

USER INSTRUCTIONS

DYNA-LOCK®

SELF-RETRACTING LANYARD - BACKPACKER MODEL

**WARNING**

National standards and Federal, state, and provincial laws require the user to be trained before using this product. Use this manual as part of a user safety training program that is appropriate for the user's occupation. These instructions must be provided to users before use of the product and retained for ready reference by the user. The user must read, understand (or have explained), and heed all instructions, markings, and warnings supplied with this product and with those products intended for use in association with it. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.

1.0 SPECIFICATIONS

- The Dyna-Lock Self-Retracting Lanyard meets ANSI Z359.1-1992, ANSI A10.14-1991, and CSA Z259.2-M1979 standards, and applicable OSHA regulations. These instructions and the labels on the product fulfill the requirements of those standards and regulations.
- Free fall distance (limit) must not exceed: 6 ft. (1.8 m) per OSHA and ANSI Z359.1. ANSI A10.14 and the Canadian Occupational Health and Safety Act of 1978 limit free fall distance to 5 ft. (1.5 m). The user must comply with applicable standards and regulations.
- Capacity is 75 to 310 lbs (34 to 140 kg) including weight of the user plus tools, clothing and other user-borne objects.
- Device weight is 6.5 lbs (3 kg).
- The device line (lanyard) is nylon webbing with dimensions 20 ft. (6 m) long x 1 in (25 mm) wide x 0.085 in (1.2 mm) thick.
- The line has minimum breaking strength of 4,500 lbf (20 kN) in new unused condition.
- The snaphook on the line is Rose Model RL20S self-locking swivel type. It is forged steel, zinc plated, minimum breaking strength 5,000 lbf (22 kN) and 100% proof tested to 3,600 lbf (16 kN). It has an integral load indicator device.
- When tested in accordance with the dynamic performance test requirements of ANSI Z359.1, section 4.3.7.1, the following results were recorded:
 - Maximum Arrest Force: 900 lbf (4 kN) measured, 1,800 lbf (8 kN) allowable
 - Maximum Arrest Distance: 40 in (1 m) measured, 54 in (1.4 m) allowable

2.0 TRAINING

It is the responsibility of the purchaser of the Dyna-Lock to assure that product users are made familiar with these User Instructions and trained by a competent person in: (1) workplace hazard awareness and hazard identification, evaluation, and control; (2) how to properly select, inspect, use, store, and maintain the Dyna-Lock; (3) how to determine and acceptably limit free fall distance, and maximum arresting force; (4) how to select and make connections to anchorages and anchorage connectors; (5) proper attachment locations on the user's harness and other components of personal fall arrest systems and proper attachment methods including compatibility of connections to reduce the probability of accidental disengagement (rollout); (6) how to evacuate from a hazardous space; (7) what to do after a fall to protect the user from injury, including emergency rescue planning and execution; and (8) the consequences of improper use of the Dyna-Lock and associated equipment and of failure to follow instructions and training. If the Dyna-Lock is to be used for confined space applications, the user must also be trained in accordance with the requirements of OSHA regulation 29 CFR 1910.146 and ANSI Z117.1. Training must be conducted without undue exposure of the trainee to hazards. The effectiveness of training should be periodically assessed (at least annually) and the need for more training or retraining determined. Rose offers training programs. Contact Rose for training information.

3.0 HAZARDS IDENTIFICATION, EVALUATION, AND CONTROL



Do not use the Dyna-Lock unless a qualified person has inspected the workplace and determined that identified hazards can neither be eliminated nor exposures to them prevented.

Prior to selecting a self-retracting lanyard or other personal protective equipment, the user must make a workplace assessment of hazards and conditions where the equipment is required. Such assessment must, at a minimum, identify the presence of:

- Hot objects
- Sparks
- Flames
- Heat-producing operations
- Chemicals
- Electric hazards
- Sharp objects
- Environmental contaminants
- Abrasive surfaces
- Moving equipment
- Moving Materials
- Unguarded openings
- Slippery surfaces
- Climatic factor
- Weather factors
- Unstable/uneven surfaces
- Confined space hazards

Foreseeable changes in any of these conditions, taken individually or collectively, must be identified, evaluated, and controlled. The materials and construction of the Dyna-Lock and associated equipment must be considered in the selection process such that these workplace conditions are suitably addressed and responded to. The equipment must match the work situation and workplace environmental factors.

The workplace assessment must identify all paths of intended user movement and all hazards along such paths. The user must identify the required range of mobility in each hazard zone and note the location and distance to all obstructions in potential fall paths. Lateral obstructions which could be contacted in a pendular fall arrest must be noted. The self-retracting lanyard connecting the user's harness to an anchorage must be selected so as to satisfactorily limit total fall distance and allow for dynamic elongation and activation distance of the assembly. If the Dyna-Lock is to be used for confined space entry operations, the workplace assessment must comply with the requirements of OSHA regulations 29 CFR 1910.146 and Z117.1.

4.0 DESCRIPTION OF DYNA-LOCK SELF-RETRACTING LANYARD

4.1 DYNA-LOCK OVERALL DESCRIPTION

The Dyna-Lock is a device which has a metal housing and a line (lanyard) connected to a drum inside the housing. An internal spring causes the drum to windup the line when there is no load on the line. An internal pawl locking mechanism is designed to lock the drum when the line is pulled out quickly, which will occur in case of an accidental fall by the user.

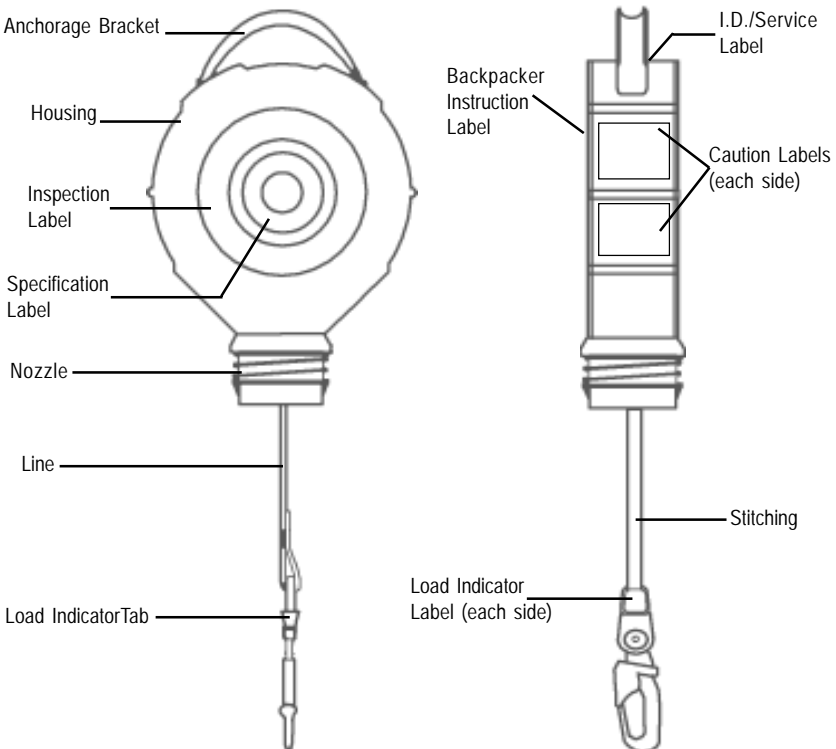
The housing has a steel anchorage bracket which is used to connect the device to an anchorage by use of suitable anchorage connectors. The free end of the line has a swivel-type steel snaphook which is used to connect to the back D-ring of the user's harness.

The Backpacker Model has a special nozzle which is designed to allow the user to attach the housing of the device to the back D-ring of the user's harness. For this application the snaphook on the free end of the line is connected to the anchorage with a suitable anchorage connector.

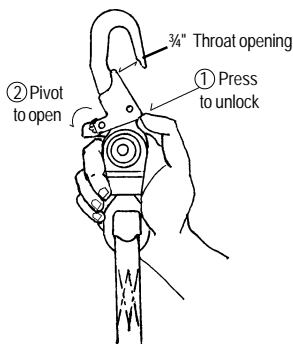
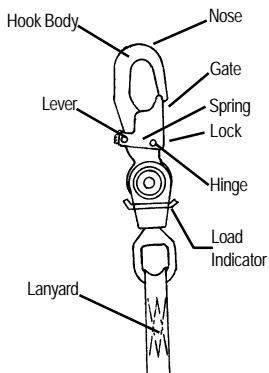
The snaphook is operable with one hand and automatically closes and locks when released. It has an integral swivel which allows the snaphook to rotate without twisting the line. The snaphook swivel also has a load indicator which is activated when the Dyna-Lock line is subjected to fall arrest forces. When it is activated, a metal yellow tab is exposed to indicate that a high impact force has been applied to the Dyna-Lock. The Dyna-Lock must be returned to Rose, or a person authorized in writing by Rose, after being subjected to fall arrest forces.

When a fall arrest force is applied to the line, the energy is dissipated by the tightening of the line wrap around the drum combined with the stretch of the line.

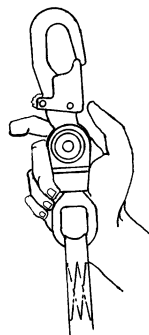
DYNA-LOCK SELF-RETRACTING LANYARD



RL20S SELF-LOCKING SWIVEL-TYPE SNAPHOOK



Release lock and lever to allow gate to close and lock. **ALWAYS CHECK.**



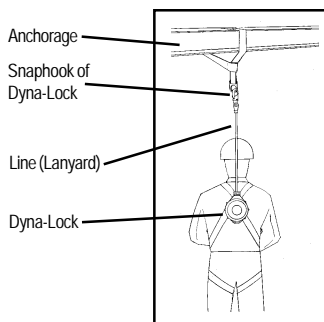
5.0 DYNA-LOCK SELECTION AND APPLICATIONS

5.1 PURPOSE OF THE DYNA-LOCK

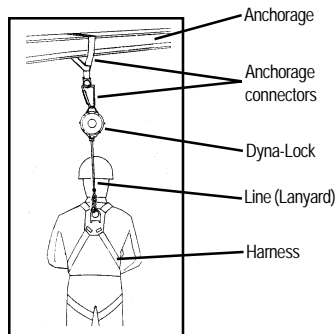
The Dyna-Lock Self-Retracting Lanyard is designed for use by one person working at an elevated work level. The Dyna-Lock links the user to an overhead anchorage and allows the user to move around easily in the work area. If the user accidentally falls, the device will automatically stop the user's descent in a short distance.

