## Product Inspection Guide

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**Miller by Sperian**

Ask the Expert ... Ask Miller.

800/873-5242  Fax 800/892-4078
or 814/432-2118 or Fax 814/432-2415

(Press 4 for Technical Service)

www.millerfallprotection.com
# Harness Inspection Guidelines

## Webbing
Grasp the webbing with your hands and bend the webbing, checking both sides. This creates surface tension making damaged fibers or cuts easier to see. Webbing damage may not show up through a sight (visual) inspection only – manual (touch) the harness is equally important.

### Visual and Touch Inspection
- ✔ Pass
- ✗ Fail Criteria

- ✗ Cuts, nicks or tears
- ✗ Broken fibers/cracks
- ✗ Overall deterioration
- ✗ Modifications by user
- ✗ Fraying/Abrasions (Allowable 10%)
- ✗ Discoloration of material (Dependant on cause of discoloration)
- ✗ Hard or shiny spots (Indicates heat damage)
- ✗ Webbing thickness uneven (Indicates possible fall)
- ✔ Mildew (Clean harness)
- ✗ Missing Straps
- ✗ Undue Stretching (Indicates possible fall)
- ✗ Burnt, charred or melted fibers (Indicates heat damage)
- ✗ Material marked w/permanent marker (Check w/manufacturer)
- ✗ Excessive hardness or brittleness (Indicates heat or uv damage)

## Stitching
Visual and Touch Inspection

- ✗ Pulled stitches
- ✗ Stitching that is missing
- ✗ Hard or shiny spots (Indicates heat damage)
- ✗ Cut stitches
- ✔ Discoloration of stitching (Dependant on cause of discoloration)

## Hardware
Visual and Touch Inspection

- ✗ Distortion (twists, bends)
- ✗ Rust or corrosion
- ✗ Broken/distorted grommets
- ✗ Modification by users (ie additional holes)
- ✗ Tongue buckle should overlap the buckle frame and move freely back and forth in their socket
- ✗ Roller of tongue buckle should turn freely on frame
- ✗ Bars must be straight
- ✗ All springs must be in working condition

- ✗ Rough or sharp edges
- ✗ Cracks or breaks
Harness Inspection – Guidelines

Tagging System

Every harness must have a legible tag identifying the harness, model, date of manufacture, name of manufacturer, limitations and warnings.

✘ Check tag for date of manufacture and remove from service if past adopted service life policy
✘ If tagging system is missing or not legible remove harness from service.

Cleaning and Storage

Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and mild detergent. Work up a thick lather, with a vigorous back and forth motion. Then wipe dry with a clean cloth.

Hang freely to dry, but away from excessive heat, steam or long periods of sunlight.

Storage areas should be clean, dry and free of exposure to fumes, heat, direct ultra violet light, sunlight and corrosive elements.

Note: Do not store harnesses next to batteries, chemical attack can occur if battery leaks.
**Inspection Checklist – Fall Protection Equipment**

<table>
<thead>
<tr>
<th>Description:</th>
<th>Model #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial #:</td>
<td>Date of Manufacture:</td>
</tr>
<tr>
<td>Inspector:</td>
<td>Date Inspected:</td>
</tr>
<tr>
<td>Inspector Signature:</td>
<td></td>
</tr>
</tbody>
</table>

**FAIL:** ❑ Initial_________  ✔ PASS: ❑ Initial_________

**REMOVE FROM SERVICE**  **RETURN TO SERVICE**

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>DESCRIPTION</th>
<th>FAIL</th>
<th>PASS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>
INSPECTION CHECKLIST - HARNESS

