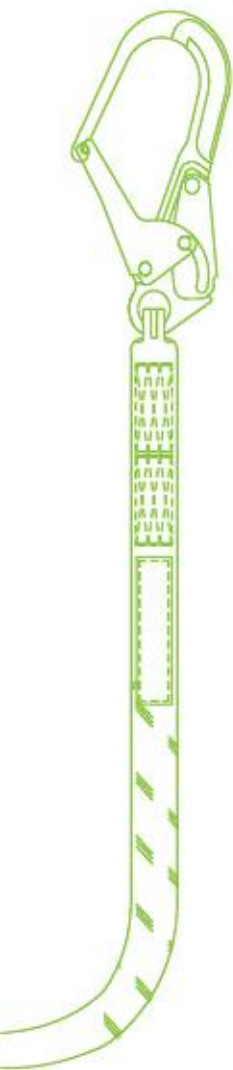


FRONTLINE

FALL PROTECTION



LANYARD

INSTRUCTION MANUAL



THE INSTRUCTIONS APPLIES TO THE FOLLOWING MODELS:

LIS61R, LIS61S, LIS62R, LIS62RA.



BKFL 04

Do not skip this instruction manual. Read the instruction manual carefully before using the equipment. If failed in doing so it may cause serious injury or Death.

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This manual must be read and understood in its entirety and used as part of fall protection training program as required by OSHA or any state regularity agency. These instructions are intended to meet the manufacturer instructions as required by ANSI/ASSE Z359.13. The user must fully understand the proper equipment use and limitations.

THE INSTRUCTIONS APPLY TO THE FOLLOWING MODELS:

Elasticated Internal Shock Absorbing Lanyard	LIS62RA	for 6 ft free fall
Internal Shock Absorbing Lanyard	LIS62R	for 6 ft free fall
Internal Shock Absorbing Lanyard	LIS61S	for 6 ft free fall

WARNING: This product is part of a personal restraint, work positioning, suspension, or rescue system. The user must read and follow the manufacturer's instructions for each component or part of the complete system. These instructions must be provided to the user of this equipment. The user must read and understand these instructions or have them explained to them before using this equipment. Manufacturer's instructions must be followed for proper use and maintenance of this product. Alterations or misuse of this product or failure to follow instructions may result in serious injury or death.



Figure 1 - Product

1.0 SPECIFIC INSTRUCTIONS:

- 1.1 Purpose:** Frontline Fall Protection lanyards are to be used as part of a personal restraint, work positioning, suspension, or rescue system. The D-ring extension assembly may also be used as part of a personal fall arrest system only if it is attached to a self-retracting lifeline or an energy absorbing lanyard. Applications include: inspection work, construction, demolition, maintenance, oil production, and confined space rescue.
- 1.2 Maximum Arrest force and Maximum Elongation/Maximum Deployment distance of personal energy absorber when dynamically tested in accordance with the requirements of ANSI Z359.13 are as follows-**

DISCLAIMER:

This information on the product is based upon technical data that Frontline Fall Protection obtained under laboratory conditions and believes to be reliable. Frontline Fall Protection does not guarantee results and take no liability or obligation in connection with this information. As conditions of end use are beyond our control it is the user's responsibility to determine the hazard levels and the use of proper personal protective equipment. Persons having technical expertise should undertake evaluation under their own specific end-use conditions, at their own discretion and risk. Please ensure that this information is only used to check that the product selected is suitable for the intended use. Any product that is damaged, torn worn or punctured should be discontinued from usage immediately.

EQUIPMENT RECORD				
Product :				
Model & type/identification		Trade name		Identification number
Manufacturer		Address		Tel, fax, email into use
Year of manufacture		Purchase date		Date first put into use
Other relevant information (e.g. Document number)				
PERIODIC EXAMINATION AND REPAIR HISTORY				
Date	Reason for entry (periodic examination or repair)	Defects noted, repairs carried out and other relevant information	Name and signature of competent user	Periodic examination next due date