During deceleration, the Dyna-Lock dissipates the energy built up during the fall and limits the fall arrest force on the user's body to a normally tolerable level.

FALL ARREST SYSTEM USING DYNA-LOCK



Harness Mounted



Anchorage Mounted

5.2 SELECTION

In addition to the 20 ft. (6 m) webbing-type device, Rose offers several Dyna-Lock self-retracting lanyards. These include devices with wire rope lines of varying lengths. The wire rope line is more suitable to applications where abrasive surfaces or sharp edges may be encountered. The line lengths available are approximately 30, 50, 70, and 95 ft. (10m, 16m, 22m, and 30m). Consult Rose for more information on these products.

Use of the Dyna-Lock must comply with these User Instructions and, further, is subject to approval under the user's safety rules and regulations and by the user's safety director, supervisor, or a qualified safety engineer. Be certain the selection of the Dyna-Lock is suited for the intended use **and work environment.**

If there is any conflict between these User Instructions and other directives or procedures of the user's organization, do not use the Dyna-Lock lanyard until such conflicts are resolved. Consult all local, state, and federal Occupational Health and Safety Administration (OSHA) requirements for personal safety equipment. Also refer to the latest revision of ANSI Z359.1 and ANSI A10.14 standards for more information on full body harnesses and associated system components. In Canada, refer to provincial and federal regulations and to CSA Z259.2.

5.3 USE

Before proceeding with any work which requires the use of a fall arrest system, the user must have a rescue plan. If a user falls and is suspended from the fall arrest system, it may be necessary to provide assistance in returning the user to a safe place. This must be done as quickly as possible to avoid injury. All rescue equipment and personnel required to implement the plan must be readily available, should the need arise.

5.3.1 CONNECTING THE DYNA-LOCK

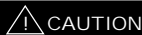
5.3.1.1 ANCHORAGE MOUNT

To proceed with the use of the Dyna-Lock, connect the handle of the Dyna-Lock securely to the anchorage connector. The user then pulls the snaphook on the end of the lanyard out of the Dyna-Lock and connects it securely to the back D-ring on the user's full body harness. Be certain the snaphook gate is completely closed and locked. Always connect the Dyna-Lock snaphook to the body harness at the D-ring located in the center of the back. When force is applied to the harness D-ring located in the center of the back, the human body can tolerate greater impact forces during fall arrest and can endure suspension longer after fall arrest than when the force is applied to the body from the side(s) or front.

5.3.1.2 BACKPACKER MOUNT

When the user decides to mount the housing of the device to the user's full body harness and connect the snaphook of the device to the anchorage, the user proceeds in the following way:

- a. With the full body harness laying or hanging on a clean surface with the back D-ring facing the user, insert the snaphook of the Dyna-Lock and the nozzle up and through the back D-ring of the harness. Press the D-ring of the harness against the spring loaded arms of the nozzle until the D-ring snaps into the groove under the arms of the nozzle (see Figures 1 & 2).



Be sure the line is not wrapped around the back D-ring

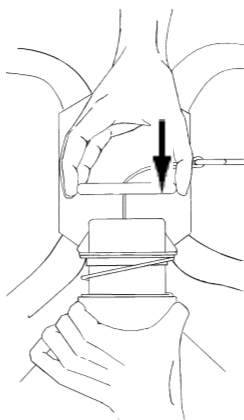
- b. After connecting the Dyna-Lock to the harness, check the operation of the Dyna-Lock by extracting the snaphook and about 3 feet of line. Release the snaphook to allow it to retract. Repeat this check 3 times to make sure the device is operating smoothly.
- c. Grasp the Dyna-Lock and the back D-ring pad of the harness with both hands and place the harness with Dyna-Lock over the head and onto the user.
- d. Complete fastening of the harness to the user's body in accordance with the instructions provided with the full body harness.
- e. With one hand reach around to the back of the user and grasp the snaphook which is hanging down along the side of the Dyna-Lock.
- f. Extract line from the Dyna-Lock by pulling the snaphook down and out laterally.

- g. Connect the snaphook to the anchorage connector:

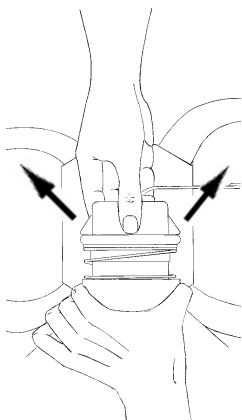
If the anchorage connector is within the user's reach, then connect the snaphook directly onto the anchorage connector.

If the anchorage connector is 20 feet or less above the user's walking surface, then use of the Rose Remote Connect/Disconnect System is recommended for connecting the Dyna-Lock snaphook to the anchorage connector. Contact Rose for information regarding this system as well as the special anchorage connector strap described in section 7.1.1. This system allows the user to connect and disconnect the snaphook from the anchorage connector while standing 20 feet below the anchorage connector.

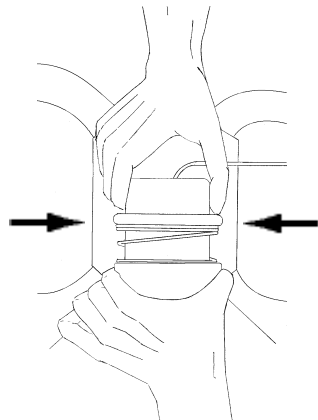
- h. To disconnect the Dyna-Lock from the back D-ring of the harness, first remove the harness with the Dyna-Lock from the user's body. Place or hang the harness on a clean support. Grasp the Dyna-Lock housing in one hand and press the back D-ring of the harness against the nozzle while compressing the arms of the nozzle to release the back D-ring from the nozzle (see Figure 3).



INSTALL
FIGURE 1



CONNECT
FIGURE 2



DISCONNECT
FIGURE 3

5.3.2 MOVING AROUND IN THE WORK AREA

Move around carefully to prevent loss of balance from line tension or locking. The Dyna-Lock maintains normal line tension of approximately 3 to 7 lbs (13 to 31 newtons) when line is being steadily extracted and retracted. When line is being extracted, the brake will lock at a rate of about 4.5 ft/sec (1.4 m/sec). The user should practice using the device on a flat surface where no fall hazard exists. This will familiarize the user with the tension and locking actions and make him aware of the forces applied to his body by the line during movement. When moving toward the anchorage, move at a rate which does not permit line slack to build up because this will cause the spring-loaded drum to accelerate line retraction and apply a sudden tug on the body. When moving away from the anchorage, move at a rate that is less than the device locking speed. Avoid quick or sudden movements in any direction.

Do not permit slack line, and do not lengthen the line by connecting to another line. Slack line will cause increased free fall distance, increased deceleration distance, and increased decelerative forces on the body. Slack line can also present a tripping hazard to the user and can allow the line to become snagged or tangled on objects in the work area which, in turn, can cause line damage or eliminate the shock absorbing action

of the device. Lengthening the line by attachment of more line will cause slack line when the Dyna-Lock line is fully retracted since no automatic line tension will then be transmitted to the added line.

Never work at a level where the point of attachment of the body harness is above the anchorage connector because this will increase the free fall distance and the deceleration distance and will cause higher forces on the body in the event of an accidental fall.

5.4 USAGE LIMITATIONS:

The following application limitations must be considered and planned for before using the Dyna-Lock.

5.4.1 PHYSICAL LIMITATIONS:

The Dyna-Lock is designed for use by one person with a combined total weight between 75 and 310 lbs (34 - 140 kg), including clothing, tools, and other user-borne objects. Persons with muscular, skeletal, or other physical disorders should consult a physician before using. Pregnant women and minors must never use the Dyna-Lock. Increasing age and lowered physical fitness may reduce a person's ability to withstand shock loads during fall arrest or prolonged suspension. Consult a physician if there is any question about physical ability to safely use this product to arrest a fall or suspend.

5.4.2 CHEMICAL HAZARDS:

Acidic, alkaline, or other environments with harsh substances may damage the webbing and hardware elements of the Dyna-Lock. If working in a chemically aggressive environment, consult Rose to determine which Dyna-Lock type is better for your specific conditions. When working in the presence of chemicals, more frequent inspection of the Dyna-Lock is required.

5.4.3 HEAT:

Do not use this Dyna-Lock in environments with temperatures greater than 185° F (85° C). Protect the device when used near welding, metal cutting, or other heat producing activities. Sparks and welding slag will damage the device and reduce its strength.

5.4.4 CORROSION:

Do not expose the Dyna-Lock to corrosive environments for prolonged periods. Organic substances and salt water are particularly corrosive to metal parts. When working in corrosive environments, more frequent inspection, cleaning, and drying of the Dyna-Lock is required. See sections 9, 11, and 12 for cleaning and inspection details.

5.4.5 ELECTRICAL HAZARDS:

Use extreme caution when working near energized electrical sources. Metal hardware on the Dyna-Lock and on other components connected to it will conduct electric current. Maintain a safe working distance [preferably at least 10 ft (3m)] from electrical hazards.

5.4.6 MOVING MACHINERY:

When working near moving machinery parts (e.g. conveyors, rotating shafts, presses, etc.), maintain a safe working distance from machinery which could entangle clothing, this product, or other components connected to it.

5.4.7 SHARP EDGES AND ABRASIVE SURFACES:

Do not expose the Dyna-Lock to sharp edges or abrasive surfaces that could cut, tear, or abrade and weaken the fibers. When work around sharp edges and abrasive surfaces is unavoidable, use heavy padding or other protective barriers to prevent direct contact.

