious injury could result.

3.1.4 NOZZLE

Helps seal the unit and prevent contaminants from entering the housing. Prevents line twisting.

3.1.5 LINE

3/4" nylon webbing.

3.1.6 SWIVEL CARABINER, OR SWIVEL SNAPHOOK

Self closing, self locking, provides an attachment means to the climber's harness.

3.2 DESCENDER LABELS AND MARKINGS

3.2.1 FACE LABEL

Explains the inspection before use and installation instructions. Reading the face label is not a substitute for reading and understanding these Operator Instructions.

3.2.2 SERVICE DATE LABEL

Completed by the manufacturer. Provides information vital to the inspection and factory service procedures explained in section 13.

4.0 INSTALLATION INSTRUCTIONS

4.1 PRIOR CONSIDERATIONS

Moisture, if allowed to remain in contact with the internal mechanism, can reduce the effectiveness of the braking system and shorten the useful life of the Descender. The Descender has three openings where water can enter the internal mechanism: the nozzle, the housing drain-hole, and the brake drum drain hole. When the Descender is installed correctly with the nozzle facing straight down, water will flow primarily over the protective housing, or drain out through the nozzle opening. It is important that the Descender is installed in an upright position. Mounting the device horizontally will permit moisture and brake dust to accumulate inside the brake housing. Prolonged exposure to moisture will cause corrosion to the brake mechanism and can contribute to mechanical malfunction such as difficulty in retracting or extracting line.

⚠CAUTION

Ensure that the brake mechanism is dry prior to operation. If the brake mechanism remains wet a climber may experience an increased rate of descent, or jerky descent.

When transporting or storing the Descender on a portable rock wall, always remove the device, or cover it with a waterproof cover to prevent water damage. This is especially important if the device will be stored or transported in a horizontal position, where water or road salts can enter and remain trapped inside the mechanism for prolonged periods. A protective cover can be fashioned from a plastic bag or tarpaulin, as long as the cover prevents water from entering and remaining inside the Descender. Remove or cover the unit whenever the rock wall is laid horizontally. Do not lay the Descender down where water can enter and remain inside the unit. The brake drum drain hole allows brake dust to exit the device. During use, ensure that this hole is unobstructed.

Install the Descender with sufficient clearance to permit freedom for the device to rotate several inches back-and-forth and side-to-side. Do not rigidly mount the Descender to the climbing wall, as this can result in premature wear of the line.

⚠CAUTION

Do not rigidly mount the Descender to the climbing wall.

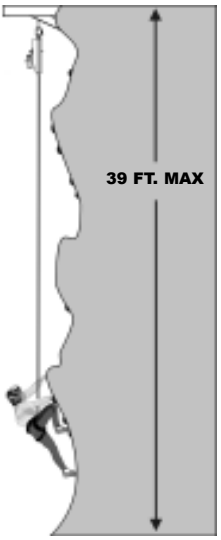
Install the Descender over the intended descent path with the housing oriented vertically and line nozzle facing down. The housing must be oriented vertically to permit proper operation of the brake mechanism and to allow brake dust to exit the housing. Install where the line can hang unobstructed by the climbing wall or climbing holds. Do not allow the line to pass over sharp edges or drag on the wall or hand holds during descent. Always avoid installation where the

line can become lodged behind hand holds or other obstructions. Mount the Descender so as to prevent a climber from climbing above the unit. Install the unit overhead to minimize swing hazards, and to prevent excessive wear on the nozzle. Ensure that the height of the wall does not exceed the 39 ft. (11.9m) line length, and that climbers cannot forcibly extract the line beyond this length to its termination point. If installation is on a portable climbing wall, secure the unit where it is easily accessed for inspection and removal prior to transport.

Consider all possible paths of climber movement and all factors that could affect climber safety while climbing and descending, anywhere along these paths. Consider the location of the entire length of line as the prospective climber moves around. It should not pass over, under or around the path of another climber.

Never install the Descender where the housing or line can encounter electrical hazards.

Drawing not to scale.
Details not shown.



Take precautions to avoid dropping the Descender when it has been detached from the climbing wall. Damage can occur to the brake mechanism if the Descender is dropped. This damage may not be evident upon inspection of the external housing, and may result in interference with normal line retraction. If you suspect that a Descender has been dropped, resulting in damage to the brake mechanism, remove the unit from use immediately and return to MSA Rose for service.

When not in use, the line of the Descender should be retracted completely into the housing. This will prolong the life of the retraction spring. Never release the line, allowing it to re-reel back into the Descender in an uncontrolled manner. When not in use, a tag line can be connected to the carabiner on snaphook for retrieving and returning the line into the housing. While in use, it is recommended to keep the carabiner or snaphook clipped to an eyebolt or hanger at the base of the climb, where it is available to the operator.

4.1.1 CARABINER SELECTION

Redpoint Descender model number 10027798, and Line Replacement Kit part number 10027871 come with a sewn loop termination for attaching a carabiner. The owner is responsible for providing an appropriate auto-locking carabiner with a minimum 5,000 lb (22 kN) breaking strength along the long axis of the carabiner. Always use a self-closing, self locking (auto-locking) carabiner that requires, at a minimum, two separate actions to open the gate. For example, most auto-locking carabiners require the user to twist the gate collar (unlock), then depress the gate (open) in order to open the carabiner. Never attach a non-locking or screw-lock carabiner to the Descender.

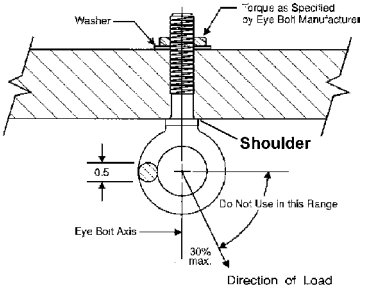
4.2 ANCHORING THE DESCENDER USING APPROVED ANCHORAGE HARDWARE

The Descender must be linked to an anchorage so as to prevent accidental disengagement or rollout. There are many elements of installation hardware that are suitable for installation. The information that follows discusses a few that are in general use and readily available. Most installations can be accomplished using these hardware elements individually or combined as described. All installation methods and hardware must meet the minimum requirements set forth by these instructions. Never use installation methods and hardware other than those recommended by MSA unless such other hardware and methods have been recommended to be suitable by MSA , or approved by a qualified engineer. All installation hardware and the mounting location on the climbing structure must meet a minimum strength requirement of 4,400 lbs (19.6 kN) in the direction of anticipated loading.

4.2.1 EYEBOLT

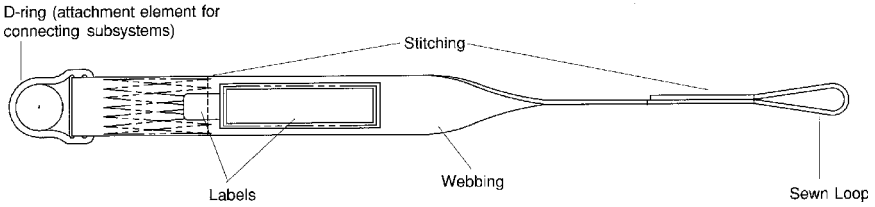
Eyebolts must be of weldless forged alloy steel construction with a shoulder pattern, threaded shank, washer and nut. The length of shank and diameter of the threaded cross-section shall be appropriate for the specific installation. The breaking strength must be a minimum 4,400 lbs (19.6 kN) for any loading direction anticipated by the system. Verify that intermediate anchorage connectors (carabiner or shackle) are compatible to prevent accidental disengagement (“rollout”). Proper selection and installation must be performed under the supervision of a qualified person. Always

install the eyebolt such that the anticipated loading direction is within 30° of the eyebolt axis. Never install to an eyebolt mounted horizontally. Eyebolts without a nut are not recommended because they can work loose. Verify that the nut is properly torqued against the washer and will not loosen over time, and that the structure to which the eyebolt is mounted is capable of supporting 4,400 lbs (19.6 kN) in the direction of anticipated loading.