Conditioning:	Ambient Dry	Ambient Wet	Cold Dry	Hot Dry
Personal Energy Absorbers				
6 ft Free Fall				
Max Arrest Force	<= 1800 lbs-f	<= 1800 lbs-f	<= 1800 lbs-f	<= 1800 lbs-f
Average Arrest Force	<= 900 lbs-f	<= 1125 lbs-f	<= 1125 lbs-f	<= 1125 lbs-f
Max Elongation	48 inches	48 inches	48 inches	48 inches
12 ft Free Fall				
Max Arrest Force	<= 1800 lbs-f	<= 1800 lbs-f	<= 1800 lbs-f	<= 1800 lbs-f
Average Arrest Force	<= 1350 lbs-f	<= 1575 lbs-f	<= 1575 lbs-f	<= 1575 lbs-f
Max Elongation	60 inches	60 inches	60 inches	60 inches

2.0 MATERIAL:

All Frontline Fall Protection Lanyards have been manufactured by using Polyester/Nylon/Aramid/Steel. The Shock absorbing lanyards which have been tested for 6 foot free fall have different colour tracer for identification. As against the above, the lanyards which are tested for 12 foot free fall have different colour tracer for easy distinction. Refer fig.2 for applications.

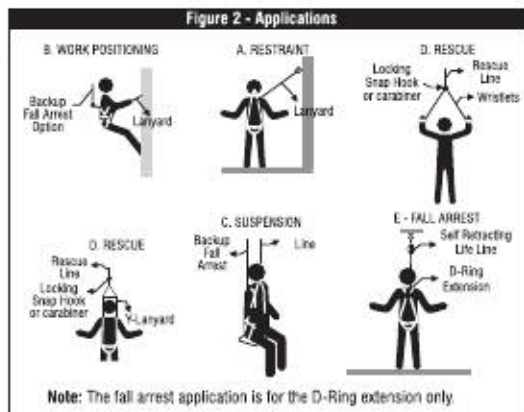
- Restraint:** The lanyard is used to prevent the user from reaching a hazard, such as leading edge work. No vertical free fall possible.
- Work Positioning:** The lanyard is used to position or support (with a harness or body belt) the user at the work position, such as window washing or steel workers. Two feet maximum free fall.
- Suspension:** The lanyard (generally a Y-type) is used with a chair or other support system to suspend or transport the user vertically, such as in a Easy Seat. No vertical free fall possible.
- Rescue:** The lanyard (generally a Y-type) is used to retrieve a victim in a rescue, such as confined space rescue and retrieval. No vertical free fall possible.
- Fall Arrest:** The D-ring extension is used in-line with a personal fall arrest system to assist in attachment to the system.

2.1 Limitations: The following application limitations must be recognized & considered before using this product:

- Capacity:** This equipment is for use by persons with a combined weight (person, clothing, tools, etc.) within the range of 130 lbs - 310 lbs.
- Free Fall:** Lanyards used for work positioning applications must be rigged to minimize any potential vertical free fall. In no case should the potential free fall be greater than two feet.

For situations where the free fall may exceed two feet, a backup fall arrest system should be used.

If the D-ring extension assemblies are used in conjunction with a self-retracting lifeline or an energy absorbing lanyard in a fall arrest application, the length of the D-ring extension assembly must be taken into account when calculating the free fall distance and the fall clearance requirements.



- C. Fall Clearance:** Always ensure fall clearance distance before using lanyards equipped with the Frontline Fall Protection SHOCK Pack. If there is a risk of fall or if the only anchorage is below the attachment points on the harness, it is essential to use a lanyard provided with an energy absorber. Before using a shock-absorbing lanyard, check that there is sufficient fall clearance below the user to prevent any collision with the structure or the ground. See Figure 3.
- D. Backup Fall Arrest System:** Some applications of this equipment may require the use of a backup fall arrest system; such as when using a Y-lanyard to suspend a person in a Easy Seat.
- E. Physical and Environmental Hazards:** Use of this equipment in areas with physical or environmental hazards may require additional precautions to reduce the possibility of injury to the user or damage to the equipment. Hazards may include, but are not limited to; heat, chemicals, corrosive environments, high voltage power lines, gases, moving machinery, and sharp edges. Contact Frontline Fall Protection if you have any questions about using this equipment where any physical or environmental hazards exist.
- F. Training:** This equipment must be used by persons who have been properly trained in its correct application and use.

- 2.2** Refer to applicable local, state, and federal (OSHA) requirements governing this equipment for more information on lanyards and associated system components.