5.4.8 FLAT AND GRADUALLY SLOPED SURFACES:

Exercise special caution when working on flat or gradually sloped surfaces to be sure the line is unobstructed and retracts properly. In general, use on such surfaces is not recommended.

5.4.9 WEAR AND DETERIORATION:

Any Dyna-Lock which shows signs of excessive wear, deterioration or aging must be removed from use and marked "UNUSABLE" until serviced or destroyed. See sections 11 and 12 for detailed inspection procedures.

5.4.10 SLIDING MASSES:

Do not use the Dyna-Lock to arrest falls due to collapse of sliding masses such as grain, sand, and liquids. When a sliding mass collapses, it may do so at a speed less than the minimum locking speed of the device. Therefore, the user may descend into the sliding mass without the device locking to arrest his fall. Suffocation may result. Always maintain solid footing when fall hazards exist.

5.4.11 IMPACT FORCES:

Any Dyna-Lock which has been subjected to the forces of arresting a fall must be immediately removed from service and marked as "UNUSABLE" until destroyed or returned to Rose Manufacturing Company, or other person authorized in writing by Rose for inspection and repair.

5.4.12 GENERAL PRECAUTIONS:**5.4.12.1**

Do not pass line over sharp edges or abrasive surfaces. This can cause cutting and fraying of webbing strands. In the event of a fall, it can also increase the shock loads on the body.

5.4.12.2

Do not cross over the line of another worker. This can create a hazard because the movement of one person can unbalance the other. In the event of a fall by one person, there is a likelihood that the other person will be caused to fall as well. Entanglement of lines or line interference with the work of the other persons are additional hazards which are caused by crossing over lines of others.

5.4.12.3

Do not clamp off, knot, or stand on line. Clamping, knotting, or standing on line for the purpose of removing line tension or other reasons can cause line slack, loss of balance, swing falls, and line damage.

5.4.12.4

Do not allow line to pass beneath the neck or arms, between the legs, or to wrap around the body or limbs. Keep the line taut and behind the back at all times to prevent interference with work operations and to avoid looping of the line around body limbs which could produce bodily injury in a fall.

5.4.12.5

Do not allow foreign matter to enter housing. Do not obstruct line orifice. If contamination enters the housing, it can cause excessive wear and damage to the device and could impair its operation. Obstructing the line orifice can defeat the device's shock absorbing function, produce line slack and damage, and adversely affect line extraction and retraction.

5.4.12.6

Do not release line and allow it to re-reel freely back into device. This can cause damage to the internal spring and possible line damage. It can also cause the user to lose balance when the line suddenly becomes taut after building up momentum. A better method is to control re-reeling by gripping the line in a hand-over-hand fashion. If the user disconnects from the Dyna-Lock when the line is extended, the line should not be left in the extended condition for a prolonged time because this will fatigue the internal spring and result in future poor line retraction. Instead, the user should tie a sufficiently long piece of tag line to the

snaphook and control the complete retraction of the line. The tag line should then be tied to a nearby point where it is out of the way of activity in the area. The Dyna-Lock is then accessible for the next ascent by pulling the tag line to extend the line until the snaphook is within reach.

6.0 SYSTEM REQUIREMENTS

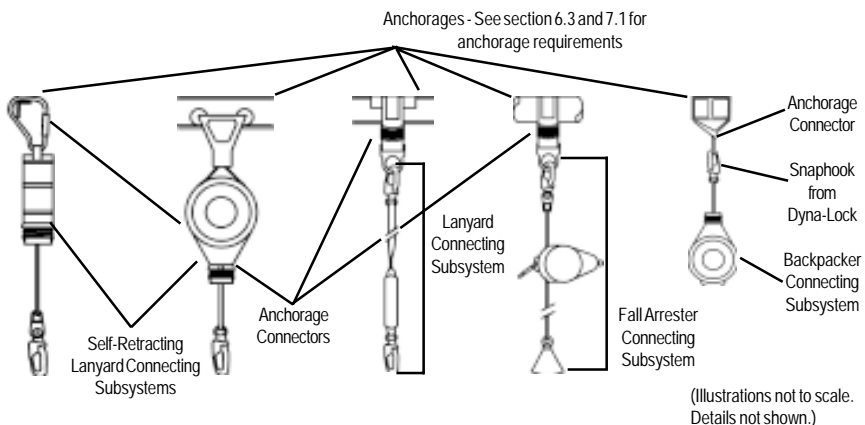
The Dyna-Lock is one component of multi-component systems. Without the other necessary components, the Dyna-Lock serves no useful purpose. There are several different types of systems for use at heights and in confined spaces.

6.1 SYSTEMS TYPES:

Systems are classified according to their intended purposes. There are six classifications of systems which may be used individually or in some combinations. The six basic systems classifications are:

- Fall Arrest
- Personnel-riding
- Restraint
- Climbing Protection
- Rescue
- Evacuation

FALL ARREST SYSTEMS



6.1.1 FALL ARREST SYSTEMS

A fall arrest system is an assembly of components and subsystems, including the necessary connectors, used to arrest the user in a fall from a working height and suspend the user until rescue can be effected. A fall arrest system must always include a full body harness (such as the Rose Pullover Harness) and connecting means between the harness and an anchorage or anchorage connector. Such connecting means may consist of a lanyard, energy (shock) absorber, fall arrester (rope grab), lifeline, self-retracting lanyard or suitable combinations of these. **The Dyna-Lock is part of a fall arrest system.**

6.1.1.1 LANYARD CONNECTING SUBSYSTEM

Is the term applied to an assembly, including the necessary connectors, which is comprised of a lanyard and a shock absorber. The lanyard and shock absorber are usually permanently coupled together along with self-locking snaphooks at each end. The subsystem is attached between the fall arrest attachment (back D-ring) of the user's harness and an anchorage or anchorage connector. **The Dyna-Lock is not included in lanyard connecting subsystems.**

6.1.1.2 FALL ARRESTER CONNECTING SUBSYSTEM

Is the term applied to an assembly, including the necessary connectors, which is comprised of a fall arrester (rope grab) and a vertical lifeline. Sometimes a lanyard or lanyard with integral shock absorber, including the necessary connectors, is connected to the rope grab. The vertical lifeline must have a lifeline tensioner

(counterweight), a connector for anchoring it, and may have a shock absorber. The subsystem is attached between the fall arrest attachment (back D-ring) of the harness and an anchorage or anchorage connector. Fall arrester connecting subsystems are sometimes suitable for use in climbing protection systems. See section 6.1.2. Contact Rose for information on fall arrester connecting subsystems. **The Dyna-Lock is not included in fall arrester connecting subsystems.**

6.1.1.3 SELF-RETRACTING LANYARD CONNECTING SUBSYSTEM

Is the term applied to an assembly, including the necessary connectors, comprised of a self-retracting lanyard only or a self-retracting lanyard and added shock absorber at the point of attachment to the user's harness. **The Rose Dyna-Lock and Dynevac® are self-retracting lanyard connecting subsystems.** The subsystem is attached between the fall arrest attachment (back D-ring) of the harness and an anchorage or anchorage connector. These subsystems are sometimes suitable for use in climbing protection systems. See section 6.1.2.

6.1.2 CLIMBING PROTECTION SYSTEMS

A climbing protection system is an assembly of components and subsystems, including the necessary connectors, used to arrest the user in a fall from a working height and suspend the user until rescue can be effected. Such systems are used for climbing ladders and structures that are designed for climbing. They may either be temporary (portable) or permanent. Temporary climbing protection systems are described in sections 6.1.1.2 and 6.1.1.3. Permanent climbing protection systems are ones of the rigid rail type such as the Rose Dyna-Glide™ system. In those systems, a rigid rail is permanently attached to a fixed ladder or the structure to be climbed. A fall arrester device is attached to and glides on the rail to permit ascent and descent. It quickly locks in case of a fall. The Glideloc fall arrester is attached between the front attachment (chest D-ring) of the Rose Pullover Harness and the fall arrester by use of a carabiner. Contact Rose for more information about Glideloc climbing protection systems. **The Dyna-Lock is not suited for use in conjunction with and connected to the fall arrester of a permanent climbing protection system.**

6.1.3 RESTRAINT SYSTEMS

A restraint system is an assembly of components and subsystems, including the necessary connectors, used to:

- (a) Stabilize and partially support the user at an elevated work location and allow free use of both hands. This type of restraint system is referred to as a work positioning system, or simply, a positioning system.
- (b) Restrict the user's motion so as to prevent reaching a location where a fall hazard exists. This type of restraint system is referred to as a travel restriction system.

A positioning system includes the user's harness and connecting means between the harness and an anchorage or anchorage connector. Such connecting means usually consists of a positioning lanyard which is connected to both hip D-rings of the harness and wraps around or connects to an anchorage or anchorage connector. A positioning system must always be backed up by a fall arrest system. A travel restriction system consists of the user's harness and a fixed length or adjustable length lanyard connected between any one of the harness D-rings and an anchorage or anchorage connector.

The Dyna-Lock should not be used as a device for positioning or restriction. If the user locks the Dyna-Lock, it will hold only as long as the locking force is continuously applied. When the locking force is relaxed, the device automatically unlocks. If the user (incorrectly) expects the line to provide work positioning, loss of balance and falling could occur.