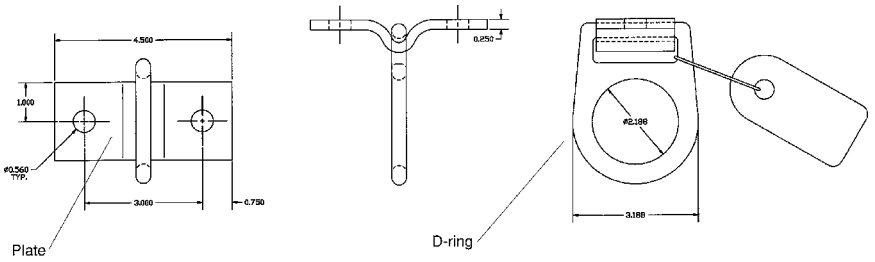
4.2.2 ANCHOR CONNECTOR STRAP

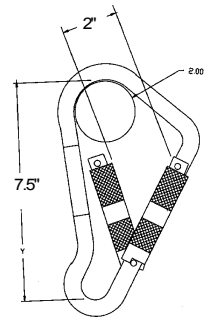
MSA model 505282 nylon or 505298 polyester 5 ft (1.5m) anchorage connector straps can be used as an anchorage connector when wrapped around a suitable anchorage such as a beam or pipe. Custom lengths are also available. The strap has a sewn loop at one end and a steel D-ring on the other end. If the beam around which the strap is installed has sharp edges, provide padding between the beam and strap. Contact MSA for information and separate Operator Instructions for the selection and use of this equipment.



4.2.3 D-PLATE ANCHORAGE CONNECTOR

The D-plate is a permanent, user installed, over-head anchorage connector that can be welded or bolted to a suitable beam or girder. MSA sells models 506632 (zinc plated steel) and 506633 (stainless steel). Contact MSA for information and separate user instructions for the selection and use of this equipment.





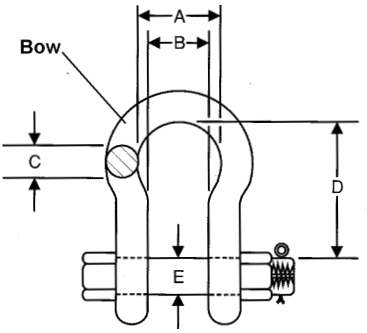
4.2.4 INSTALLATION CARABINER

MSA model 506308 is used as an anchorage connector when linked between the Descender Installation Handle and an appropriate anchorage connector such as a beam or pipe, or through an Eyebolt or D-ring of the anchorage connector strap. This carabiner has a throat opening of 2 inches (5.1 cm) and a minimum breaking strength of 5,000 lbs. Always verify that the carabiner is loaded along its major axis, with the gate closed and locked. Loading the carabiner in any other manner will reduce its strength to the point where it may fail. Contact MSA for information and separate user instructions for the selection and use of this equipment.

4.2.5 ANCHOR SHACKLE

A bolt-type anchor shackle that is of weldless forged alloy steel construction may be used as a link between the Descender Installation Handle and an appropriate anchorage connector such as an Eyebolt or D-ring of the anchorage connector strap. Shackles should comply with U.S. Federal Specification RR-271. These are referred to as safety anchor shackles because the shackle bolt is secured with a nut and a cotter pin to reduce the possibility of the bolt coming out. It is recommended that the shackle with a nominal 0.5 inches be used. Never replace an original shackle bolt with a regular bolt. Never use the shackle without the nut and cotter pin in place. The Descender installation handle should bear on the shackle bow. MSA manufactures model 506212 meets these requirements. Contact MSA for information and separate user instructions for the selection and use of this equipment.

DIMENSIONS		
	IN.	CM.
A	1.2	3.1
B	0.8	2.1
C	0.5	1.3
D	1.9	5.0
E	0.6	1.6



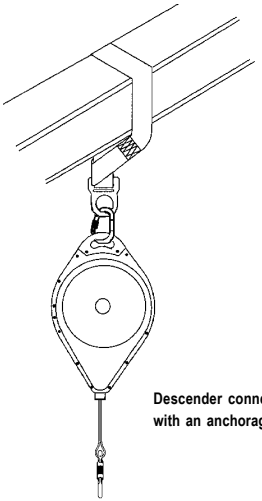
Weldless forged alloy steel.
Nut and cotter pin must be securely in place.
Min. Breaking strength = 14,000 lbs. (62.3 KN).

4.2.6 COMPATIBILITY OF ANCHORAGE COMPONENTS

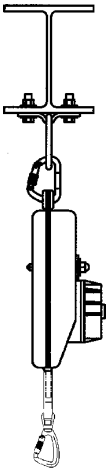
Connecting hardware must be compatible in size, shape, and strength. MSA connectors specified in these Operator Instructions meet this requirement. Non-compatible connectors may accidentally disengage (“rollout”). Always verify that connection elements of the anchorage are compatible.

4.2.7 TYPICAL APPLICATIONS

The figures below illustrate examples of acceptable installations of the Descender.



Descender connected to I-Beam anchorage with an anchorage connector strap.



Descender connected to I-Beam anchorage with a D-Plate Anchorage Connector

4.3 ANCHORING THE DESCENDER, CUSTOM INSTALLATION

It is possible to design and fabricate a custom means of installation. Installation must meet the minimum anchorage strength requirements of 4,400 lbs (19.6 kN) in the direction of anticipated loading, and follow the guidelines of Section 4.4.1. When designing a custom installation, consider and eliminate any potential obstructions that could compromise the proper function and line extraction of the Descender. MSA does not recommend that the line pass over a pulley or sheave, so as to orient the housing off of vertical. All custom installations must be designed or approved by a qualified engineer. Mount the Descender in a manner that ensures that it will not work loose. Always anchor the Descender through the Installation Handle.

5.0 USAGE LIMITATIONS

The Descender is designed for use by one person at a time. The designed weight range is between 75 lbs and 310 lbs (34 and 140 kg). Persons with muscular, skeletal, or other physical disorders should consult a physician before using the Descender. Consult a physician if there is any question about physical ability to safely climb or use this product.

Do not expose the Descender to environments with prolonged temperatures greater than 185° F (85° C). Do not expose the Descender to a corrosive environment. Always remove or seal the unit during trailer transport. The Descender internal parts should be protected from dirt, salt and water. Do not install where the unit or line can come in contact with an electrical source. Any Descender that shows signs of excessive wear, deterioration, malfunction, or insufficient retraction force must be removed from use and marked as “Unusable” until returned to a MSA approved service center for repair. (See section 12 for detailed inspection procedure, and section 13 for factory service information.)

