

USER INSTRUCTIONS ROSE ONYX™ SHOCK ABSORBING LANYARD



WARNING

National Standards and state, provincial and federal 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, and retained for ready reference by the user. The user must read, understand (or have explained) and heed all instructions, labels, 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

MODELS COVERED BY THESE USER INSTRUCTIONS

MODEL NO.	DESCRIPTION
10003020	Onyx Shock Absorbing Lanyard, Strap, 6' Fixed Length, with HL2000 Snaphooks on each end.
10003021	Onyx Shock Absorbing Lanyard, Strap, 6' Fixed Length, with RL20 Snaphooks on each end.
10003022	Onyx Shock Absorbing Lanyard, Strap, 6' Fixed Length, with HL64 Snaphooks on each end.
10012311	Twin Leg Onyx Shock Absorbing Lanyard, Strap, 6' Fixed Length, with HL2000 Snaphooks on each end (3).
10012312	Twin Leg Onyx Shock Absorbing Lanyard, Strap, 6' Fixed Length, with RL20 Snaphooks on each end (3).
10012313	Twin Leg Onyx Shock Absorbing Lanyard, Strap, 6' Fixed Length, with HL2000 Snaphook in center (attaches to back D-ring) and HL64 Snaphooks on each leg.
10020292	Twin Leg Onyx Shock Absorbing Lanyard, Strap, 6' Fixed Length, with HL2000 Snaphook in center (attaches to back D-ring) and GL3100 Snaphooks on each leg

- The Rose Shock Absorbing Lanyard meets ANSI A10.14 and applicable OSHA regulations. These instructions, and markings borne by the products, fulfill the instruction and marking requirements of those standards and regulations.
- Snaphooks are zinc plated, forged alloy steel and 100% proof tested to 3,600 lbf (16 kN). Minimum breaking strength is 5,000 lbf (22.2 kN).
- The Shock Absorbing Lanyard webbing is 1.5 in (38 mm) wide nylon, one piece construction, with an abrasion resistant sheath and a shock absorbing core. Minimum breaking strength, when new, is 5,000 lbf (22.2 kN).
- Free fall distance (limit) must not exceed 6.0 ft (1.8 m) in accordance with OSHA. ANSI A10.14 specifies that free fall distance must not exceed 5 ft (1.5 m). The user must comply with applicable standards and regulations.
- When subjected to the force of arresting a fall, the Shock Absorbing Lanyard will elongate up to 42 in (1.1 m).
- When used as part of a personal fall arrest system, fall arresting forces permitted by the shock absorber do not exceed 1,800 lbf (8.0 kN).
- Capacity is 310 lbs (140 kg) including weight of the user plus clothing, tools and other user-borne objects.

2.0 TRAINING

It is the responsibility of the purchaser of the Rose Shock Absorbing Lanyard 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 Shock Absorbing Lanyard; (3) how to determine and acceptably limit free fall distance, total 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 Shock Absorbing Lanyard and associated equipment and of failure to follow instructions and training. If the Shock Absorbing Lanyard 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 Manufacturing Company offers training programs. Contact Rose for training information.

3.0 HAZARDS



Do not use the Rose Shock Absorbing Lanyard 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 Shock Absorbing 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
- Climatic factors
- Moving equipment
- Sharp objects
- Slippery surfaces
- Confined space hazards
- Chemicals
- Sparks
- Weather factors
- Moving materials
- Unguarded openings
- Environmental contaminants
- Abrasive surfaces
- Electric hazards
- Flames
- Unstable, uneven surfaces
- Heat-producing operations

Foreseeable changes in any of these conditions, taken individually or collectively, must be identified, evaluated, and controlled. The materials and construction of the Shock Absorbing Lanyard 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 Shock Absorbing 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 Shock Absorbing Lanyard 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 ANSI Z117.1.

4.0 DESCRIPTION

The Onyx Shock Absorbing Lanyard is designed as a means of connection between a worker wearing a compatible full-body harness and a suitable fall arrest anchorage. The Onyx consists of a specially designed shock absorbing webbing equipped with self-closing, self-locking snaphooks. The Onyx will resist up to 450 lbs (2 kN) of load without deployment. When subjected to the forces of arresting a fall or equivalent forces, the sheath of the lanyard elongates and the internal fibers will absorb most of the shock load. A warning label will be visible to indicate that the Onyx has deployed. Once deployed, the Onyx must be removed from service.