6.1.4 PERSONNEL-RIDING SYSTEMS

A personnel-riding system is an assembly of components and subsystems, including the necessary connectors, used for lifting and lowering a worker to and from a workstation which is not accessible by other preferred means, and potentially for positioning the worker while at that workstation. Personnel-riding systems are of two general types, namely: (a) the mobile supported aerial platform type (e.g. manually and

self-propelled platforms and vehicle-mounted platforms), and (b) suspended personnel hoisting type (e.g. suspended scaffolds, suspension seats, and suspension harnesses). When working on mobile supported aerial platforms, the user should use a restraint system (see section 6.1.3) anchored to the platform to provide restraint against falling from the platform. When working with the suspended personnel hoisting type of system, the user should use a backup fall arrest system of either the self-retracting lanyard type or the fall arrester (rope grab) type. Contact Rose for separate instructions on equipment used in personnel riding systems. **The Dyna-Lock or Dynevac should be used for backup fall arrest when lifting or lowering a person on a personnel -riding system. The Dynevac provides backup fall arrest as well as backup lowering and lifting capability for emergency rescue.**

6.1.5 RESCUE SYSTEMS

A rescue system is an assembly of components and subsystems, including the necessary connectors, used for moving an incapacitated or isolated person from a hazardous place to a safe place under alert or emergency conditions. An isolated person is one who has no available means of access to a safe place or is physically stranded or trapped. Rescue systems require actions of specially trained rescuers to effect the rescue of the incapacitated or isolated person. **The Dyna-Lock may be used in rescue systems for backup fall arrest.**

6.1.6 EVACUATION SYSTEMS

An evacuation system is an assembly of components and subsystems, including the necessary connectors, employed by the user to move, unassisted by others, from a hazardous place to a safe place under alert or emergency conditions. An evacuation system consists of the user's harness and connecting means between the harness and an anchorage or anchorage connector. Such connecting means may consist of: (a) the Rose Dynescape® Automatic Descender, (b) the Rose Dynescape® Manual Descender, or (c) the Rose Fallbloc® System. See the separate instructions for this equipment. **The Dyna-Lock is generally not used in evacuation systems.**

6.1.7 COMBINATIONS OF SYSTEMS

Systems for fall arrest, restraint, climbing protection, personnel-riding, rescue and evacuation are often used in various combinations. For example, positioning type restraint systems must be backed up by a separate and independent fall arrest system. Hands-on training is required to obtain the necessary information and skills needed to work with combinations of systems. Refer to the separate instructions accompanying the several components and subsystems necessary to make up these systems.

6.2 COMPATIBILITY OF SYSTEM PARTS

6.2.1 COMPATIBILITY OF COMPONENTS AND SUBSYSTEMS

Rose Dyna-Locks are designed to be used with other Rose-approved products. Use of the Dyna-Lock with products made by others that are not approved in writing by Rose may adversely affect the functional compatibility between system parts and the safety and reliability of the complete system. Connecting subsystems must be suitable for use in the application (e.g. fall arrest, climbing protection, restraint, rescue, or evacuation). Contact Rose with any questions regarding compatibility of equipment used with the Dyna-Lock.

6.2.2 COMPATIBILITY OF CONNECTORS

Connectors, such as D-rings, snaphooks, and carabiners, must be rated at 5,000 lbf. (22 kN) minimum capacity. Rose connectors meet this requirement. Connecting hardware must be compatible in size, shape, and strength. Non-compatible connectors may accidentally disengage ("rollout"). Always verify that the connecting snaphook on the Dyna-Lock is compatible with the D-ring on the harness.

6.3 ANCHORAGES AND ANCHORAGE CONNECTORS:

An anchorage is generally a fixed structural member such as a beam, girder, column, floor, or wall. An anchorage connector is used to connect the Dyna-Lock to the anchorage. Anchorages and anchorage connectors for personal fall arrest systems must have a strength capable of supporting a static load, applied in directions permitted by the system, of at least: (a) 3,600 lbf (16 kN) when certification exists, or (b) 5,000 lbf (22.2 kN) in the absence of certification. See ANSI Z359.1 for definition of certification. When more than one personal fall arrest system is attached to an anchorage, the anchorage strengths set forth in (a) and (b) must be multiplied by the number of systems attached to the anchorage. See ANSI Z359.1, section 7.2.3. This requirement is consistent with OSHA requirements. In addition, it is recommended that the user of personal fall arrest systems refer to ANSI Z359.1, section 7, for important considerations in equipment selection, rigging, use, and training.

7.0 PLANNING THE USE OF SYSTEMS

Perform the hazard identification and evaluation described in section 3 of these instructions. Then plan the system(s) before starting work. Consider all possible paths of user movement and all factors that could affect the user's safety before, during, and after a fall anywhere along these paths. A qualified person must select the components, materials, anchorage, and anchorage connectors to match the system application, the work, workplace hazards, and the environment. Consider the following points when planning the system(s).

7.1 ANCHORAGE AND ANCHORAGE CONNECTOR SELECTION:

Determine the necessary locations of anchorages to assure that the user will be continuously connected when exposed to hazards of falling. Select anchorages that are stable and have the strength required by section 6.3 of these instructions. Carefully select the locations of the anchorages to: (a) reduce possible free fall distance, (b) prevent swing fall hazards, and (c) provide clear space in the potential fall paths to avoid striking an object. Do not select anchorage locations that will require the user to work above them as this will increase the potential free fall and total fall distances. Plan the types of anchorage connectors that will need to be selected and refer to the instructions for same.

Most installations can be accomplished using components individually or in combinations as described in the following.

7.1.1 ANCHORAGE CONNECTOR STRAP:

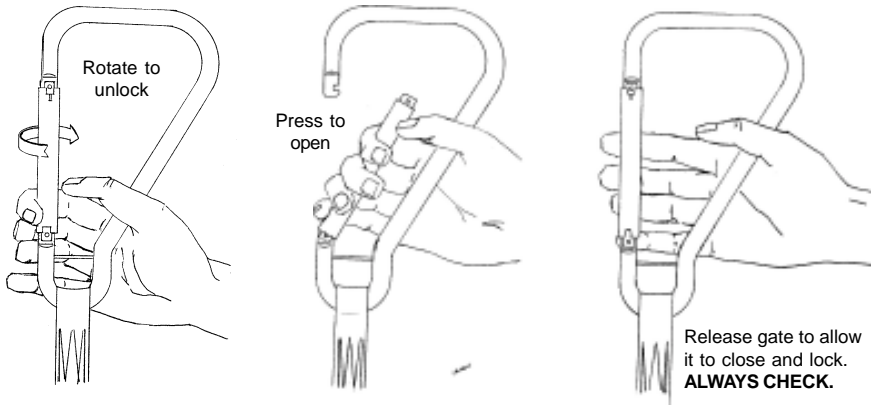
Anchorage connector straps are available from Rose in various lengths to fit all types of anchorages. The standard anchorage connector strap (Rose P/N 505282, nylon and P/N 505298, polyester) is 5 ft (1.5 m) long x 3 in (76 mm) wide. It has a sewn loop on one end and a D-ring on the other end. Longer lengths are available.

A special anchorage connector strap (P/N 505314) is also available which is designed to be installed with the Rose Remote Connect/Disconnect (RCD) system. The RCD system allows the anchorage connector strap to be installed on an anchorage with the installer standing 20 ft (6.1 m) below the anchorage. The RCD system (Rose P/N 501443) can also be used to connect and disconnect a lanyard with a snaphook to the D-ring of the anchorage connector strap. The Dyna-Lock can then be connected to the lower end of the lanyard at the working level. Contact Rose for more information on the RCD system. Refer to the RCD User Instructions for these components prior to use.

7.1.2 CARABINER:

The carabiner is a versatile connector. It may be used for connection to smaller anchorages or can be used in combination with an anchorage connector strap or eye bolt. It must have a minimum breaking strength of 5,000 lbf. (22 kN). The Rose carabiner (P/N 506308) has a throat opening of

2.0 in (50.8 mm) which permits coupling to the device. The nominal diameter of the body is 0.57 in (14.5 mm) which permits coupling to an eye bolt, shackle, wire rope with thimbles, or directly to an anchorage. It may be ordered from Rose. (Other size carabiners are also available. Refer to the Rose Carabiner User Instructions P/N 622543.)



7.1.3 SHACKLE:

If a shackle is needed, use a bolt-type anchor shackle that is of weldless forged alloy steel construction. These are sometimes referred to as safety anchor shackles because the shackle pin is secured with a nut and a cotter pin to reduce the possibility of the pin coming out. The shackle should comply with U.S. Federal Specification RR-271.

It is recommended that a shackle with a nominal size of 1/2 in (12 mm) be used. Shackles are sized by the diameter of the cross section of material forming the bow of the shackle. The shackle must have a breaking strength of not less than 5,000 lbs (22 kN). The standard 1/2-in (12 mm) shackle has the proper size, shape, and strength for compatible coupling to the Dyna-Lock. This shackle (P/N 506212) may be ordered from Rose.

The shackle bolt must be straight and the threads in good condition. Never replace an original shackle bolt with a regular bolt. Replace the entire shackle if the original bolt is damaged or lost. Replace any shackle if the dimensions do not conform to those specified by the shackle manufacturer. Always be certain that both the nut and cotter pin are securely in place on the bolt.

7.1.4 EYEBOLT:

Eyebolts will usually require drilling a hole in the anchorage structure to mount the eyebolt. It is absolutely essential that the eyebolt connection is designed under the direct supervision of a qualified engineer to evaluate the effects on the anchorage.