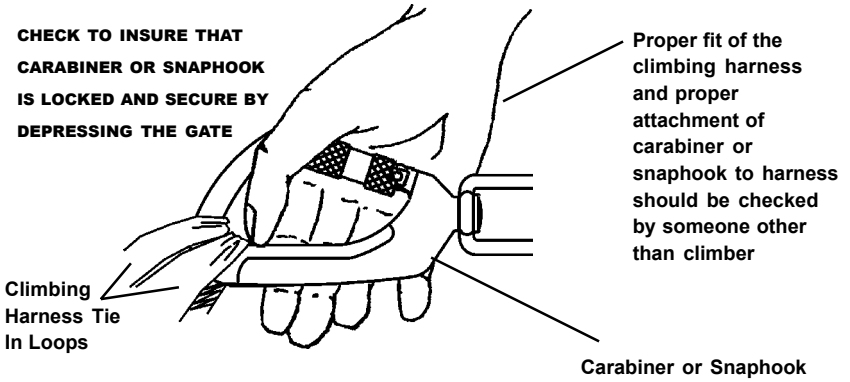
The performance of the brake mechanism will change slightly over the life of the Descender. Once the brake pads have worn in, descent rate will be slightly slower than when the unit was new. This change in performance is expected and normal. The brake pads will produce an intermittent sound when the line is slowly extracted.

6.0 HARNESSES

MSA recommends that climbers be equipped with a full body climbing harness, with a means of connecting to the Descender at the chest. Use of a full body harness will minimize the chances of an inverted fall. Children under the age 10 must always be equipped with a full body climbing harness. Follow manufacturers recommendations for fitting, attachment and proper threading of buckles. The Descender carabiner or snaphook should be attached through the tie-in point(s) on a harness, per the manufacturer’s instructions. Never attach to the belay/rappel loop, equipment loops, or rear haul loop. Operators should always check for proper harness fit and attachment to the Descender carabiner or snaphook prior to climber ascent. Refer to the manufacturer’s instructions and the ORCA pamphlet “Harnesses” for information on the design, use, maintenance and limitations of climbing harnesses.

7.0 SUPERVISION DURING USE

Training provided by the operator to users (climbers) of the Descender should include, as a minimum, those areas outlined in section 2.0. Climbers should be under constant supervision by a trained operator. Before ascending the wall, operators should check to verify that each climber has properly fit and secured their climbing harness, and properly clipped their harness onto the Descender carabiner. Once the climber's harness is attached, always check that the gate on the carabiner or snaphook is locked and secure by depressing the gate. (See Section 9 for instruction on carabiner and snaphook operation.) Operators should provide instructions regarding proper technique for ascending and descending the wall while using the Descender. Do not allow climbers to ascend above the Descender, or climb off route or in the path of another climber. Climbers should be prevented from climbing on an area of the wall that would produce a swinging fall. Always maintain a safe, unobstructed landing area that is free of objects and other climbers. Discourage climbers from releasing the line, allowing it to re-reel back into unit in an uncontrolled manner. Do not allow climbers to loop the line around holds, or secure the line through quickdraws in order to redirect descent. Do not allow the line to become wrapped around the arms, legs or neck.



Operators should warn climbers not to allow a slack line to develop. A slack line resulting in free-fall could seriously injure a climber or break the line. Instruct the climber that in the event of a slack line, he or she should remain stationary on the wall, and notify the operator immediately. If a climber has ascended without recognizing the slack line, the climber should be instructed to remain in place on the wall. Rescue the climber by attaching their harness to a secondary lowering system, (top rope or second Descender) and lowering them to the ground. Always ensure that this rescue system is available and in place, and that all operators have been trained on a rescue procedure.

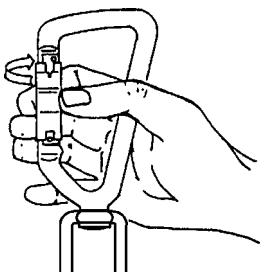
8.0 PROPER DESCENDING METHOD

When descending, the climber should let go of the climbing wall, transferring their weight to the Descender. The climber will feel little tension on the line until he/she has begun the descent. Descent should be performed feet first, and the climber should prepare for landing. Always provide a safe, unobstructed landing surface.

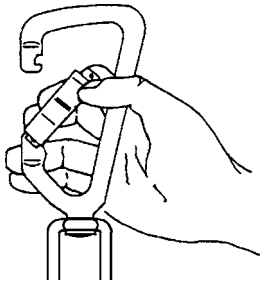
If a climber is anxious or unfamiliar with the function of the Descender, it is recommended that the climber ascend a short distance and descend in order to become aquatinted with the device. We recommend that young children be belayed using a standard belay system. Younger children tend to want to hang onto the line and will not gain positive progress up the wall.

9.0 CARABINER OPERATION

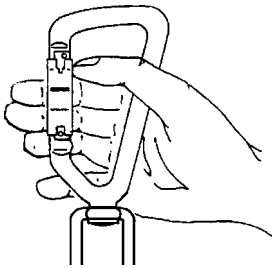
The carabiner provided with Descender Model Number 10024873 is a self-closing, self locking type. The carabiner is opened by first twisting the knurled gate collar 90°, and then depressing the gate. When attaching the carabiner to a harness, verify that the harness webbing or clothing is not obstructing closure of the gate. Always check the gate after attaching to the harness tie in point(s) by depressing the gate to verify that it is fully closed and locked.



(a) Rotate gate 90 degrees about its axis (unlock)



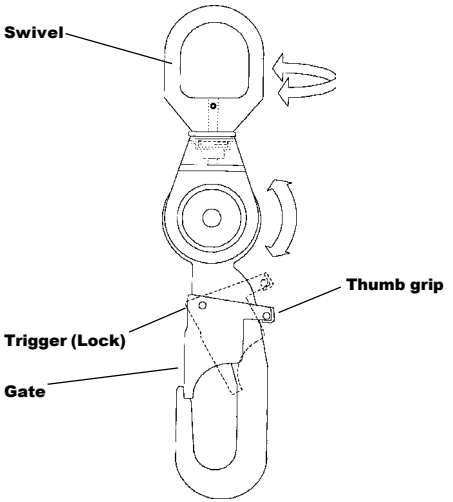
(b) Depress gate until it pivots about the hinge (open).



(c) Release gate and it should automatically close & lock.

9.1 SNAPHOOK OPERATION

The swivel snaphook provided with Descender model number 10027647 is self-closing and self locking. The snaphook is opened by first depressing the trigger (unlock) and pulling back on the thumb grip (open). When attaching to a harness, verify that the harness webbing or clothing is not obstructing closure of the gate. Always check the gate after attaching to the harness tie in point(s) by depressing the gate to verify that it is fully locked and closed.



To unlock and open gate

A. Depress trigger (unlock)
B. Pull back on thumb grip (open)

To close and lock gate

C. Release pressure on thumb grip and trigger. Gate will close and automatically lock.

10.0 CARE, MAINTENANCE AND STORAGE

If the Descender is used on a portable climbing wall, always remove the Descender, or seal the unit from water, salt, and contaminants before transport. Proper function and length of useful life of the Descender depends on the operator's proper care, maintenance and storage of the product. Annual factory service (see section 13) is required to keep the product in good working condition and will prolong its useful life. Proper care and maintenance of the product by the operator is essential during the year intervals between factory servicing.