5.0 SELECTION AND APPLICATIONS


5.1 PURPOSE OF ROSE SHOCK ABSORBING LANYARD

The Shock Absorbing Lanyard is a component of a personal fall arrest system. The intended function of the Shock Absorbing Lanyard is to stop a fall from heights, dissipate the energy built up during the fall, and suspend the fallen user until rescued. It is connected between the back D-ring of the harness and an overhead anchorage connector. Use of the Shock Absorbing Lanyard 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 Shock Absorbing Lanyard 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 Shock Absorbing 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 A10.14 standard for more information on full body harnesses and associated system components.

5.2 APPLICATION OF THE TWIN SHOCK ABSORBING LANYARD

The purpose of the twin leg shock absorbing lanyard is to allow continuous connection (tie-off) while the user moves between anchorage locations. The snaphook at the center of the twin lanyard must be connected to the user's fall arrest attachment element (D-ring). The snaphooks on the ends

of the lanyard legs must be connected to suitable anchorages, compatible in size, shape and strength. The user must be secured to an initial anchorage location before moving toward a second anchorage. Once in position, the user then connects the second leg of the twin Onyx lanyard to the anchorage in the user's path. Finally, the user may then disconnect from the initial anchorage to complete the movement.

 CAUTION

Connect the center-mounted snaphook to the harness back D-Ring. DO NOT connect the snaphooks on the ends of the lanyard leg to your body support, as this can increase the possible free fall distance to more than 6 feet.

Maintain continuous tie-off while moving between anchorage locations. DO NOT disconnect from your initial position until you have first connected to another anchorage.

5.3 SIZING (LENGTH) OF SHOCK ABSORBING LANYARDS

The overall length of the standard Shock Absorbing Lanyard (before elongation upon impact) is 6 ft (1.8 m). The lanyard length should be kept to a minimum that is practical for the work at hand. Special lengths are available from the manufacturer. Contact Rose.

5.4 USAGE LIMITATIONS

The following applications limitations must be considered and planned for before using the Onyx lanyard.

5.4.1 PHYSICAL LIMITATIONS

The Shock Absorbing Lanyard is designed for use by one person with a combined total weight of up to 310 lbs (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 Shock Absorbing Lanyard. 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 Shock Absorbing Lanyard. Nylon is more resistant to attack by alkaline environments. Polyester is more resistant to attack by acids. If working in a chemically aggressive environment, consult Rose Manufacturing Company to determine which Shock Absorbing Lanyard material is better for your specific conditions. When working in the presence of chemicals, more frequent inspection of the Shock Absorbing Lanyard is required.

5.4.3 HEAT

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

5.4.4 CORROSION

Do not expose the Shock Absorbing Lanyard 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, drying of the Shock Absorbing Lanyard 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 Shock Absorbing Lanyard and on other components connected to it will conduct electric current. Maintain a safe working distance {preferably at least 10 ft (3 m)} 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 Shock Absorbing Lanyard 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 WEAR AND DETERIORATION

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

5.4.9 IMPACT FORCES

Any Shock Absorbing Lanyard which has been subjected to the forces of arresting a fall must be immediately removed from service and marked as "UNUSABLE" until destroyed. If the Shock Absorbing Lanyard has been subjected to static forces in excess of 450 lbf, the lanyard sheath will elongate and a red warning label will become visible. This physical evidence shall alert the user or the competent person inspector that the Shock Absorbing Lanyard may have been exposed to the forces of arresting a fall and should be removed from service, labeled as "UNUSABLE" and submitted to the procedures explained in sections 11 and 12.

6.0 SYSTEMS REQUIREMENTS

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

6.1 SYSTEM 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

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.

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 Shock Absorbing Lanyards described by these instructions are lanyard connecting subsystems intended for use in fall arrest systems.

6.1.1.2 FALL ARRESTER CONNECTING SUBSYSTEM

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. Lanyard connecting subsystems used with fall arresters should have a maximum length of 3 ft (0.9 m). Due to their lengths, the Shock Absorbing Lanyards identified in Table 1 are generally not suited for use in fall arrester connecting subsystems. Contact Rose for information on Shock Absorbing Lanyards that are suitable for use in fall arrester connecting subsystems.

6.1.1.3 SELF-RETRACTING LANYARD CONNECTING SUBSYSTEM

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. The Shock Absorbing Lanyard is not suited for use in self-retracting lanyard connecting subsystems.

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 Dyna-Glide 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 Dyna-Glide climbing protection systems. The Shock Absorbing Lanyard 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 Shock Absorbing Lanyard should not be used as a positioning lanyard. It can be used for travel restriction, although a lanyard without shock absorber is preferred.