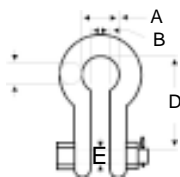
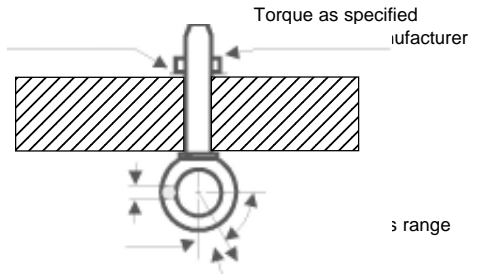
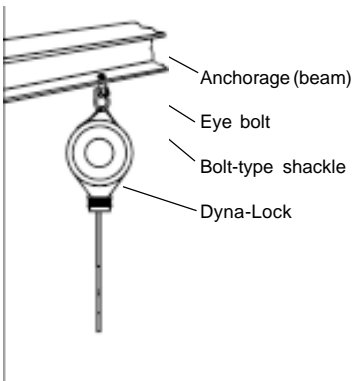
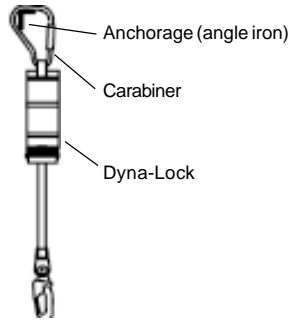
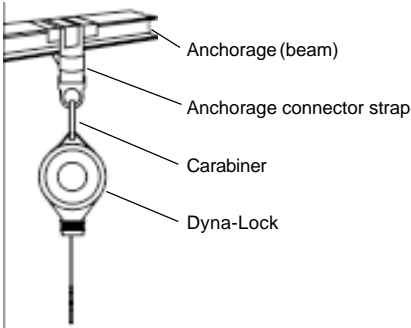
The eyebolt must be of weldless forged alloy steel construction with a shoulder pattern and threaded shank for a nut. A shoulder pattern is necessary because any load applied at an angle to the eyebolt axis subjects the eyebolt to bending, and the load it can carry is thereby severely reduced. This is true for all eyebolts but it is more severe for shoulderless eyebolts.

Select an eyebolt with a shank length suitable for the installation, allowing for anchorage structure thickness, washers, and nut. Eyebolts are sized by the diameter of the cross section of the metal forming the eye. The eyebolt must have a breaking strength of at least 5,000 lbf (22 kN) with the load applied in any direction permitted by the fall arrest system. Note that the axial breaking strength of the eyebolt must be much greater than 5,000 lbf (22 kN) in order to withstand 5,000 lbf (22 kN) at 30 degrees off-axis. Be sure that accidental disengagement of the connecting hook cannot occur.

ANCHORAGE AND ANCHORAGE CONNECTOR EXAMPLES

ANCHORAGE MOUNTED DYNA-LOCK

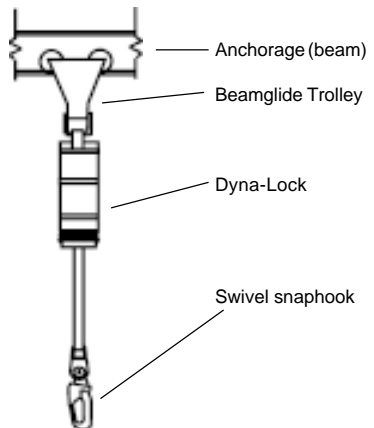
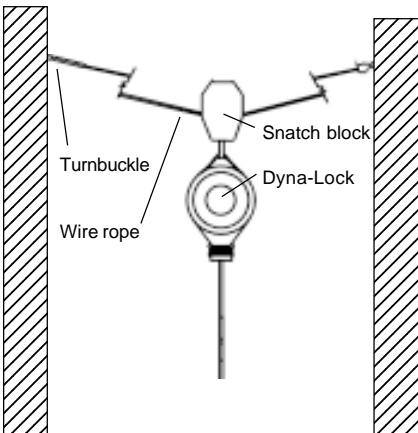
Sketches are not to scale



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

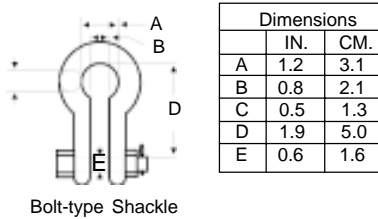
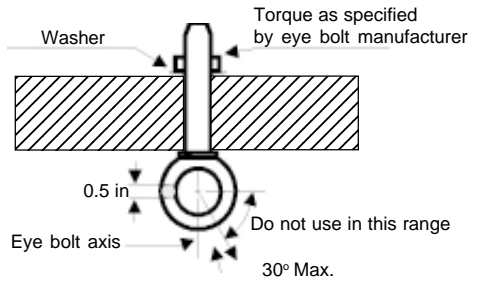
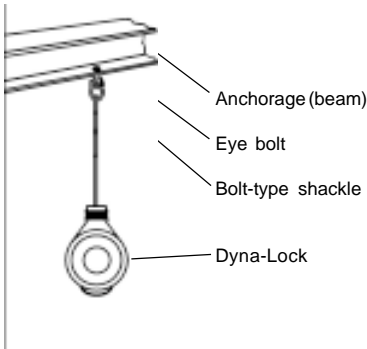
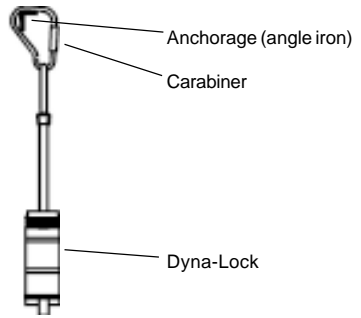
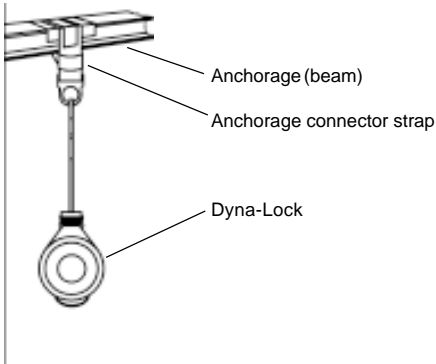
Bolt-type Shackle

Horizontal Lifeline



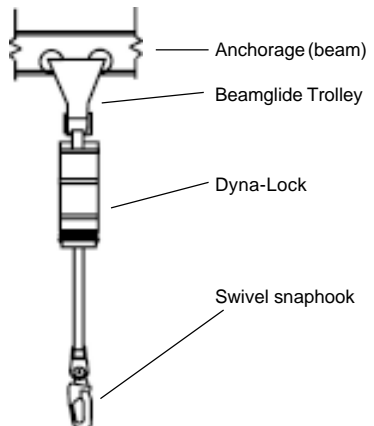
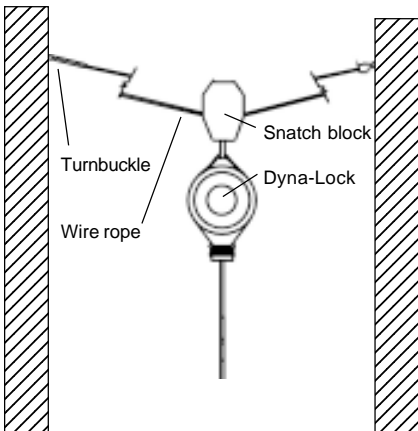
ANCHORAGE AND ANCHORAGE CONNECTOR EXAMPLES
HARNES MOUNTED DYNA-LOCK

Sketches are not to scale



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

Horizontal Lifeline



When installed, the eyebolt shoulder must be perpendicular to the axis of the receiving hole and the shoulder must be fully and firmly in contact with the anchorage surface. The eyebolt nut must be torqued to the level specified by the eyebolt manufacturer. An appropriate washer should be used under the eyebolt nut and the eyebolt threads must fully engage all threads on the nut. The axis of the eyebolt shaft must be oriented such that no fall arrest forces are ever imposed at an angle greater than 30 degrees with the eyebolt axis to avoid excessive bending stresses on the eyebolt.

7.1.5 HORIZONTAL LIFELINE (HLL):

The HLL is part of an anchorage connector subsystem which is supported at each end by an anchorage. The HLL typically consists of a wire rope with end connecting hardware (which may include an energy absorber) and a turnbuckle assembly used to tighten the HLL to the proper tension. A pulley mounted in a special housing (Snatch Block) is installed on the wire rope. The Dyna-Lock is connected to the Snatch Block with a carabiner or shackle. This connecting subsystem allows the Dyna-Lock user to work anywhere between the HLL anchorages. The HLL must be installed under the direct supervision of a qualified engineer. Contact Rose for consultation on the application of HLL subsystems.

7.1.6 BEAMGLIDE® TROLLEY:

The Rose Beamglide® Trolley (P/N 506266) is a part of an anchorage connector subsystem which automatically follows the user anywhere under a fixed beam used for the anchorage. The Dyna-Lock is connected to the Beamglide Trolley. This connecting subsystem allows the user to work anywhere between the beam supports. The angle of the line of the Dyna-Lock from a vertical line below the beam may extend 15 degrees in each direction from the beam. See the Rose Beamglide Trolley User Instructions, Rose P/N 621629 for more information on this device.

7.1.7 SPECIAL ANCHORING ARRANGEMENTS:

It is possible that a special anchorage may need to be fabricated and installed at the workplace. It is also possible that special anchorage connection means may be necessary. Furthermore, special precautionary measures may need to be developed and implemented in differing situations in order to properly install and use the device. These special measures may include, but are not limited to, use of barriers, warning devices, work procedures, tests, and special instructions to work supervisors and users. Any specialized anchoring arrangement, as well as development of specialized precautionary measures, must only be carried out under supervision of a qualified engineer.

7.2 FREE FALL DISTANCE, TOTAL FALL DISTANCE, AND SYSTEM ELONGATION:

Personal fall arrest systems must be selected and rigged to ensure that potential free fall distances will never exceed 6 ft (1.8 m) as required by OSHA and ANSI Z359.1. [In Canada, free fall distance is limited to 5 ft (1.5 m) by regulation. ANSI A10.14 also restricts free fall distance to 5 ft (1.5 m)]. Total fall distance is the sum of free fall distance and deceleration distance. Dynamic elongation of the system (temporary elastic stretch of connecting components and subsystems) must be included in the total fall distance and the user must allow for clearance.