Inspect the Descender in accordance with section 12 of these Operator Instructions. Prevent denting or deformation of the housing. Never drop the unit from any height. Always set it down carefully. When in use, protect the line from contacting sharp corners and edges. DO NOT allow foreign matter to enter the housing. Heed all caution labels and instructions as these are intended to prevent damage to the product as well as guide the operator in correctly operating the Descender.

10.1 REPLACING THE LINE (AND CARABINER OR SNAPHOOK) IN THE FIELD

The Redpoint Descender comes equipped with a line that may be replaced in the field by the owner/operator. A line that appears damaged, excessively fuzzy, worn, or sun bleached should be replaced immediately. Replace the line as part of the regular maintenance schedule. Always keep a replacement line and the appropriate tools on hand in the event that a line requires immediate replacement. Frequency of replacement will vary depending upon use. At a minimum, the line should be replaced twice annually, or after approximately 5,000 climb/lower cycles. Line replacement kits can be ordered from your distributor under part numbers indicated in Table 2 below.

Line Replacement Kit part number 10027871 comes with a sewn loop termination for attaching a carabiner. The owner is responsible for providing an appropriate auto-locking carabiner with a minimum 5,000 lb (22 kN) breaking strength along the long axis of the carabiner. Always use a self closing, self-locking (auto-locking) carabiner that requires, at a minimum, two separate actions to open the gate. For example, most auto-locking carabiners require the user to twist the gate collar (unlock), then depress the gate (open) in order to open the carabiner. Never attach a non-locking or screw-lock carabiner to the Descender.

TABLE 2: LINE REPLACEMENT KITS

Part Number	Description	Kit Contents
10025053	Replacement line with integral **Swivel Carabiner** & nozzle.	Nylon webbing replacement line, steel swivel carabiner, nozzle, replacement hardware, instructions.
10027870	Replacement line with integral **Swivel Snaphook** & nozzle.	Nylon webbing replacement line, steel swivel snaphook, nozzle, replacement hardware, instructions.
10027871	Replacement line with loop termination & integral nozzle. **(Owner to provide auto-locking carbiner).**	Nylon webbing replacement line, nozzle, replacement hardware, instructions.

10.2 CLEANING INSTRUCTIONS

To clean the housing, periodically use a clean, damp (not wet) cloth to remove dirt or contamination which may cause corrosion or hamper readability of labels. Wipe off any moisture before returning the Descender to service. The frequency of cleaning should be determined by inspection and by severity of the environment. In highly corrosive environs, cleaning will be required more often. Never use solvents to clean the housing as they may break down the label adhesive. DO NOT use abrasives to scour the housing as they may damage the plating and the labels. Never immerse the product in water or other liquid. If water gets into the housing, hang the device and slowly extract all the lifeline allowing the water to run out of the lifeline orifice. Use a clean dry cloth to wipe the line dry as it is slowly re-reeled back into the device. Leave the device hanging in a warm dry room with the line extracted. Questions concerning Descender condition and cleaning should be directed to MSA.

10.3 MAINTENANCE AND SERVICE

Proper maintenance is both preventive and corrective in nature. Major maintenance can only be performed at the factory. Routine maintenance, specified herein is all that is permissible for the operator to perform.

Proper maintenance of the Descender includes regular cleaning of the brake housing with an air compressor to remove brake dust. A Descender that is under continual use should be cleaned weekly. Use an air compressor with a nozzle fitting to inject air into the drain hole in the bottom of the bronze brake housing (see section 3). While injecting air, slowly extract and retract the line in order to rotate the internal brake shoes. Repeat several times until all dust has exited the brake housing. Regular maintenance will help prolong the life of the brake shoes, and ensure a smooth descent. A non-smooth descent indicates that the brake housing should be cleaned more frequently.

Proper maintenance of the carabiner or snaphook includes cleaning and lubricating the gate hinge, swivel and locking collar or snaphook trigger with a cleaning lubricant, such as WD-40. Spray the carabiner with lubricant between all moving parts, and activate the locking gate and swivel several times to assist lubricant penetration. Do not allow lubricate to contact the nylon line as this may weaken the line. Wipe off any excess lubricant and allow to dry. If the gate is ever observed to stick open or unlocked during use, take the Descender out of service immediately until it is properly lubricated and it is verified that the connector will close and lock automatically. If lubrication does not correct the problem, immediately remove the Descender from use until the line has been replaced with a Line Replacement Kit. (See Section 10.1)

Equipment which is damaged or in need of maintenance must be tagged as "UNUSABLE" and removed from service. Corrective maintenance (other than cleaning) and repair, such as replacement of elements, (other than the line with integral nozzle and attachment element), must be performed by the MSA factory (see section 13). Do not attempt field repairs.

10.4 STORAGE

Store the Descender in a cool, dry and clean place. Avoid areas where heat, moisture, oil and chemicals or their vapors or other degrading elements may be present. Heavily soiled, wet, or otherwise contaminated equipment should be properly maintained (e.g. dried and cleaned) prior to storage. Ensure that the exterior line does not come in contact

with grease, oils, gas, or other chemicals that may weaken it. Never allow the Descender to rest for lengthy periods of time on concrete or ash floors as the lime sulfur and ash can cause corrosion. Store the device with the lifeline fully retracted. Prior to using equipment which has been stored for long periods of time, a Formal Inspection should be performed by a competent person. (See section 12.)

11.0 LABELS AND MARKINGS

11.1

The following labels must be present, legible and securely attached to the Descender. If not, remove the Descender from use and mark it as "UNUSABLE" until a Formal Inspection is performed in accordance with section 12.

Warning Label

⚠ CAUTION

DO NOT DROP
DAMAGE MAY RESULT

Service Date Label

Part#: _____
Serial#: _____
Date of Manufacture: _____
Last Factory Service: _____

Face Label

Redpoint® Descender
with Field Replaceable Line

MSA (FP)

MSA Corporate Headquarters
P.O. Box 426
Pittsburgh, PA 15230, USA
Ph: 1-800-672-2222
Fax: 1-800-967-0398
Technical Support: 1-888-421-8324

SPECIFICATIONS:
Capacity: 75 to 310 lbs
(34 to 141 kg)
Rate of descent: 6.6 ft (2 m) per second max.
Line length: 39 ft (11.9 m)
Device weight: 34 lbs (15.4 kg)

CE 0320

INSPECTION. Before each use carefully inspect entire device, including line and carabiner, according to Operator Instructions. Check for wear, damage, alteration, or missing parts. Check that line extracts and continuously resists pull-out load. Check that line retracts by extracting and controlling re-reeling. Look for damage, alteration, missing parts, excessive wear and improper line extraction and retraction.
NEVER USE DEVICE IF ANY OF THESE CONDITIONS EXIST. NEVER MAKE FIELD REPAIRS. Remove device from service and contact manufacturer for service if inspection reveals an unsafe condition. Inspect device according to Operator Instructions and Service Log at least every six months. Log inspections in the inspection log forms provided with the Operator Instructions.

⚠ CAUTION

- Do not clamp off or stand on line.
- Do not allow line to pass beneath neck or arms, between legs, or wrap about body or limbs.
- Do not allow foreign matter to enter housing.
- Do not permit line slack.
- Do not lengthen by connecting to another line
- Always have an emergency rescue and evacuation plan.

⚠ CAUTION

- Do not release line and allow it to re-reel back into device in an uncontrolled manner.
- Do not pass line over sharp edges.
- Install and use device vertically overhead to minimize swing hazard.
- Never begin descent from above device.
- Do not use for other than controlled descent of one person at a time.
- Do not rigidly mount Descender to climbing wall.