3.0 SYSTEM REQUIREMENTS :

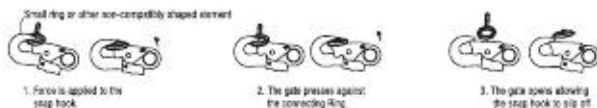
- 3.1 Compatibility Of Components:** Frontline Fall Protection equipment is designed for use with Frontline Fall Protection approved components and subsystems only. Substitutions or replacements made with non-approved components or subsystems may jeopardize compatibility of equipment and may affect the safety and reliability of the complete system.
- 3.2 Compatibility Of Connectors:** Connectors are considered to be compatible with connecting elements when they have been designed to work together in such a way that their sizes and shapes do not cause their gate mechanisms to inadvertently open regardless of how they become oriented. Contact Frontline Fall Protection if you have any questions about compatibility. Connectors (hooks, carabiners, and D-rings) must be capable of supporting at least 5,000 lbs. (22.2 kN). Connectors must be compatible with the anchorage or other system components. Do not use equipment that is not compatible. Non-compatible connectors may unintentionally disengage. See Figure 4. Connectors must be compatible in size, shape, and strength. Self-locking snap hooks and carabiners are required by ANSI/ASSE Z359.12 and OSHA.



Figure 3

Figure 4 - Unintentional Disengagement (roll-out)

If the connecting element that a snap hook (shown) or carabiner attaches to is undersized or irregular in shape, a situation could occur where the connecting element applies a force to the gate of the snap hook or carabiner. This force may cause the gate (of either a self-locking or a non-locking snap hook) to open, allowing the snap hook or carabiner to disengage from the connecting point.



<p>FRONTLINE FULL PROTECTION</p> <p>Elasticated Internal Shock Absorbing Y-Leg Lanyards</p> <p>Meets ANSI Z359.13-2013, A10.32 (2012) and OSHA requirements.</p> <p>Capacity: 130-310lbs max. including tools</p> <p>Max. Elongation: 42"</p> <p>Material: Polyester, Nylon, Steel</p> <p>DO NOT REMOVE THIS LABEL.</p>	<p>WARNING!</p> <p>Toxic manufacturer's instructions provided with this lanyard at time of shipment from manufacturer. Fully read and understand these instructions before using.</p> <p>Improper use of this product could result in serious injury or death. Avoid contact with sharp edges and abrasive surfaces that cut or damage the webbing or components.</p> <p>Make only safe, compatible connections.</p> <p>For use only with other OSHA and ANSI compliant equipment as part of a personal fall arrest system. Remove this lanyard from service if a fall has been incurred.</p> <p>DO NOT REMOVE THIS LABEL.</p>	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr> <tr><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td></tr> <tr><td>41</td><td>42</td><td>43</td><td>44</td><td>45</td><td>46</td><td>47</td><td>48</td><td>49</td><td>50</td></tr> <tr><td>51</td><td>52</td><td>53</td><td>54</td><td>55</td><td>56</td><td>57</td><td>58</td><td>59</td><td>60</td></tr> <tr><td>61</td><td>62</td><td>63</td><td>64</td><td>65</td><td>66</td><td>67</td><td>68</td><td>69</td><td>70</td></tr> <tr><td>71</td><td>72</td><td>73</td><td>74</td><td>75</td><td>76</td><td>77</td><td>78</td><td>79</td><td>80</td></tr> <tr><td>81</td><td>82</td><td>83</td><td>84</td><td>85</td><td>86</td><td>87</td><td>88</td><td>89</td><td>90</td></tr> <tr><td>91</td><td>92</td><td>93</td><td>94</td><td>95</td><td>96</td><td>97</td><td>98</td><td>99</td><td>100</td></tr> </table> <p>USER MUST SUBJECT BEFORE EACH USE Connect device to anchor and make at least every 6 months. (Date of First Use: Please complete)</p> <p>DO NOT REMOVE THIS LABEL.</p>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	<p>Warning: User Capacity Range 130-310 lbs.</p> <p>6ft. 900lbs.</p> <p>Maximum Free Fall Average Arresting Force Maximum Deployment Distance 48" Forces may increase when cold and/or wet Read Instructions Before Use</p>	<p>Batch No. : XXXX Serial Number : XXXX Date of Manufacture : MM/YYYY Model Number : LIS62RA Size : 6 ft.</p>	<p>Warning: User must ensure that the unused Leg of the Y lanyard is safely stored and it does not cause obstruction.</p>
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- ➔ Length of equipment
- ➔ Maximum elongation, maximum arrest force, average arrest force, maximum free fall distance
- ➔ 6 ft Free fall personal energy absorber is marked in Black print on a contrasting white background with text fonts compliance to standards
- ➔ 12 ft Free fall personal energy absorber is marked in white print on a contrasting black background with text fonts compliance to standards

8.4 Y Lanyard (6ft. & 12ft.) free fall carry a dynamic hip test failure warning label on both connecting ends instructing users to safely store the unused leg of lanyard.