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 work station which is not accessible by other preferred means, and potentially for positioning the worker while at that work station. 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 back-up 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 Shock Absorbing Lanyard should not be used for back-up fall arrest when lifting or lowering a person on a personnel-riding system.

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 Shock Absorbing Lanyard is generally not used in rescue systems.

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 Shock Absorbing Lanyard 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 Shock Absorbing Lanyards are designed to be used with other Rose-approved products. Use of the Shock Absorbing Lanyard 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 Manufacturing Company with any questions regarding compatibility of equipment used with the Shock Absorbing Lanyard.

6.2.2 COMPATIBILITY OF CONNECTORS

Connectors, such as D-rings, snaphooks, and carabiners, must be rated at 5,000 lbf (22 kN) minimum breaking strength. 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 or carabiner on the Shock Absorbing Lanyard is compatible with the D-ring on the harness or anchorage connector.

6.3 ANCHORAGES AND ANCHORAGE CONNECTORS

Anchorage 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 under 20 CFR 1910, Subpart F, Section 1910.66, Appendix C. 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.

7.2 FREE FALL DISTANCE, TOTAL FALL DISTANCE AND 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)]. See separate instructions for connecting subsystems to determine the deceleration distance and dynamic elongation which must be allowed for in the space of potential fall paths. 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 added to total fall distance and the user must allow for clearance.

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 type of connecting subsystem used, and the location of the anchorage. Consult the manufacturer's instructions for the particular connecting subsystem or component for clearance needed.

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 SHOCK ABSORBING LANYARD INSPECTION BEFORE EACH USE

Inspect the Shock Absorbing Lanyard to verify that it is in serviceable condition. Examine every inch of the webbing for severe wear, cuts, burns, frayed edges, abrasion, or other damage. Examine stitching for any pulled, loose or torn stitches. Inspect each snaphook to verify they are functional and free from cracks, breaks, missing or loose parts. See section 11 for inspection details. Do not use a Shock Absorbing Lanyard if inspection of it reveals an unsafe condition.

8.2 MAKING PROPER CONNECTIONS

When using a snaphook to connect to an anchorage or when coupling components of the system together, 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 the 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.

9.0 CARE, MAINTENANCE AND STORAGE

9.1 CLEANING INSTRUCTIONS

Clean the Shock Absorbing Lanyard with a solution of water and mild laundry detergent. Do not immerse shock absorber. Dry hardware with a clean cloth and hang to air dry. Do not speed dry with heat. Excessive accumulation of dirt, paint or other foreign matter may prevent proper function of the Shock Absorbing Lanyard, and, in severe cases, weaken the webbing. Questions concerning lanyard conditions and cleaning should be directed to Rose Manufacturing Company.

9.2 MAINTENANCE AND REPAIRS

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, must be performed by the Rose factory. Do not attempt field repairs.

The moving parts of snaphooks and carabiners may require periodic lubrication. Use a lightweight low viscosity) penetrant oil that has good resistance to temperature extremes, moisture and corrosion. Do not over-lubricate. Wipe off excess oil with a clean, dry cloth. Follow the lubricant manufacturer's instructions.

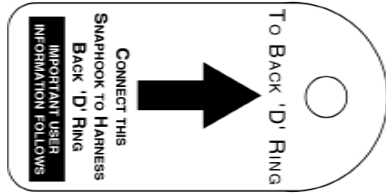
9.3 STORAGE

Store the Shock Absorbing Lanyard in a cool, dry and clean place out of direct sunlight. Avoid areas where heat, moisture, light, oil, chemicals (or their vapors) or other degrading elements may be present. Equipment which is damaged or in need of maintenance should not be stored in the same area as usable equipment. Heavily soiled, wet, or otherwise contaminated equipment should be properly maintained (e.g. cleaned and dried) prior to storage. 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.

10.0 MARKINGS AND LABELS

The following labels must be present, legible and securely attached to the Shock Absorbing Lanyard. The Formal Inspection Grid must be punched with a date (month/year) within the last six months. If not, remove the Shock Absorbing Lanyard from use and mark it as "UNUSABLE" until a Formal Inspection is performed in accordance with section 12. See section 4 for location of labels.