INSTALLATION. Following the Operator Instructions, attach device to overhead fixed anchorage with minimum strength of 4400 lbf (20 kN). Use anchorage connectors, as specified in Operator Instructions. Descender must hang freely with clearance to move back-and-forth and side-to-side when in use. Install device where it can be safely reached. Install device so it cannot disengage from anchorage connector and is free of obstructions that would interfere with line nozzle during extraction or retraction.

⚠ CAUTION

Inspect device before each use. Read and heed all product labels and Operator Instructions. Failure to observe instructions may result in serious or fatal injury.

USE: Read and heed Operator Instructions and Service Log and all labels and cautions. Use only for descent of personnel. Inspect device, anchorage means and all other components before using this product for automatic belay. Check that line extracts and retracts properly. Connect carabiner to front attachment element of climbing harness, and check that it is locked. Check that vertical descent path and landing are clear and free of obstructions and climbers. Transfer weight to device and begin descent. Descend feet first and prepare for landing. When not in use, store device with line fully retracted.

Label P/N 10025055, Rev.E

12.0 DESCENDER INSPECTION

12.1 INSPECTION BEFORE USE

The Descender should be inspected before each use to verify that the unit is functioning properly. Check, by pulling on the line, for resistance produced by the braking mechanism. Verify smooth, even deployment of the line. Return the line back into the housing in a controlled manner and verify adequate and smooth retraction force. If inspection reveals improper function, remove the Descender from use immediately and submit for factory service according to Section 13. Do not use the Descender if inspection reveals an unsafe condition.

12.2 DAILY INSPECTION

While the Descender is in use, a thorough inspection should be performed on a daily basis. Inspect the line along its entire length, checking for excessive wear, burns, cuts, sun bleaching, chemical or other damage. Inspect the sewn stitching at the end of the line for broken, frayed, or missing threads. If any of these conditions exists, remove the unit from use until the line can be replaced. Examine the function of the Descender as specified in section 12.1. If the braking mechanism produces loud chatter accompanied by a jerky descent, this is an indication that the brake housing should be maintained according to section 10.3. Examine the line termination near the carabiner or snaphook, paying particularly close attention to the first few feet of line for damage. Check that the carabiner or snaphook functions properly, and automatically closes and locks when released. Follow the procedures in Section 10 if a carabiner or snaphook fails to close or lock automatically.

Check all bolts and nuts on the housing to be sure that they are tight. Check that no hardware is missing, damaged, or has been improperly substituted or altered in any way. Check that the 2 security rivets are in place and are stamped with an “R”. If missing, remove the product from use. Check that the housing is not damaged or dented, and that the installation handle is not bent. Check all metallic parts, including the carabiner or snaphook and installation hardware, for deformation, fractures, cracks, corrosion, cuts, deep nicks, and evidence of excessive heat or chemical exposure. Check for excessive wear on the installation handle and nozzle. Check the anchorage hardware for excessive wear, loose or missing components, and damage during transport or use. If any of these conditions exist, remove from use and submit to factory service according to Section 13. Do not use the Descender if inspection reveals an unsafe condition.

12.3 FORMAL INSPECTION

12.3.1 FORMAL INSPECTION FREQUENCY

The Descender must be formally inspected by a competent person at intervals of no more than six months. If the Descender is exposed to severe conditions, more frequent formal inspections may be required. The frequency of inspection should be established by the operator’s organization based on such factors as the nature and severity of conditions, frequency of use, and exposure time of the equipment. The inspector should perform a methodical and thorough visual and tactile inspection by following the inspection procedure in section 12.3. The inspection results should be recorded in the Formal Inspection Log and retained for reference.

12.3.2 CONTROL OF EQUIPMENT

The operator’s organization should establish and enforce a policy and procedure whereby any Descender that is found to be defective, damaged, or in need of maintenance be immediately removed from use, marked as “UNUSABLE” and immediately thereafter submitted to custody of the person responsible for Formal Inspection. This has the benefits that: 1) defective equipment is secured from further use until proper action is taken; 2) uniform standards are applied for determining whether the equipment is acceptable or not acceptable for further use; 3) uniform methods of cleaning, line and carabiner replacement and other maintenance are applied; and 4) there is a central point for evaluation of conditions that may be recurring and require preventive measures such as coordination with the equipment manufacturer, selection of alternate equipment, additional training of equipment users, or changes to the conditions of use.

12.3.3 FORMAL INSPECTION PROCEDURE

The Formal Inspection Procedure is similar to the daily inspection described in section 12.2. However, it differs in three important respects, namely: 1) it is performed by a person who is trained and authorized to perform Formal Inspection; 2) it is more detailed and is methodically recorded on a Formal Inspection Log that is kept on file for future reference; and 3) it results in final disposition of the equipment as either “acceptable” or as “not acceptable” followed by factory service of the product. The described detailed inspection record keeping is needed in order to trace detected defects to their causes. A simplified alternative procedure is also explained below.

There are three forms that are important to the Formal Inspection Procedure. They are the Formal Inspection Diagram ("DIAGRAM"), the Formal Inspection Log ("LOG"), and the Formal Inspection Checklist ("CHECKLIST"). These forms relate and refer to each other so it is necessary to understand their purposes and uses before discussing the inspection procedure.

12.3.3.1 DIAGRAM (PAGE 19)

This is a line drawing of the Descender with numbered callouts of the parts. The numbers called out in the diagram correspond to those shown on the column titled “INSP. POINT” on the LOG.

12.3.3.2 LOG (PAGE 18)

This is the form to be used to record observations made during the Formal Inspection. The Model No., Serial No. and Date of Manufacure are recorded by the inspector from the information on the cover of this Operator Instruction and from the product label. The formal inspector’s name and the inspection date are entered by the inspector. The "Disposition" entry is the last entry made on this form after all observations have been recorded. The entry is either "Acceptable" (A) or "Not Acceptable" (N). The columns on the LOG are as follows:

INSP. POINT - Inspection point. The Descender part designated in the callouts on the DIAGRAM.

DESCRIPTION - Name of the Descender inspection point. There are four broad categories of inspection points, namely, metallic parts, nonmetallic parts, carabiner parts and lifeline (wire rope/line) parts.

QTY/D - Quantity per Descender. The quantity of each Descender inspection point that must be inspected.

PTY - Priority. A Priority “1” indicates a critical part. If one or more not acceptable conditions are found by inspection of Priority 1 parts, the Descender is not acceptable for use. A Priority “2” indicates a noncritical part. If three or more not acceptable conditions are found by inspection of Priority 2 parts, the Descender is not acceptable for use.

COND. - Condition. The condition of the Descender part is indicated here by entry of the appropriate Condition Code shown on the CHECKLIST (e.g. M0, N0, S0, C0 etc.). Alternatively, the inspector may simply enter "FAIL" if a defective condition exists and make no entry if no defect exists.

OVERALL ASSESS. - Overall assessment. The inspector’s evaluation of the overall acceptability or non-acceptability of the part category (i.e. metallic, nonmetallic). The appropriate Overall Assessment Code defined on the CHECKLIST is entered here (e.g. MA, NA, SA, CA). Alternatively, the inspector may simply enter "FAIL" if a defective condition exists and make no entry if no defect exists.

COMMENTS - Indicate pertinent inspector observations here.