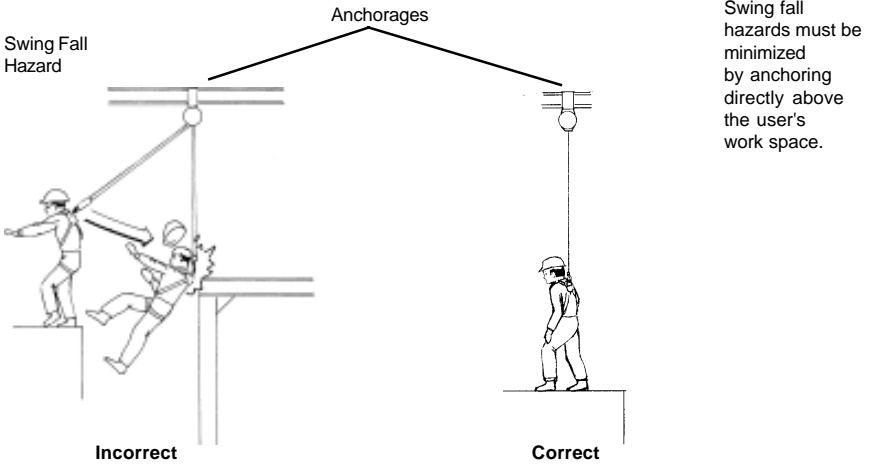
The Dyna-Lock self-retracting lanyard, when maintained and used in accordance with these instructions, limits the free fall distance to less than 24 in (61 cm). This is the maximum distance required to activate the line locking mechanism. The deceleration distance including dynamic elongation of the system is less than 16 in (41 cm). The total fall distance is less than 40 in (1 m). [OSHA regulations limit the maximum deceleration distance to 42 in (1.07 m)].

7.3 USER MOVEMENTS

Identify all necessary movements of the user and the materials and equipment needed to perform the planned work. Plan for avoidance of the crossing or tangling of connecting subsystems of two or more workers. Anticipate user movements that might introduce hazards of the connecting subsystem passing under, about, or between body parts or invite the user to clamp, knot, or otherwise prevent the connecting subsystem from functioning properly. Establish controls to prevent these occurrences.

7.4 PENDULUM (SWING) FALLS

Swing falls can occur when the system is not anchored directly above the user. The force of striking an object in a pendular motion can cause serious injury. Always minimize swing falls by working as directly below the anchorage point as possible.



7.5 CLEAR SPACE IN FALL PATH:

Make certain that enough clearance is available in all potential fall paths to prevent striking an object. The amount of clearance needed depends upon the location of the anchorage. Allow at least 40 in (1m) below the user and within a radius of 6 ft (1.8 m). This allows for some horizontal motion during the fall even if there is no swing fall possible.

7.6 HAZARDS IDENTIFIED IN WORKPLACE ASSESSMENT:

All hazards of the type set forth in section 3 of these instructions must be addressed and suitable controls planned and implemented. For example, if work must be performed near unavoidable sharp edges, plan to protect against cutting by use of heavy padding or other means of covering the sharp edge.

7.7 RESCUE AND EVACUATION:

The user must have a rescue plan and the means at hand to implement it. The plan must take into account the equipment and special training necessary to effect prompt rescue under all foreseeable conditions. If the rescue be from a confined space, the provisions of OSHA regulation 1910.146 and ANSI Z117.1 must be taken into account. Although a rescue plan and the means to implement it must always be in place, it is a good idea to provide means for user evacuation without assistance of others. This will usually reduce the time to get to a safe place and reduce or prevent risk to rescuers.

8.0 USAGE

8.1 DYNA-LOCK INSPECTION BEFORE EACH USE:

Inspect the Dyna-Lock to verify that it is in useable condition. Examine every inch of the line for severe wear, cuts, burns, frayed edges, abrasion, or other damage. Examine stitching for any pulled, loose, or torn stitches. See section 11 for inspection details. Do not use a Dyna-Lock if inspection of it reveals an unsafe condition.

8.2 MAKING PROPER CONNECTIONS:

When connecting the Dyna-Lock to an anchorage or when connecting its snaphook to the user's harness, be certain accidental disengagement ("rollout") cannot occur. Rollout is possible when interference between a snaphook and the mating connector causes the snaphook's gate or keeper to accidentally open and release. Rollout occurs when a snaphook is snapped into an undersized ring such as an eye bolt or other non-compatibly shaped connector. Only self closing, self-locking snaphooks and carabiners should be used to reduce the possibility of rollout when making connections. Do not use snaphooks or connectors that will not completely close over the attachment object. Do not make knots in a lanyard. Do not hook a lanyard back onto itself. Snaphooks and carabiners must not be connected to each other. Do not attach two snaphooks into one D-ring. Do not attach a snaphook directly to a horizontal lifeline. Always follow the manufacturer's instructions supplied with each system component.

User maintenance consists of cleaning and drying the housing and lanyard. All other maintenance or repair/work must be done at the factory or by an authorized person. (Authorization by Rose Manufacturing Company, must be written.)

9.0 CARE, MAINTENANCE, AND STORAGE

9.1 CLEAN:

To clean, 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 device to service. The frequency of cleaning should be determined by inspection and by severity of the environment. In highly corrosive environments cleaning should be done every two or three days. Never use solvents to clean the housing as they may break down the label adhesive. Don't use abrasives to scour the housing as they may damage the plating and the labels. To remove oil or grease, use a mild dishwasher detergent on a damp cloth or sponge and follow by repeated swabbing with a clean damp cloth to remove all soap residue. Never immerse the product in water or other liquid. If water gets into the housing, hang the device from the installation bracket and slowly extract all the line allowing the water to run out of the line 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 slightly extended. Repeat the line extraction and drying operation after a few hours and return to use when the internal drying is complete.

Proper maintenance of the device requires return of the unit to Rose Manufacturing Company, at any time that inspection suggests the need to remove the unit from use. The user must never attempt to repair or alter the unit. There are no internal parts which are serviceable or replaceable by the user.

9.2 STORAGE:

Store the device in a clean, dry place indoors. If lengthy storage is required, periodically examine the line. Store the product away from heat and steam and never allow it 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 line fully retracted.

10.0 MARKINGS AND LABELS

10.1

The following labels must be present, legible, and securely attached to the Dyna-Lock. See section 4 for location of labels.

Dyna-Lock®

SELF-RETRACTING LANYARD

ROSE MANUFACTURING CO.
2250 South Tejon Street
Englewood, CO 80110-1000
1-800-722-1231

Inspection:
Before each use, inspect entire device for damage, alteration, missing parts, excessive wear and improper line extraction, retraction and locking. Test locking by pulling line out quickly and firmly. Test retraction by gradually pulling out line and releasing it slowly to assure it is always under tension.

A separate competent person must formally inspect at least every 6 months. If device is defective or if 6 months pass without a formal inspection, remove from use and label **"UNUSABLE"** until re-inspected or proper service is performed.

Selection, Anchorage and Use:
This device is part of a personal fall arrest system. A qualified person must select the components and anchorage to match the application and environment. The anchorage and means of connecting to it must be stable, compatible and capable of withstanding 5000 lbf (22 kN). Attach device to anchorage so that it cannot disengage. Connect snap-hook to back D-ring of full body harness and verify it is securely locked.

Walk slowly when moving about. Faster movement or a fall causes device to lock.

⚠ WARNING


- Read, understand and heed all instructions, labels and warnings supplied with this device. Failure to do so may result in serious injury or death.
- Remove from use if subjected to fall arrest forces. Label **"UNUSABLE"**. Never attempt field repairs.

P/N 622639 Rev. A

INSPECTION, SELECTION, ANCHORAGE, AND USE LABEL

SPECIFICATIONS

Weight: 6.5 lbs (3kg)
Capacity: 75 to 310 lbs (34 to 141 kg)
Line: Nylon Webbing; 20 ft (6 m) long,
1 in (25 mm) wide, .085 in (2 mm) thick


LM 101506
CSA standard Z259.2
Certification is applicable to the device only. CSA has not investigated the anchorage system.

Approved
CAL/OSHA
C-4511

Made In U.S.A.
U.S.A. and foreign
patents applied for.

ANSI Z 359.1 Test Results
Maximum Arrest Force: 900 lbf (4 kN)
Maximum Arrest Distance: 40 in (1 m)
Meets ANSI Z 359.1, ANSI A10.14,
CSA Z 259.2 and OSHA Regulations.

P/N 622614

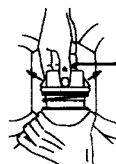
SPECIFICATION LABEL

INSTRUCTIONS FOR INSTALLATION OF BACKPACKER™ ON HARNESS

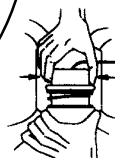
1. Insert snaphook upward through back D-ring of harness.
2. Slip D-ring over nozzle and push D-ring down until locking arms snap into place.
3. Extract and retract line to check proper operation.
4. To disconnect, depress locking arms and release D-ring upward.



INSERT



CONNECT



DISCONNECT

⚠ WARNING

Read, understand and heed all instructions, labels and warnings supplied with this device. Failure to do so may result in serious injury or death.

P/N 622712

BACKPACKER INSTRUCTION LABEL

PART NUMBER:	_____
SERIAL NUMBER:	_____
DATE OF MANUFACTURE:	_____
LAST FACTORY SERVICE:	_____

IDENTIFICATION AND
FACTORY SERVICE LABEL



⚠ CAUTION

- Read instructions for all products in the user's fall arrest system before use.
- Failure to follow all instructions may result in serious injury or death.
- Before each use inspect all components of the user's fall arrest system in accordance with separate instructions.
- Use only for fall arrest of one person.
- Use only with anchorage connectors and harnesses recommended by Rose.
- DO NOT use this device if the yellow load indicator on the snaphook is exposed. Label "UNUSABLE".

P/N 622615

⚠ CAUTION

- The anchorage must be approved by a qualified engineer.
- DO NOT anchor the device where the line may encounter electrical equipment or moving machinery.
- Anchor the device directly above the work area to minimize swing falls. DO NOT use where line makes greater than 15° angle with vertical or where swing fall may cause injury.
- Always maintain at least 40 in. (1 m) of unobstructed space below the lowest point of body.

P/N 622616

⚠ CAUTION

- DO NOT permit line slack.
- DO NOT lengthen line by connecting to another line.
- DO NOT stand on, clamp off, knot or twist the line.
- DO NOT allow line to pass beneath the user's neck, arms, between legs, wrap about body, limbs nor over the line of another worker.
- DO NOT expose line to sharp edges, abrasive surfaces, sparks, flame, or heat above 185°F (85°C).