Cover Label on
Twin Oxyx Lanyard



347-2948-R24-1

ROSE
CORBAAR™
Shock Absorbing Lanyard
Capacity: 3200 lb (145 kg) - 146 ft (44.5 m)
Load Limit: 5 kN (1122.0 lb)
Free Fall Limit: 5 kN (1122.0 lb)
3.2x11.0" (81.3x27.9 mm)
3500 Series
Model: Rose Force 1300 (RFL300)
Metric: Rose Force 1300 (RFL300)

CONNECT THIS SHOOKOOK TO HARNESS BACK 'D' RING
IMPORTANT USER INFORMATION FOLLOWS

DATE MARK
SERIAL NUMBER
1 2 3 4 5 6 7 8 9 0 1 2
DO NOT REMOVE LABELS

WARNING

READ ALL INSTRUCTIONS CAREFULLY BEFORE USING THIS PRODUCT. This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.

CAUTION: Do not use a rope, chain or other means to attach to a qualified person's safety harness. This product is designed to attach to a qualified person's safety harness. Do not use it to attach to a structure or other object.

ADDITIONAL INFORMATION: This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.

WARNING

SELECTION & USE OF MATERIALS: The selection of materials, including the rope, chain, and other means, used in this product is based on the intended use of the product. This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.

ADDITIONAL INFORMATION: This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.

WARNING

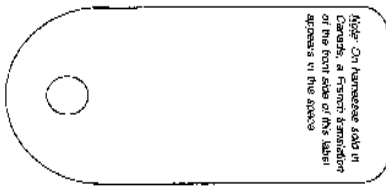
PROTECTIVE LABELING: This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.

ADDITIONAL INFORMATION: This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.

WARNING

CONSTRUCTION OF PRODUCT: This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.

ADDITIONAL INFORMATION: This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.



WARNING

READ ALL INSTRUCTIONS CAREFULLY BEFORE USING THIS PRODUCT. This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.

ADDITIONAL INFORMATION: This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.

WARNING

READ ALL INSTRUCTIONS CAREFULLY BEFORE USING THIS PRODUCT. This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.

ADDITIONAL INFORMATION: This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.

WARNING

READ ALL INSTRUCTIONS CAREFULLY BEFORE USING THIS PRODUCT. This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.

ADDITIONAL INFORMATION: This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.

WARNING

READ ALL INSTRUCTIONS CAREFULLY BEFORE USING THIS PRODUCT. This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.

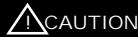
ADDITIONAL INFORMATION: This product is designed for use only by qualified personnel and is not to be used for any other purpose. This product is not to be used for any other purpose than that for which it was specifically designed. The manufacturer is not responsible for any misuse or abuse of this product. It is the user's responsibility to read and understand all instructions and warnings before using this product. Failure to read and understand the instructions and warnings may result in serious injury or death.



11.0 INSPECTION BEFORE EACH USE

11.1 INSPECTION FREQUENCY

The Shock Absorbing Lanyard 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.



If the Shock Absorbing Lanyard has been subjected to fall arrest or impact forces, it must be immediately removed from service and marked as "UNUSABLE" until destroyed.

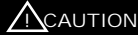
11.2 PROCEDURE FOR INSPECTION BEFORE EACH USE

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 Shock Absorbing Lanyard labels to verify that they are present and legible. See section 4 for location of labels for each model. See section 10 for the specific labels that should be present and the information contained on those for the model number shown on page one (1) of these instructions. If the red deployment label is uncovered and visible, this indicates that the lanyard has elongated as a result of load. Remove the lanyard from service when the warning on the label is exposed. Check the Formal Inspection Grid to be sure a Formal Inspection has been performed within the last six months. If the Grid does not indicate that a Formal Inspection has been performed within the last six months (by being punched), or if any labels are missing or illegible, remove the Shock Absorbing Lanyard from use and mark it as "UNUSABLE" until a Formal Inspection is performed by a competent person.
- Step 2: Inspect all fabric (fibrous) parts, including the Onyx, webbing and stitching.
- Step 3: Inspect all metallic parts for evidence of defects, damage, alteration and missing parts.
- (a) Inspect snaphooks 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 their 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 inch (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 4: Inspect all plastic parts (i.e. labels) for cuts, broken parts, alteration, excessive wear, missing and loose parts. (Labels are to be additionally checked in accordance with Step 1 above.) Inspect for evidence of burns, excessive heat and chemical attack.
- Step 5: 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 in accordance with section 11.2 reveals signs of inadequate maintenance, the Shock Absorbing Lanyard must be immediately removed from service and marked as "UNUSABLE" until destroyed or subjected to corrective maintenance by the user's organization in accordance with section 9. Defects, damage, excessive wear, malfunction, and aging are generally not repairable. If detected, immediately remove the Shock Absorbing Lanyard from use and mark it as "UNUSABLE" until destroyed. For final disposition, submit the Shock Absorbing Lanyard to a competent person who is authorized to perform Formal Inspection. If there is any question as to reparability, contact Rose or a service center authorized in writing by Rose before further use of the product.