ITEM DESCRIPTION
1. ✓ ✔ Dee Ring
2. ✓ ✔ Dee Pad
3. ✓ ✔ Nylon Webbing
4. ✓ ✔ Spring Loaded Friction Buckles
5. ✓ ✔ Elastic Keepers (2)
6. ✓ ✔ Nylon Webbing
7. ✓ ✔ Spring Loaded Friction Buckles
8. ✓ ✔ Elastic Keepers (2)
9. ✓ ✔ Nylon Webbing
10. ✓ ✔ Stitching
11. ✓ ✔ Stitching
12. ✓ ✔ Tongue Buckle
13. ✓ ✔ Elastic Keeper (1)
14. ✓ ✔ Nylon Webbing
15. ✓ ✔ Stitching
16. ✓ ✔ Stitching
17. ✓ ✔ Tongue Buckle
18. ✓ ✔ Elastic Keeper (1)
19. ✓ ✔ Stitching
20. ✓ ✔ Nylon Webbing
21. ✓ ✔ Stitching
22. ✓ ✔ Stitching
23. ✓ ✔ Nylon Webbing
24. ✓ ✔ Grommets
25. ✓ ✔ Stitching
26. ✓ ✔ Nylon Webbing
27. ✓ ✔ Stitching
28. ✓ ✔ Stitching
29. ✓ ✔ Nylon Webbing
30. ✓ ✔ Grommets
31. ✓ ✔ Sub-Pelvic Strap
32. ✓ ✔ Back Strap
33. ✓ ✔ Stitching - Back Strap
34. ✓ ✔ Stitching - Back Strap
35. ✓ ✔ Chest Strap Pad
36. ✓ ✔ Nylon Webbing
37. ✓ ✔ Stitching
38. ✓ ✔ Mating Link
39. ✓ ✔ Chest Strap Pad
40. ✓ ✔ Nylon Webbing
41. ✓ ✔ Stitching
42. ✓ ✔ 3 Bar Mating Buckle
43. ✓ ✔ Elastic Keeper (1)
44. ✓ ✔ Tagging/Label System

SERIAL # _______ DATE OF MANUF _______
INSPECTOR __________ DATE OF INSPECTION _______
INSPECTOR SIGNATURE __________________________

✘ FAIL: ______ Initial _______ ✔ PASS: ______ Initial _______
REMOVE FROM SERVICE RETURN TO SERVICE

CRITERIA  ❌ = FAIL ✔ = PASS
Examples of Some Typical Thread (TH) and Stitch Patterns (SP) in Webbing (W)
Example of Some Typical Connector (Hardware) Components and Elements
Lanyard Inspection

Shock Absorbing Lanyard (Manyard Style) Inspection – Guidelines

**Webbing**
Grasp the webbing with your hands and bend the webbing, checking both sides. This creates surface tension making damaged fibers or cuts easier to see. Webbing damage may not show up through a sight (visual) inspection only – manual (touch) the lanyard is equally important. **Pay attention to the wrinkled portion of the lanyard.**

**Visual and Touch Inspection**

- ✔ Pass
- ✗ Fail Criteria

- ✗ Cuts, nicks or tears
- ✗ Broken fibers/cracks
- ✗ Overall deterioration
- ✗ Modifications by user
- ✗ Fraying/Abrasions Allowable 10%
- ✗ Discoloration of material Dependant on cause of discoloration
- ✗ Hard or shiny spots Indicates heat damage
- ✗ Change in core size Indicates possible fall
- ✔ Mildew Clean lanyard
- ✔ Missing or popped flag Indicates possible fall
- ✗ Undue Stretching Indicates possible fall
- ✗ Burnt, charred or melted fibers Indicates heat damage
- ✗ ✔ Material marked w/permanent marker Check w/manufacturer
- ✗ Excessive hardness or brittleness Indicates heat or uv damage
- ✗ Knots in lanyard

**Stitching**
Visual and Touch Inspection

- ✗ Pulled stitches
- ✗ Stitching that is missing
- ✗ Hard or shiny spots Indicates heat damage
- ✗ Cut stitches
- ✗ ✔ Discoloration of stitching Dependant on cause of discoloration
Shock Absorbing Lanyard (Manyard Style)
Inspection – Guidelines

Snap Hooks
Snap hooks should be of the self-locking type. Snap hooks are generally proof tested to 3,600 lbs. and have minimum tensile strength of 5,000 lbs.

Visual and Manual Inspection ✓ Pass
✗ Fail Criteria

Snap Hook
✗ Snap hooks should be of the self-locking type
✗ No hook or eye distortion (twists, bends or elongation)
✗ Latch/keeper should seat into the nose w/o binding
✗ Latch/keeper should not be distorted or obstructed
✗ Overall deterioration/Excessive wear
✗ Modifications by the user
✗ Rust/pitting/corrosion
✗ No cracks ✓ No missing parts
✗ No excessive wear ✓ No rough or sharp edges

Snap Hook Locking Mechanism
✗ Disengage locking mechanism and open keeper (keeper should open freely)
✗ Disengage locking mechanism and release (locking mechanism should return to engaged position).