12.3.3.3 CHECKLIST AND CODES

This is a table which categorizes the different types of Descender parts into four broad categories (i.e. metallic, nonmetallic, snaphook and line). For each of these categories, the formal inspector checks the Descender parts for each of the associated conditions (e.g. deformed, fractured, missing, loose, etc.). The codes for the detected conditions are entered in the Condition column on the LOG (e.g. M0, N2, S0, C0 etc.). Overall assessment codes are given, along with the criteria for assigning them, so the inspector can decide if the Descender is acceptable or not acceptable for

further use (e.g. MA, NN, SA, CA). Alternatively, instead of using these codes, the inspector may simply enter "FAIL" if a defective condition exists and make no entry if no defect exists.

12.3.3.4 FORMAL INSPECTION PROCEDURAL STEPS, HOUSING

Step 1: Record on the LOG the Model No., Serial No. and Date Made information shown on the service and date label. Record the inspector's name and inspection date.

Step 2: Suspend the Descender oriented vertically.

Step 3: Starting with the metallic category of parts shown on the LOG, inspect each part (inspection point) one at a time. Refer to the DIAGRAM for identification of each Inspection Point. Each part must be inspected for the possible presence of the conditions shown on the CHECKLIST. Enter in the Condition column on the LOG the proper Condition Code (listed on the CHECKLIST) or "FAIL" if a defect exists. If there is any question whether the Descender condition has materially changed since the last Formal Inspection, retrieve and review the prior Formal Inspection records for the specific Descender.

Step 4: Repeat steps 2 and 3 for the nonmetallic categories of part types.

Step 5: Repeat steps 2 and 3 for the carabiner or snaphook, line, and stitching categories of part types.

Step 6: Perform a functional test of the Descender line extraction and retraction features. Upon completion of these functional tests, note the performance for extraction and retraction in the comments section on the Inspection Log. The extraction functional test is performed by slowly pulling the line, completely out of the Descender housing. Note as the line is reeled from the drum if there is any sticking, hesitation, or other hindrances to the smooth deployment of the line. The retraction functional test is performed by allowing the automatic retraction of the device to re-reel the line back into the Descender. The tension of the drum on the line as it draws the line into the Descender should be constant, the line should not snag or catch and there should not be any loud grinding noise throughout the entire retraction of the line. Note that during normal operation the internal retraction spring will produce a rubbing noise as line is extracted or retracted. This noise is more pronounced when the unit is laid on its back, with the brake housing facing upward. Record the results of the functional tests in the appropriate sections of the Inspection Log.

Step 7: Determine whether the part (inspection point) is acceptable or not acceptable. If a Priority 1 inspection point has a defective condition, enter in the Overall Assessment column of the LOG the proper code taken from the CHECKLIST (e.g. MN, NN) or simply "FAIL." For Priority 2 inspection points, count the number of defective conditions dentified in the Condition column of the LOG. If there is a total of three or more defective conditions for Priority 2 inspection points the Descender is not acceptable for further use.

Step 8: Determine disposition of the Descender. If in step 7 it has been determined that the Descender is not acceptable, enter "N" or "FAIL" in the Disposition space on the LOG. In addition, a notation should be made in this space as to whether the Descender is to be destroyed, returned to manufacturer/distributor, etc.

Step 9: If in step 7 it has been determined that the Descender is acceptable for further use, enter "A" or "PASS" in the Disposition space on the LOG.

Step 10: File the LOG for future reference.

12.4 FORMAL INSPECTION CHECKLIST AND CODES

TYPE OF PART INSPECTED	CONDITION	COND. CODE	OVERALL ASSESSMENT CODE	LEGEND
Metallic	Deformed/fractured	M1	MA- (Metallic acceptable)	**Disposition:** A - (Acceptable) N - (Not acceptable) Enter "A" (or "PASS") or "N" (or "FAIL") in "Disposition" blank on Formal Inspection Log. **Criteria for disposition of "N" (Not acceptable):** **(1)** If there is one or more Overall Assessment Code of "N" type (e.g. MN, PN, SN or CN) on a Priority 1 item.
	Corroded/deep pits	M2		
	Missing/loose	M3		
	Heat exposure	M4		
	Chemical exposure	M5		
	Burrs/sharp edges	M6	MN- (Metallic not acceptable)	
	Cuts/deep nicks	M7		
	Malfunction	M8		
	Other	M9		
	No visible change	M0		
Non-Metallic	Cut/broken	N1	NA- (Non-Metallic acceptable) NN- (Non-Metallic not acceptable)	
	Wear damage	N2		
	Missing/loose	N3		
	Burns/heat exposure	N4		
	Chemical exposure	N5		
	Cracked/Split	N6		
	Other	N7		
	No visible change	N0		
Carabiner or Snaphook	Deformed/fractured	C1	CA- (Carabiner acceptable) CN- (Carabiner not acceptable)	
	Corroded/deep pits	C2		
	Missing/loose	C3		
	Heat exposure	C4		
	Chemical exposure	C5		
	Burrs/sharp edges	C6		
	Cuts/deep nicks	C7		
	Malfunction	C8		
	Other	C9		
	No visible change	C0		
Line & Stitching	Cut	L1	LA- (Line acceptable) LN- (Line not acceptable)	
	Abrasion/wear	L2		
	Burns/heat exposure	L3		
	Chemical exposure	L4		
	Faded/Sun bleached	L5		
	Missing, Broken, & Frayed Stitching	L6		
	Other	L7		
	No visible change	L0		

12.5 FORMAL INSPECTION LOG

Model No.: *10021806* Inspector: *J. W. Doe*

Serial No.: *437581* Inspection Date: *2/14/00*

Date Made: *01/00* Disposition: *N - See item 20. Return for factory repair.*

INSP. POINT	DESCRIPTION	QTY/D	COND PTY	OVERALL (a)	ASSESS.(a)	COMMENTS
Dynescape Body						
METALLIC PARTS						
1	Housing, Front	1	1	M0	MA	
2	Housing, Back	1	1	M0	MA	
3	Security Rivets	2	1	M0	MA	
4	Housing Fasteners	12	1	M0	MA	
5	Axle Nut	1	1	M0	MA	
6	Installation Handle	1	1	M1	MA	Bracket bent
7	Serial Number Tag	1	1	M0	MA	
8	Brake Housing Screw	6	1	M0	MA	
9	Bearing Cover	1	1	M0	MA	
10	Brake Cover	1	1	MO	MA	
Nonmetallic PARTS						
11	Nozzle	1	1	N0	NA	
12	Labels	4	1	N0	NA	
Line						
13	Webbing	1	1	C0	CA	
14	Stitching	5	1	C0	CA	
Carabiner						
15	Body	1	1	S0	SA	
16	Gate	1	1	S0	SA	
17	Gate Collar	1	1	S0	SA	
18	Swivel	1	1	S0	SA	
19	Carabiner Functional Test	1	1	S0	SA	
Snaphook						
20	Body	1	1	SO	SA	
21	Side Plates	2	1	SO	SA	
22	Swivel Eye	1	1	SO	SA	
23	Gate	1	1	SO	SA	
24	Trigger	1	1	SO	SA	
25	Rivets	3	1	SO	SA	
26	Large Rivet	1	1	SO	SA	
27	Snaphook Functional Test	1	1	SO	SA	

(a) Optional simplified PASS/FAIL inspection format: Whenever an acceptable condition is found, the entry in the COND. and OVERALL ASSESS. columns may be left blank. Whenever a defective condition is found enter "FAIL." The inspection may end upon detection of a single Priority 1 defect or detection of 3 or more priority 2 defects.