Warning: User must ensure that unused Leg of the Y lanyard is safely stored and it does not cause obstruction.

9.0 MATERIAL OF CONSTRUCTION OF ENERGY ABSORBING LANYARD :

- 9.1** Lanyard is made of high tenacity Polyester yarn/Nylon/Steel/Aramid.
- 9.2** Energy absorber attached to the lanyard is made of Polyamide webbing with Polyester/Aramid back up strap.

HOW TO DISPOSE A LANYARD:

When the lanyard becomes unfits or in case of any wear and tear, dispose the lanyard immediately.

FOLLOW THE STEPS FOR DISPOSAL:

- Make the three plastic crates namely- Textile, Metal & Plastic for placing the respective components of the lanyard.
- Spread the lanyard on a table / flat surface.
- Inspect the wear & tear present on the lanyard.
- If any wear and tear is observed, dispose the lanyard using a sharp scissor; first cut the Textile and dismantle the lanyard.
- Put the Textile, Plastic & Metal components in their respective plastic crates.

- 7.2 Additional maintenance and servicing procedures (i.e. replacement parts) must be completed by a factory authorized service center. Authorization must be in writing.
- 7.3 Equipment which is in need of or scheduled for maintenance shall be tagged as "unusable" and removed from service.
- 7.4 Store the lanyard in a cool, dry, clean environment out of direct sunlight. Avoid areas where chemical vapors may exist. Thoroughly inspect the lanyard after extended storage.
- 7.5 Inspection & maintenance log.

YR	J	F	M	A	M	J	J	A	S	O	N	D

USER MUST INSPECT BEFORE EACH USE.
 Competent Person to inspect and initial
 at least every 6 months.
 Date of First Use (please complete) _____

DO NOT REMOVE THIS LABEL.

8.0 LABELING & GENERAL MARKING REQUIREMENTS :

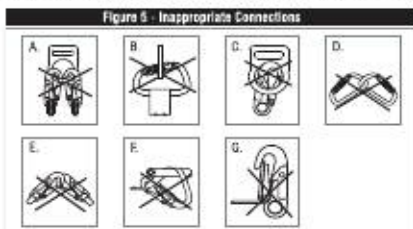
- 8.1 Markings are provided in English
- 8.2 The legibility and attachment of required markings shall endure for the life of the component, subsystem or system being marked.
- 8.3 Equipment shall be marked with the following:
- Part no and model designation
 - Month and Year of manufacture
 - Manufacture name or logo
 - Capacity rating
 - Serial number
 - Standard number
 - Manufacturer's instructions for the use of equipment and warnings to be followed to avoid contact with sharp edges, abrasive surfaces and need to make only compatible connections.
 - Material of construction

FRONTLINE
 FALL PROTECTION
SHOCK ABSORBING LANYARD

3.3 Making Connections: Only use self-locking snap hooks and carabiners with this equipment. Only use connectors that are suitable to each application. Ensure all connections are compatible in size, shape and strength. Do not use equipment that is not compatible. Ensure all connectors are fully closed and locked.

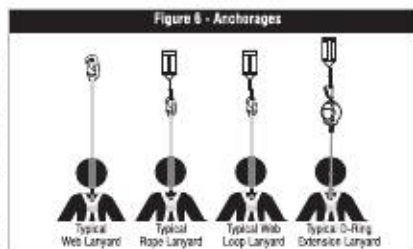
Frontline Fall Protection connectors (snap hooks and carabiners) are designed to be used only as specified in each product's user's instructions. See Figure 5 for inappropriate connections. Frontline Fall Protection snap hooks and carabiners should not be connected:

- A. To a D-ring to which another connector is attached.
- B. In a manner that would result in a load on the gate.
- C. In a false engagement, where features that protrude from the snap hook or carabiner catch on the anchor and without visual confirmation seems to be fully engaged to the anchor point to each other.