P/N 622648

⚠ CAUTION

- Move about carefully to prevent loss of balance from line tension or locking.
- DO NOT allow foreign matter to enter housing. DO NOT obstruct orifice.
- DO NOT use to arrest falls due to collapse of sliding masses, e.g. grain, sand, and liquids.
- Exercise special caution when using the device on flat or gradually sloped surfaces to be sure line is unobstructed and retracts properly
- Store device with line fully retracted.

P/N 622649

FIVE CAUTION LABELS

11.0 INSPECTION BEFORE EACH USE

11.1 INSPECTION FREQUENCY:

The Dyna-Lock must be inspected by the user before each use. Additionally, it must be inspected by a competent person other than the user at intervals of no more than six months. The competent person inspection is referred to as Formal Inspection. See section 12 for Formal Inspection procedures.

⚠ CAUTION

If the Dyna-Lock has been subjected to fall arrest or impact forces, it must be immediately removed from service and marked as "UNUSABLE" and returned to Rose, or a person authorized in writing by Rose, for inspection and repair.

11.2 PROCEDURE FOR INSPECTION BEFORE EACH USE:

Perform the following steps in sequence. If in doubt about any inspection point, consult Rose or a competent person who is qualified to perform Formal Inspection as set forth in section 12.

Step 1: Inspect the Dyna-Lock labels to verify that they are present and legible. See section 4 for location of labels. See section 10 for the specific labels that should be present and the information contained thereon. Check the Formal Inspection Log to be sure a Formal Inspection has been performed within the last six months. If the Log does not indicate that a Formal Inspection has been performed within the last six months, or if any labels are missing or illegible, remove the device from use and mark it as “UNUSABLE” until a Formal Inspection is performed by a competent person. Check the factory service date on the Identification Label. If 12 months have expired since the factory service date, return to the manufacturer.

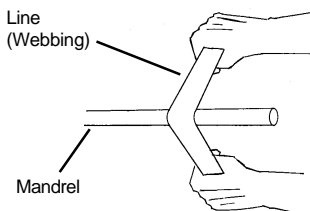
Step 2: Check line extraction and retraction - pull out the full length of line onto a clean, dry surface, and let it slip back into the unit through your fingers. If it jams on the way out, “stalls” repeatedly on the way back, or doesn't retract completely, remove the product from use.

Check line locking - pull the line out very sharply. The device should lock and remain locked until you relax the pull; then let it retract. Repeat this three times. If it doesn't always lock or retract normally, remove from service.

Step 3: Check for structural defects and corrosion. Verify that the housing attachments are tight; that there are no missing or altered parts; that there are no cracks, deformations, excessive corrosion, deep cuts in the housing, webbing, or snaphook.

Step 4: Inspection of Snaphook/Webbing Attachment: Inspect sewn area for broken, frayed, or missing threads. If there is evidence of any damage to these threads, remove the product from use and return to the manufacturer.

Step 5: Detailed Inspection of Line (Lanyard): Pull the line over a mandrel to expose cuts or abrasions. Check both sides of the line. Inspect for reductions (pinched areas) of line thickness and width. This is an indication of serious internal line damage. Inspect for frayed areas, especially on the edges of the line. Inspect for smooth, discolored, shiny, hardened, or glazed areas on the line. Such conditions indicate that the line has been in contact with a hot object, chemical, or possibly has been passed over an object that created a high amount of friction. Also inspect for torch burns, burn holes, or charred areas which may result from use in a welding environment. If any of these conditions are present, immediately remove the device from use, tag it “UNUSABLE”, and return to the manufacturer for repair.



Step 6: Inspect the snaphook for deformation, fractures, cracks, corrosion, deep pitting, burrs, sharp edges, cuts, deep nicks, loose parts, and evidence of excessive heat or chemical exposures. Inspect snaphook function by cycling the unlocking, opening, closing, and locking features several times. Refer to section 4.2 for description of these functions. Gates must automatically close and snugly seat against the nose. The locking mechanism must retain the gate tip within 1/8 in (3 mm) of the nose when finger pressure is firmly applied to the gate in any direction. Inspect for weak springs, loose rivets, and binding of the gate or lock.

Step 7: Inspect each component and subsystem of the complete system in accordance with the associated manufacturer's instructions. See section 6 for a description of the make-up of the different types of subsystems and systems.

11.3 CORRECTIVE ACTION:

When inspection reveals signs of inadequate maintenance, the Dyna-Lock must be immediately removed from service and marked as "UNUSABLE" until destroyed or subjected to corrective maintenance. Defects, damage, excessive wear, malfunction, and aging are generally not repairable. If detected, immediately remove the Dyna-Lock from use and mark it as "UNUSABLE" until destroyed. For final disposition, submit the Dyna-Lock to a competent person who is authorized to perform Formal Inspection. If there is any question as to reliability, contact Rose, or a service center authorized in writing by Rose, before further use of the device.



Only Rose or parties with written authorization from Rose may make repairs to the Dyna-Lock.

12.0 FORMAL INSPECTION LOG

12.1 FORMAL INSPECTION FREQUENCY:

The Dyna-Lock must be formally inspected by a competent person other than the user at intervals of no more than six months. (The qualifications of a competent person are established by OSHA.) If the product is exposed to severe working conditions, more frequent formal inspections may be required. The frequency of inspection by a competent person should be established by the user's organization based on such factors as the nature and severity of workplace conditions, modes of use, and exposure time of the equipment. The competent person 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. The user should never record this data; however, the user should check it before each use to be sure a Formal Inspection has been performed within the last six months.

12.2 CONTROL OF EQUIPMENT:

The user's organization should establish and enforce a policy and procedure whereby any Dyna-Lock 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 competent 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 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 workplace conditions.

12.3 FORMAL INSPECTION PROCEDURE:

The Formal Inspection Procedure is similar to the user's inspection before each use described in section 11. However, it differs in three important respects, namely: 1) it is performed by a competent person other than the user who is trained and authorized to perform Formal Inspection for the user's organization; 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" (indicated by the formal inspector recording the current

month/year in the Formal Inspection Log), or as “not acceptable” followed by destruction of the product, or returning it to Rose or a person authorized in writing by Rose, for repair.

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 and Codes (“CHECKLIST”). These forms relate and refer to each other so it is necessary to understand their purposes and uses before discussing the inspection procedure.

12.3.1 DIAGRAM:

This is a drawing of the Dyna-Lock. It has numbered callouts of the parts. The numbers called out in the DIAGRAM correspond to those shown on the column titled “INSP. POINT” (inspection point) on the LOG.

12.3.2 LOG:

This is the form to be used to record observations made during the Formal Inspection. The Model No., Serial No., and Date Made are recorded by the inspector from the identification 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” (“PASS”) or “Not Acceptable” (“FAIL”). The columns on the LOG are as follows:

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

DESCRIPTION - Name of the Dyna-Lock inspection point. There are three broad categories of inspection points, namely, fabric parts, metallic parts, and plastic parts. There are subcategories under these three main categories.

QTY/DL - Quantity per Dyna-Lock. This is the number of inspection points on each Dyna-Lock which must be inspected. Note that the quantity of certain items will vary between models and that some items are not present on all models.

COND. - Condition. The condition of the Dyna-Lock part is indicated here by entry of the appropriate Condition Code shown on the CHECKLIST (e.g. W1, S4, M0, 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. webbing, stitching, metallic, plastic). The appropriate Overall Assessment Code defined on the CHECKLIST is entered here (e.g. WA, SN, MA, PN). 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 CHECKLIST AND CODES:

This is a table which categorizes the different types of Dyna-Lock parts into broad categories (e.g. webbing, stitching, metallic, plastic). For each of these categories the formal inspector checks the Dyna-Lock parts for each of the associated conditions (e.g. cuts, fraying, abrasion, wear, etc.). The codes for the detected conditions are entered in the Condition column of the LOG (e.g. W1, S4, M0, etc.). Overall assessment codes are given, along with the criteria for assigning them, so the inspector can decide if the Dyna-Lock is acceptable or not acceptable for further use (e.g. WA, SN, MA, PN). Alternately, instead of using these codes, the inspector may simply enter “FAIL” if a defective condition exists and make no entry if no defect exists.

12.3.4 FORMAL INSPECTION PROCEDURAL STEPS:

- Step 1:** Record on the LOG the Model No., Serial No., and Date Made information shown on the identification label. Record the inspector's name and inspection date.
- Step 2:** Arrange the Dyna-Lock so the parts to be inspected are readily visible.
- Step 3:** Starting with the webbing 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 product condition has materially changed since the last Formal Inspection, retrieve and review the prior Formal Inspection records for the specific product.
- Step 4:** Repeat Steps 2 and 3 for the stitching, metallic and plastic categories of part types.
- Step 5:** Determine whether the part (inspection point) is acceptable or not acceptable. If an inspection point has a defective condition, enter in the Overall Assessment column of the LOG the proper code taken from the CHECKLIST (e.g. WN, SN, MN, PN) or simply "FAIL."
- Step 6:** Determine disposition of the Dyna-Lock. If in Step 5 it has been determined that the Dyna-Lock 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 Dyna-Lock is to be destroyed, returned to manufacturer/distributor, etc.
- Step 7:** If in Step 5 it has been determined that the Dyna-Lock is acceptable for further use, enter "A" or "PASS" in the Disposition space on the LOG.
- Step 8:** File the LOG for future reference.