Only Rose Manufacturing Company or parties with written authorization from Rose may make repairs to the Shock Absorbing Lanyard.

12.0 FORMAL INSPECTION

12.1 FORMAL INSPECTION FREQUENCY

The Shock Absorbing Lanyard 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. In addition, if the lanyard passes Formal Inspection, the competent person should punch the date (month/year) of Formal Inspection on the grid supplied with the labels on each product. The user should never punch this grid; 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 Shock Absorbing Lanyard 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 punching the current month/year in the Formal Inspection Grid on one of the product labels) or as "not acceptable" followed by destruc-

tion of the product.

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 set of line drawings of the Shock Absorbing Lanyard. Each 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 Data Card in the label set. 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 Shock Absorbing Lanyard part designated in the callouts on the DIAGRAM.

DESCRIPTION - Name of the Shock Absorbing Lanyard inspection point. There are three broad categories of inspection points, namely, fabric parts, metallic parts and plastic parts. There are sub-categories under these three main categories.

QTY/L - Quantity per Shock Absorbing Lanyard. The quantity of each Shock Absorbing Lanyard inspection point that 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 Shock Absorbing Lanyard 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, Onyx, fibre rope, 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 Shock Absorbing Lanyard parts into broad categories (e.g. webbing, stitching, metallic, plastic). For each of these categories that are applicable to a specific product, the formal inspector checks the Shock Absorbing Lanyard 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 on 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 Shock Absorbing Lanyard is acceptable or not acceptable for further use (e.g. WA, SN, MA, PN). 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.

12.3.4 FORMAL INSPECTION PROCEDURAL STEPS:

- Step 1:** Record on the LOG the Model No., Serial No. and Date Made information shown on the Data Card of the product label set. Record the inspector's name and inspection date.
- Step 2:** Arrange the Shock Absorbing Lanyard 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 Shock Absorbing Lanyard. If in step 5 it has been determined that the Shock Absorbing Lanyard 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 Shock Absorbing Lanyard is to be destroyed, returned to manufacturer/distributor, etc.
- Step 7:** If in step 5 it has been determined that the Shock Absorbing Lanyard is acceptable for further use, enter "A" or "PASS" in the Disposition space on the LOG. Punch the Formal Inspection Grid on the appropriate product label with the date (month/year) corresponding to the inspection date to indicate to Shock Absorbing Lanyard users that the product has passed inspection as of that date.
- Step 8:** File the LOG for future reference.

13.0 FORMAL INSPECTION LOG

EXAMPLE BELOW

Model No. 10003020 Inspector J.W. Doe
 Serial No. 123456 Inspection Date 5 / 99
 Date Made 12/98 Disposition Fail, see item 1

INSP. POINT	DESCRIPTION	QTY / LANY	PASS/FAIL COMMENTS
FABRIC (FIBROUS) PARTS			
WEBBING (STRAPS)			
1	Lanyard leg(s)	1 (or 2 if twin)	Worn, warning label exposed
STITCHING			
2	Lanyard leg	2 (or 4 if twin)	
METALLIC PARTS			
3	Snaphooks, 20mm	1, 2, or 3	
4	Large Snaphook, 64mm	1 or 2	
PLASTIC PARTS			
5	Labels	5 or 6	

- (a) Inspection Format: Whenever an acceptable condition is found, the entry in the Comments column may be left blank. Whenever a defective condition is found enter "FAIL" in the Comments column and explain the condition of the harness.
- (b) Blank copies of the LOG are available from Rose Manufacturing Company. Call Toll Free (800) 722-1231.