NOTE: Large throat opening snap hooks should not be connected to standard size D-rings or similar objects which will result in a load on the gate if the hook or D-ring twists or rotates. Large throat snap hooks are designed for use on fixed structural elements such as rebar or cross members that are not shaped in a way that can capture the gate of the hook.

- D. Directly to webbing or rope lanyard or tie-back (lanyards equipped with tie back hook PN 148 are permitted to use



WARNING: Anchorages used for restraint, rescue, or suspension may only be used where there is no possible vertical free fall. These anchorages do not have sufficient strength for work positioning or fall arrest. Do not connect work positioning or fall arrest systems to these anchorages. Anchorages intended for work positioning may not be suitable for use for fall arrest systems (fall greater than two feet) and should not be used for fall arrest unless specifically designed to do so. See Figure 6

this way).

- E. To any object which is shaped or dimensioned such that the snap hook or carabiner will not close and lock, or that roll-out could occur.
- F. To any object which is shaped or dimensioned such that the snap hook or carabiner will not close and lock, or that roll-out could occur.

WARNING: Consult your doctor if there is reason to doubt your fitness to safely absorb the shock from a fall arrest. Age and fitness seriously affect a worker's ability to withstand falls. Pregnant women and minors must not use this equipment.

- G. Do not use connector on an anchorage object in the manner depicted in picture-G.
- H. If using personal shock pack then always attach a connecting lanyard which will make the entire system length not more than 6ft. Also the connecting lanyard should be ANSI & OSHA compliant & has capacity of 5000lbs at least.

3.4 Max. Arrest Force:

Maximum arrest force for Y shaped lanyard should be limited to 8kN (1800 lbs).

3.5 Anchorage Strength :

The anchorage strength required is dependent on the application type. The following are guidelines for some application types:

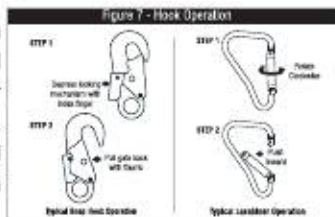
- A. **Restraint:** Anchorages must support a minimum of 3,000 lbs. per person attached.
- B. **Working Positioning:** Anchorages must support at least 3,000 lbs. per person attached; or be designed, installed, and used under the supervision of a qualified person as part of a complete system, maintaining a safety factor of at least two.

- C. **Suspension:** Anchorages must support a minimum of 2,500 lbs. per person attached.
- D. **Rescue:** Anchorages must support a minimum of 2,500 lbs. per person attached.

4.0 OPERATION AND USAGE :

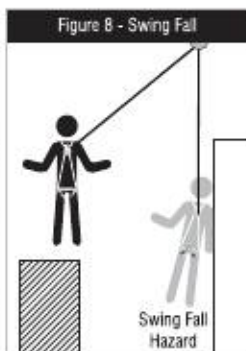
WARNING: Do not alter or intentionally misuse this equipment. Consult Frontline Fall Protection when using this equipment in combination with components or subsystems other than those described in this manual. Some subsystem and component combinations may interfere with the operation of this equipment. Use caution when using this equipment around moving machinery, electrical hazards, chemical hazards, and sharp edges.

- 4.1 Before Each Use** of this equipment, carefully inspect it to assure that it is in serviceable condition. Check for worn or damaged parts. Ensure that all hardware is present and secure. Inspect for sharp edges, burrs, cracks, or corrosion. Ensure self-locking snap hooks or carabiners work properly. See Figure 7. Inspect the rope or webbing for wear, cuts, burns, frayed edges, breaks, or other damage. Refer to section 6.0 for further inspection details. Do not use if inspection reveals an unsafe condition.



- 4.2** Plan your restraint, working positioning, suspension, or rescue system before starting your work. Consider all factors that affect your safety at any time during use. The following list gives some important points to consider when planning your system.