(b) Blank copies of the LOG, with associated CHECKLIST and DIAGRAM, are available from MSA Rose. Call Toll Free (800) 722-1231.

12.5 FORMAL INSPECTION LOG

Model No.: _____ Inspector: _____

Serial No.: _____ Inspection Date: _____

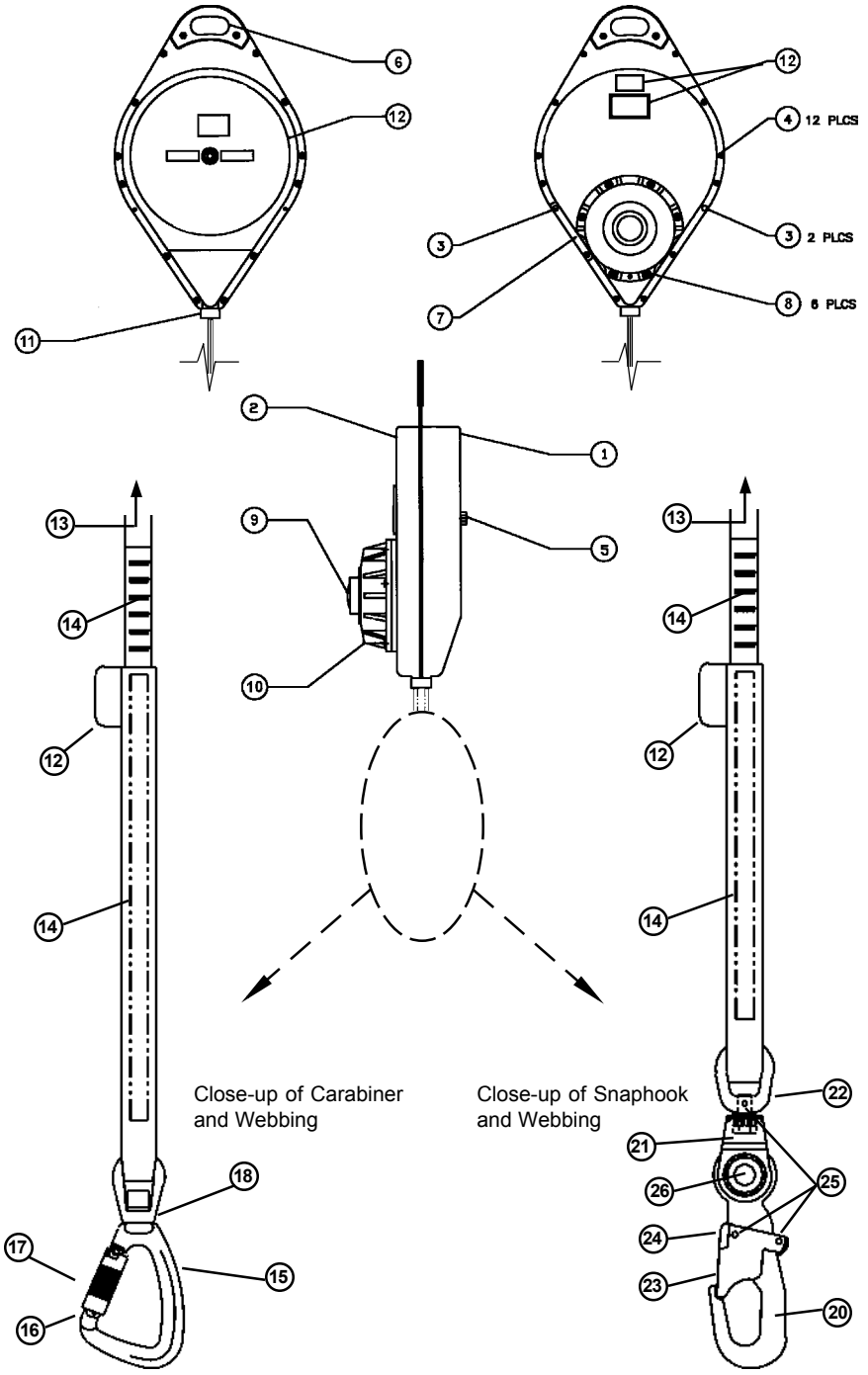
Date Made: _____ Disposition: _____

INSP. POINT	DESCRIPTION	QTY/D	COND PTY	OVERALL (a)	ASSESS.(a)	COMMENTS
Dynescape Body						
METALLIC PARTS						
1	Housing, Front	1	1			
2	Housing, Back	1	1			
3	Security Rivets	2	1			
4	Housing Fasteners	12	1			
5	Axle Nut	1	1			
6	Installation Handle	1	1			
7	Serial Number Tag	1	1			
8	Brake Housing Screw	6	1			
9	Bearing Cover	1	1			
10	Brake Cover	1	1			
Nonmetallic PARTS						
11	Nozzle	1	1			
12	Labels	4	1			
Line						
13	Webbing	1	1			
14	Stitching	5	1			
Carabiner						
15	Body	1	1			
16	Gate	1	1			
17	Gate Collar	1	1			
18	Swivel	1	1			
19	Carabiner Functional Test	1	1			
Snaphook						
20	Body	1	1			
21	Side Plates	2	1			
22	Swivel Eye	1	1			
23	Gate	1	1			
24	Trigger	1	1			
25	Rivets	3	1			
26	Large Rivet	1	1			
27	Snaphook Functional Test	1	1			

(a) Optional simplified PASS/FAIL inspection format: Whenever an acceptable condition is found, the entry in the COND. and OVERALL ASSESS. columns may be left blank. Whenever a defective condition is found enter "FAIL." The inspection may end upon detection of a single Priority 1 defect or detection of 3 or more Priority 2 defects.

(b) Blank copies of the LOG, with associated CHECKLIST and DIAGRAM, are available from MSA Rose. Call Toll Free (800) 722-1231.

12.6 FORMAL INSPECTION DIAGRAM



13.0 FACTORY SERVICE

13.1 FACTORY SERVICE

Proper maintenance and repair of the Descender requires return of the unit to MSA Rose, (or to a person authorized in writing by MSA Rose) annually or at any time that competent person inspection suggests the need to remove the unit from use. (See section 12 for inspection details.) The only maintenance that may be performed by the operator is cleaning, carabiner or snaphook lubrication and line replacement. All other maintenance must be performed by MSA Rose. The operator must never attempt to repair or alter the unit. There are no internal parts which are serviceable or replaceable by the operator.

13.2 OWNER REGISTRATION

When the Descender is purchased, the first thing the owner and operator must do is read this Operator Instruction and return the Owner Registration card packed with the device. Each unit has a unique serial number which identifies all information associated with the unit. The serial number enables MSA Rose to identify when the product was made; related engineering, manufacturing, testing and quality control records; related service records; and date it was sold and shipped to the owner or a MSA Rose distributor. The owner registration card contains information which is vital to the maintenance of the device. It must be completely and accurately filled out and returned to MSA Rose immediately after purchase.

Be sure to enter the permanent address and telephone number of the owner. Do not enter the address and phone number of a temporary job site or temporary office. Type or print legibly in ink. This is a permanent record.