13.0 FORMAL INSPECTION LOG (CONTINUED)

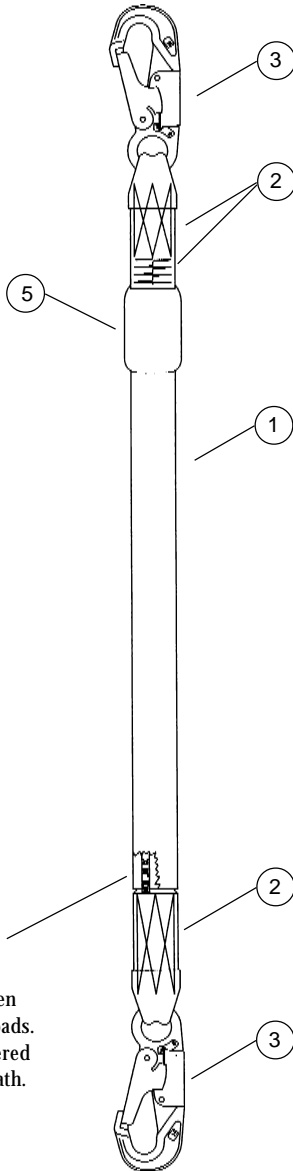
Model No. _____ Inspector _____
 Serial No. _____ Inspection Date _____
 Date Made _____ Disposition _____

INSP. POINT	DESCRIPTION	QTY / LANY	PASS/FAIL COMMENTS
FABRIC (FIBROUS) PARTS			
WEBBING (STRAPS)			
1	Lanyard leg(s)	1 (or 2 if twin)	
STITCHING			
2	Lanyard leg	2 (or 4 if twin)	
METALLIC PARTS			
3	Snaphooks, 20mm	1, 2, or 3	
4	Large Snaphook, 64mm	1 or 2	
PLASTIC PARTS			
5	Labels	5 or 6	

- (a) Inspection Format: Whenever an acceptable condition is found, the entry in the Comments column may be left blank. Whenever a defective condition is found enter "FAIL" in the Comments column and explain the condition of the harness.
- (b) Blank copies of the LOG are available from Rose Manufacturing Company. Call Toll Free (800) 722-1231.

14.0 FORMAL INSPECTION DIAGRAM

SINGLE
SHOCK
ABSORBING
LANYARD

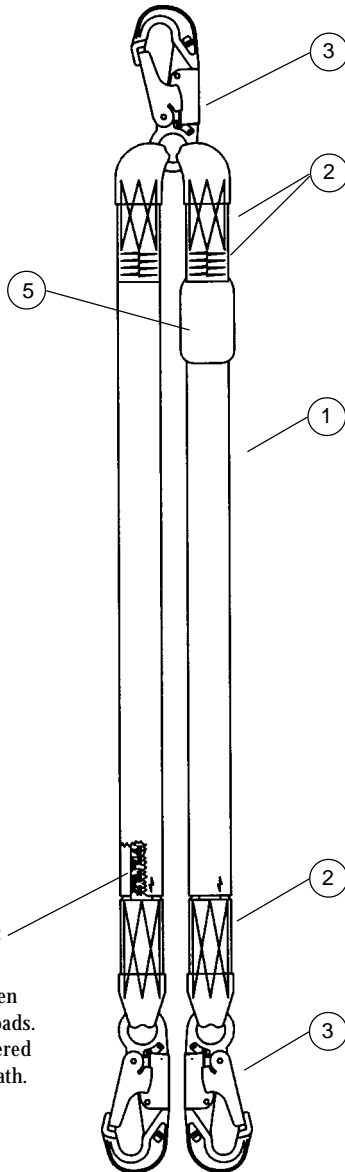


NOTE
Warning Label:
exposed when
lanyard has been
subjected to loads.
Normally covered
by lanyard sheath.

(For Purposes of Inspection
20 mm Snap only is shown.)

14.0 FORMAL INSPECTION DIAGRAM (CONTINUED)

TWIN LEG
SHOCK
ABSORBING
LANYARD



NOTE
Warning Label:
exposed when
lanyard has been
subjected to loads.
Normally covered
by lanyard sheath.
(2 Places)

(For Purposes of Inspection
20 mm Snap only is shown.)

WARRANTY

Express Warranty – Rose/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 Rose/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. Rose/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 Rose/MSA may bind Rose/MSA to any affirmation, representation or modification of the warranty concerning the goods sold under this contract. Rose/MSA makes no warranty concerning components or accessories not manufactured by Rose/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. ROSE/MSA SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. For additional information please contact the Customer Service Department at 1-800-MSA-2222 (1-800-672-2222).

**ROSE MANUFACTURING COMPANY ■ 2250 SOUTH TEJON STREET
ENGLEWOOD ■ COLORADO ■ 80110-1000 ■ USA
TEL. (303) 922-6246 ■ TOLL FREE (800) 722-1231 ■ FAX (303) 934-9960**

Onyx™, Dyna-Lock™, Dynevac™, Dyna-Hoist™ and Dyna-Glide™ are trademarks of Rose Manufacturing Company.