- A. Section 2.B. For work positioning systems, the anchorage location must be selected to limit the free fall to two feet, to reduce swing fall hazards, and to avoid striking an object during a fall. See Fig. 8.
- B. **Free Fall:** Depending on the lanyard type and the application, the allowable free fall for 6ft Lanyard, maximum free fall allowed is 6ft and for 12ft Lanyard, maximum 12ft free fall is allowed. See section 1.2.
- C. **Fall Clearance:** Should a fall occur, there must be sufficient clearance in the fall area to arrest the fall before striking the ground or other objects.
- D. **Backup Fall Arrest:** Some suspension and work positioning applications of this equipment may require a backup fall arrest system and independent fall arrest anchorage. See OSHA guidelines when designing the system.
- E. **Sharp Edges:** Avoid working where the lanyard, subsystem, or other system components will be in contact with, or abrade against unprotected sharp edges. Do not loop the lanyard around small diameter structural members. If working with this equipment near sharp edges is unavoidable, protection against cutting must be provided by using a heavy pad or other means over the exposed sharp edge.
- F. **Rescue:** Should a fall occur, the user (employer) must have a rescue plan and the means at hand to implement it.
- G. **After A Fall:** Any equipment which has been subjected to the forces of arresting a fall must be removed from service immediately and destroyed or contact a factory authorized service center for repair.



WARNING: Follow the manufacturer's instructions for associated equipment (full body harness, work seat, etc.) used in your restraint, work positioning, suspension, or rescue system.

5.0 TRAINING :

It is the responsibility of all users of this equipment to understand these instructions, and to be trained in the correct installation, use, and maintenance of this equipment. These individuals must be aware of the consequences of improper installation or use of this equipment. This user manual is not a substitute for a comprehensive training program. Training must be provided on a periodic basis to ensure proficiency of the users.

IMPORTANT:

Training must be conducted without exposing the trainee to a fall hazard. Training should be repeated periodically.

6.0 INSPECTION**6.1 Frequency:**

- Before each use visually inspect the equipment.
- The lanyard must be inspected by a competent person other than the user preferably every six month or at least annually. See section 6.2 for guidelines. Record the results of each inspection in the inspection log in section 10.0.

IMPORTANT: If this equipment has been subjected to forces resulting from the arrest of a fall, it must be immediately removed from service and destroyed or returned to Frontline Fall Protection for possible repair. See section 6.2. for inspecting the equipment. Extreme working conditions (harsh environment, prolonged use, etc.) may require increasing the frequency of inspections.

6.2 Inspection Steps:

6.2.1 Inspection criteria for the equipment shall be set by the user's organization and the inspection criteria shall equal or exceed the criteria established by the standard ANSI/ASSE Z359.13 or the manufacturer's instructions.

6.2.2 Inspection criteria shall include

- Absence or illegibility of markings.
- Absence of any elements affecting the equipment form, fit or function
- Inspect the lanyard hardware (snap hooks, adjusters, thimbles, spreader bar, etc.). These items must not be damaged, broken, distorted, or have any sharp edges, burrs, cracks, worn parts, or corrosion. Ensure the connecting hooks work properly. The hook gates must move freely and lock upon closing. Ensure the adjusters, if present, work properly.
- Inspect the webbing. The material must be free of frayed, cut, or broken fibers. Check for tears, abrasions, mold, burns, or discoloration. Inspect the stitching. Check for pulled or cut stitches.
- The webbing must be free of knots, excessive soiling, heavy paint buildup, and rust staining. Check for chemical or heat damage, indicated by brown, discolored, or brittle areas. Check for ultraviolet damage, indicated by discoloration and the presence of splinters or slivers on the webbing surface. All of these above factors are known to reduce the webbing strength. Damaged or questionable webbing should be replaced.

6.3 Inspect the labels. All labels must be present and fully legible. See section 8.0.

6.4 Record the inspection date and results on the inspection log. See section 10.0.

6.5 If inspection reveals a defective condition, remove the unit from service immediately and destroy, or contact a factory authorized service center for repair.

IMPORTANT: Only Frontline Fall Protection or parties authorized in writing may make repairs to this equipment.

7.0 MAINTENANCE - SERVICING – STORAGE :

7.1 Clean the lanyard with water and a mild detergent solution. Wipe the hardware off with a clean, dry cloth, and hang it to air dry. Do not force dry with heat. If you have any questions regarding the cleaning of this equipment, or require more information contact Frontline Fall Protection. An excessive buildup of dirt, paint, etc., may prevent the lanyard from working properly, and in severe cases degrade the webbing to a point where it has become weakened and should be removed from service. If you have any questions concerning the condition of your lanyard, or have any doubt about putting it into service, contact Frontline Fall Protection.