12.4 FORMAL INSPECTION CHECKLIST AND CODES

TYPE OF PART INSPECTED	CONDITION	COND. CODE	OVERALL ASSESSMENT CODE	LEGEND
Webbing (straps)	Cuts/fraying Abrasion/wear Partially missing/alterd Burns/heat exposure Chemical exposure Knotted/elongated Other No visible change	W1 W2 W3 W4 W5 W6 W7 W0	WA - (Webbing Acceptable) WN - (Webbing Not Acceptable)	<p>DISPOSITION:</p> <p>A - (Acceptable) N - (Not acceptable)</p> <p>Enter "A" (or "PASS") or "N" (or "FAIL") in Disposition blank on Formal Inspection</p> <p>Criteria for disposition of "N" (Not acceptable):</p> <p>If there is one or more Overall Assessment Code of "N" type (e.g. WN, SN, MN, PN).</p>
Stitching	Cut/pulled/loose thread Abrasion/wear Partially missing/alterd Burns/heat exposure Chemical exposure Other No visible change	S1 S2 S3 S4 S5 S6 S0	SA - (Stitching Acceptable) SN - (Stitching Not Acceptable)	
Metallic	Deformed/fractured Corroded/deep pits Missing/loose Heat exposure Chemical exposure Burns/sharp edges Cuts/deep nicks Malfunction Other No visible change	M1 M2 M3 M4 M5 M6 M7 M8 M9 M0	MA - (Metallic Acceptable) MN - (Metallic Not Acceptable)	
Plastic	Cut/broken/deformed Wear damage Missing/loose Burns/heat exposure Chemical exposure Other No visible change	P1 P2 P3 P4 P5 P6 P0	PA - (Plastic Acceptable) PN - (Plastic Not Acceptable)	

12.5 FORMAL INSPECTION LOG FOR ROSE DYNA-LOCK

SAMPLE

Model No.: 506619
 Serial No.: L01001Z
 Date Made: 5/27/94

Inspector: J.W. Doe
 Inspection Date: 12/15/94
 Disposition: - See item 6, return to Rose

INSP. POINT	DESCRIPTION	QTY/DL	COND (a)	OVERALL ASSESS. (a)	COMMENTS
WEBBING					
1	Line	1	W2	WA	Some wear - Minor.
STITCHING					
2	Line	1	S0	SA	
METALLIC PARTS					
3	Snaphook	1	M0	MA	
4	Housing	1	M0	MA	
5	Anchorage Bracket	1	M0	MA	
6	Load Indicator Tab	1	M9	MN	Load Indicator Tab visible
7	Sideplates	2	M0	MA	
PLASTIC PARTS					
8	Labels	8	P0	PA	
9	Nozzle	1	P0	PA	

FORMAL INSPECTION NUMBER 1

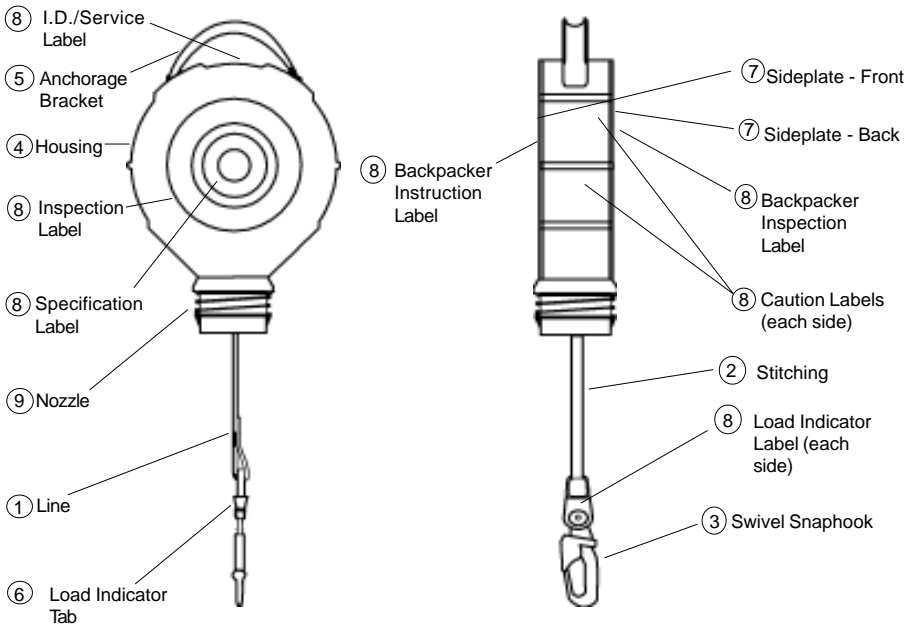
Model No.: _____
 Serial No.: _____
 Date Made: _____

Inspector: _____
 Inspection Date: _____
 Disposition: _____

INSP. POINT	DESCRIPTION	QTY/DL	COND (a)	OVERALL ASSESS. (a)	COMMENTS
WEBBING					
1	Line	1			
STITCHING					
2	Line	1			
METALLIC PARTS					
3	Snaphook	1			
4	Housing	1			
5	Anchorage Bracket	1			
6	Load Indicator Tab	1			
7	Sideplates	2			
PLASTIC PARTS					
8	Labels	8			
9	Nozzle	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 defective condition.
- (b) The function of snaphooks and Dyna-Lock (and the parts thereof) must be carefully checked with reference to sections 4.2, 11.2, and Step 2.
- (c) Blank copies of this LOG, with associated CHECKLIST and DIAGRAM, are available from Rose Manufacturing Company Call Toll Free (800) 722-1231.

12.6 FORMAL INSPECTION DIAGRAM



13.0 FACTORY SERVICE

13.1 OWNER REGISTRATION:

When the Dyna-Lock is purchased the owner (user) must return the owner Registration card packed with the device. The Owner Registration card contains information which is vital to the maintenance of the device.

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.

Record the Serial Number and date of purchase on the User Inspection Log. The device must be shipped to Rose Manufacturing Company, upon discovery of any condition, including fall arrest service, which requires removal from use. The following procedure is required.

A. Prepare and mail a purchase order for the requested service to:

Rose Manufacturing Company
 2250 South Tejon Street
 Englewood, Colorado 80110-1000

- B.** The purchase order must contain:
- 1) Owner's name, address, telephone, and fax number.
 - 2) Name of owner's employee who can be contacted to authorize repair charges, if any.
 - 3) Dyna-Lock serial number, part number, and last factory service date.
 - 4) Brief explanation of service and known repairs to be performed (e.g., damaged line, broken snaphook, etc.)
 - 5) The statement: "Basic service charge authorized—advise price of repairs." Please note that a minimum service charge must always be made for disassembly, inspection, and reassembly.
 - 6) Billing address if the owner already has an account with Rose. Otherwise, Rose terms are C.O.D. in the continental USA and cash in advance, including freight charges, elsewhere.
 - 7) Return shipment address. Freight terms are prepaid and/or added if the owner has an account; otherwise the terms are freight collect.
- c.** Ship the unit, freight prepaid, to Rose Manufacturing Company. If a unit is received with freight due, it will not be accepted. This User Manual and Service Log must be securely enclosed in the original 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 Dyna-Lock shipping container for shipment. Otherwise, pack the unit very securely to prevent shipping damage.
- d.** Upon receipt of the owner's unit and purchase order, Rose Manufacturing Company, will inspect the unit and contact the owner's designated contact person to advise of required service and charges, if any, which are in excess of the minimum service charges. If the service and charges are within the minimum for service, the work will be performed by Rose and return shipped without further contact.
- e.** Upon completing the authorized service work, Rose Manufacturing Company will record the service in the Log of this manual and return the manual with the unit to the owner.

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

FACTORY SERVICE LOG

(Print clearly using ball point pen. To be filled in by Rose Manufacturing Company only.)

Serial No. _____								Part No. 506619		Date of Mfg. _____	
Date of Factory Service	Service man's Name (print)	Service man's Initials	Inspector's Name (print)	Inspector's Initials	Inspection/Service Report No.	Next Factory Service Date					

LIMITED WARRANTY

New products of Rose Manufacturing Company, are warranted against factory defects in materials and workmanship for a period of one (1) year from date of installation or first use by the owner, provided that this period does not exceed two (2) years from date of Rose shipment. Upon notice in writing, Rose will repair or replace defective items. Rose reserves the right to have any product which is claimed to be defective returned freight prepaid to its plant for inspection before making a repair or replacement. Warranty does not cover product damage resulting from abuse, misuse, improper maintenance, damages in transit or damages beyond the control of Rose. This warranty applies only to the original purchaser and is the only warranty applicable to Rose products and is in lieu of all other warranties expressed or implied. Factory service performed on any Rose product is warranted for a period of 90 days against defects in service workmanship and new parts incorporated at time of said service. Factory service warranty does not extend to parts not replaced with new parts at time of factory service. THIS WARRANTY, AND THE LIMITS OF LIABILITY CONTAINED HEREIN, ARE IN LIEU OF ALL OTHER WARRANTS AND LIABILITIES EXPRESSED OR IMPLIED. THE SELLER WARRANTS THE MERCHANT OR FITNESS OF ITS PRODUCTS IN MEETING THE APPLICABLE OSHA STANDARD RELATED TO ITS PRODUCT. THE BUYER IS RESPONSIBLE FOR ADVISING THE SELLER OF COMPLIANCE WITH LOCAL, MUNICIPAL, OR STATE CODES OTHER THAN OSHA. THE SELLER RESERVES THE RIGHT TO MAKE PRODUCT DESIGN CHANGES WITHOUT NOTIFYING THE BUYER.

Rose Manufacturing Company
2250 South Tejon Street
Englewood, Colorado 80110-1000 USA
(303) 922-6246 Toll free (800) 722-1231
FAX (303) 934-9960

Dyna-Lock® is a trademark, rights to which are held by Rose Manufacturing Company, U.S.A.

U.S. patents and foreign patents have been applied for to cover various aspects of this product.

Note: While uses and performance capabilities are described, under no circumstances shall the product be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only the user instructions contain the complete and detailed information concerning proper use and care of the product.

**Offices and Representatives in
principal cities worldwide.**

In U.S. Call the Customer

Service Center at

(800) 672-2222

Or Fax at

(800) 967-0398

To Reach MSA International, Call

(412) 967-3451

ROSE MANUFACTURING COMPANY

2250 S. Tejon St.

Englewood, CO 80110-1000

MSA CORPORATE

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