13.3 WHEN FACTORY SERVICE IS NECESSARY

The Descender must be returned to MSA Rose or an authorized factory service center upon discovery of any condition which requires removing the device from use. (See section 12.) It is also necessary to return the unit to MSA Rose or an authorized factory center after every 12 months of use. At these annual intervals it is necessary for MSA Rose to perform inspection and maintenance on the internal parts of the device.

The operator can determine when the annual factory service is required by looking at the Service Date Label located on the back of the unit. (See section 3 for location of labels.) On that label there is a date (month/day/year) entered in the space after the words "Last Factory Service." The next time when factory service is required is 12 months after this date, except when this date bears an asterisk (*) meaning the unit was recently purchased new from MSA Rose or a MSA Rose distributor and has not yet undergone any factory service. In that case only, the next required factory service is 12 months from the date of purchase. This date is taken from the Owner Registration card. But for this one exception, the Descender must receive factory service every 12 months regardless of its apparent condition.

Each time the unit receives factory service a new Service Date Label is applied. The new label will show the date of the servicing, which becomes the reference date for the owner to determine when the next factory service is required.

The Service Date Label must always be present and legible. If it is not, remove the product from use and contact MSA Rose.

13.4 HOW TO OBTAIN FACTORY SERVICE

When factory service for the Descender is required for any reason, the steps below must be carefully followed:

Step 1: Prepare and mail a purchase order for the requested service to:

MSA Rose

2250 South Tejon Street

Englewood, Colorado 80110-1000

Step 2: The purchase order must contain:

a) Owner's (company) name, address, telephone and fax number;

b) Name of owner's employee who can be contacted to authorize repair charges, if any;

c) Descender serial number, type number and last factory service date;

d) Brief explanation of service and known repairs to be performed (e.g., kinked line, broken snaphook, etc.);

e) The Statement: "Basic service charge authorized -- advise price of repairs." Please note that any unit sent to MSA Rose for service must be disassembled, inspected and reassembled by MSA Rose in order to determine if service beyond normal service is required. Therefore, the minimum annual service charge must always be made;

f) Billing address if the owner already has an account with MSA Rose. Otherwise, MSA Rose terms are C.O.D. in the continental USA and cash in advance, including freight charges, elsewhere.

g) Return shipment address. MSA Rose freight terms are prepaid and add if the owner has an account; otherwise the terms are freight collect.

Step 3: Ship the unit, freight prepaid, to MSA Rose or an authorized service center designated in writing by MSA Rose. If a unit is received with freight due it will not be accepted. The Operator Instructions and Service Log must be securely enclosed in the shipping container with the unit. If it is not, a new one will be sent back with the return of the serviced unit and a charge will be assessed. Use the original Descender shipping container for shipment. Otherwise, pack the unit very securely to prevent shipping damage.

Step 4: Upon receipt of the unit and purchase order, MSA Rose will inspect the Descender and contact the company's representative to advise of required service and charges, if any, which are in excess of the minimum service and charges. If the service and charges are within the minimum for service, the work will be performed by MSA Rose and return shipped without further contact.

Step 5: Upon completing the authorized service work, MSA Rose will record the service in the Factory Service Log in Section 13.0. of this Instructions and return the Instructions with the unit to the owner.

13.5 SERVICE AND INSPECTION LOGS (PAGE 18)

It is a requirement of section 12 that the Descender be formally inspected at least every six months. MSA Rose requires that the device receive annual factory service. This annual factory service, if timely, will serve as one of the two required inspections each year. MSA Rose will make the appropriate entries to both the Factory Service Log and the Formal Inspection Log at the time of factory service. It is the responsibility of the operator and the operator's management to perform timely formal inspections, log such inspections and annually return the unit and this Operator Instruction to MSA Rose for factory service.

13.6 FACTORY SERVICE LOG (PAGE 22)

This Factory Service Log is to be filled in only by MSA Rose or an authorized factory service center. At the time the unit is initially shipped from MSA Rose, the date of manufacture, MSA Rose part number, serial number and type number will be entered on the Log. When this manual is returned with the unit at the time of annual factory service, MSA Rose personnel will enter the printed name and written initials of the service person, printed name and initials of the quality control inspector, the Inspection/Service Report number and the scheduled date for the next factory service. The Inspection/Service Report is a detailed report of annual factory service retained permanently by MSA Rose. It is available for examination upon request.

FACTORY SERVICE LOG

(Print clearly using ball point pen. To be filled in by MSA Rose Only)

Serial No. _____ Part No. _____ Date of Mfg. _____

Date of Factory Service	Serviceman's Name (Print)	Serviceman's Initials	Inspector's Name (Print)	Inspector's Initials	Inspection / Service Report No.

NOTE: Fill out this form at the time of purchase. A duplicate Registration Card is provided with each new unit which must be filled out and returned to MSA Rose. If ownership changes, the new owner must contact MSA Rose to re-register the unit.

OWNER REGISTRATION

IMPORTANT: Please fill out and return this registration at time of purchase. Copy the information into the designated place in the User manual. Please print legibly in ink.

PART NR. _____ SERIAL NR. _____

OWNER:

Name: _____

Permanent Address: _____

_____

Telephone: _____ Telex: _____

Custodian & Title: _____

PURCHASED FROM:

Name: _____

Address: _____

_____

DATE OF PURCHASE: _____ / _____ / _____
MONTH DAY YEAR

WARRANTY

Express Warranty – MSA warrants that the product furnished is free from mechanical defects or faulty workmanship for a period of one (1) year from first use or eighteen (18) months from date of shipment, whichever occurs first, provided it is maintained and used in accordance with MSA's instructions and/or recommendations. Replacement parts and repairs are warranted for ninety (90) days from the date of repair of the product or sale of the replacement part, whichever occurs first. MSA shall be released from all obligations under this warranty in the event repairs or modifications are made by persons other than its own authorized service personnel or if the warranty claim results from misuse of the product. No agent, employee or representative of MSA may bind MSA to any affirmation, representation or modification of the warranty concerning the goods sold under this contract. MSA makes no warranty concerning components or accessories not manufactured by MSA, but will pass on to the Purchaser all warranties of manufacturers of such components. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AND IS STRICTLY LIMITED TO THE TERMS HEREOF. MSA SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Exclusive Remedy - It is expressly agreed that the Purchaser's sole and exclusive remedy for breach of the above warranty, for any tortious conduct of MSA, or for any other cause of action, shall be the repair and/or replacement, at MSA's option, of any equipment or parts thereof, that after examination by MSA are proven to be defective. Replacement equipment and/or parts will be provided at no cost to the Purchaser, F.O.B. Purchaser's named place of destination. Failure of MSA to successfully repair any nonconforming product shall not cause the remedy established hereby to fail of its essential purpose.

Exclusion of Consequential Damages - Purchaser specifically understands and agrees that under no circumstances will MSA be liable to Purchaser for economic, special, incidental, or consequential damages or losses of any kind whatsoever, including but not limited to, loss of anticipated profits and any other loss caused by reason of the non-operation of the goods. This exclusion is applicable to claims for breach of warranty, tortious conduct or any other cause of action against MSA.

For additional information, please contact the Customer Service Department at 1-800-MSA-2222 (1-800-672-2222).

MSA Corporate Headquarters
P.O. Box 426
Pittsburgh, PA 15230 USA
In USA: 1-800-672-2222 FAX 1-800-967-0398
Technical Support Line: 1-888-421-8324