Snap Hook Keeper
✗ Check keeper spring action by opening the keeper and releasing. (Keeper should return to closed position without hanging up it should not close slowly.)
✗ Push on keeper without engaging locking mechanism (keeper should not open)
✗ Check to see the keeper is seated firmly on the snap hook nose – there should be no side play. (lateral movement)

Tagging System
Every lanyard must have a legible tag identifying the lanyard, model, date of manufacture, name of manufacturer, limitations and warnings.

✗ Check tag for date of manufacture and remove from service if past adopted service life policy
✗ If tagging system is missing remove lanyard from service.
Shock Absorbing Lanyard (Manyard) 
Inspection – Guidelines

**Cleaning and Storage**

Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and mild detergent. Work up a thick lather, with a vigorous back and forth motion. Then wipe dry with a clean cloth.

Hang freely to dry, but away from excessive heat, steam or long periods of sunlight.

Storage areas should be clean, dry and free of exposure to fumes, heat, direct ultra violet light, sunlight and corrosive elements.

Note: Do not store lanyards next to batteries, chemical attack on the lanyard can occurs if battery leaks.

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**NOTES**

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Inspection Checklist – Fall Protection Equipment

Shock Absorbing Lanyard (Manyard)

<table>
<thead>
<tr>
<th>Description:</th>
<th>Model #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial #:</td>
<td>Date of Manufacture:</td>
</tr>
<tr>
<td>Inspector:</td>
<td>Date Inspected:</td>
</tr>
<tr>
<td>Inspector Signature:</td>
<td></td>
</tr>
</tbody>
</table>

**FAIL:** ☐ Initial ________  ✔ PASS: ☐ Initial ________

**REMOVE FROM SERVICE**  **RETURN TO SERVICE**

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>DESCRIPTION – LANYARD</th>
<th>FAIL</th>
<th>PASS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Flag Indicator</td>
<td>☒</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Outside Core Webbing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Core</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stitching</td>
<td></td>
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<tr>
<td></td>
<td>Labeling (tags)</td>
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<tr>
<td></td>
<td>Wear Pads</td>
<td></td>
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<tr>
<td></td>
<td><strong>SNAPHOOK</strong></td>
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<tr>
<td></td>
<td>Hook Body</td>
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<tr>
<td></td>
<td>Hook Nose</td>
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<tr>
<td></td>
<td>Gate (keeper)</td>
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<tr>
<td></td>
<td>Lock</td>
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<td>Eye</td>
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<tr>
<td></td>
<td>Hinge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spring (inside gate)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Rope Lanyards (Synthetic)
#### Inspection – Guidelines

**Rope**
Grasp the rope with both hands and rotate the lanyard. Inspect strands from end to end. Remember to check inner strands for signs of damage, deterioration or chemical attack.

Synthetic fiber ropes will show a reduction in strength when used at elevated temperatures. For exposure to excessive temperatures specific for the rope fiber refer to the rope manufacturers specifications and instructions.

Damage and deterioration may not show up through a sight (visual) inspection only – manual (touch) the lanyard is equally important.

**Rope Diameter**
Weakened areas from extreme loads will appear as a noticeable change in original diameter. The rope diameter should be uniform throughout. If areas appear to be reduced more than *5%* from original rope diameter **remove from service** – (ie: 5/8” rope, 5% reduction would be approx. 1/32” – calipers can be used to measure.)

<table>
<thead>
<tr>
<th>Visual and Touch Inspection</th>
<th>✓ Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗ Fiber, cuts or nicks</td>
<td>✗ Fail Criteria</td>
</tr>
<tr>
<td>✗ Broken fibers</td>
<td></td>
</tr>
<tr>
<td>✗ Fuzzy or worn fibers</td>
<td></td>
</tr>
<tr>
<td>✗ Overall deterioration</td>
<td></td>
</tr>
<tr>
<td>✗ Modifications by user</td>
<td></td>
</tr>
<tr>
<td>✗ Fraying/Abrasions</td>
<td></td>
</tr>
<tr>
<td>✗ Hard or shiny spots</td>
<td>Indicates heat damage</td>
</tr>
<tr>
<td>✗ Fused fibers or strands</td>
<td>Indicates heat damage</td>
</tr>
<tr>
<td>✗ Change in original diameter</td>
<td>Indicates possible fall</td>
</tr>
<tr>
<td>✗ Burnt, charred or melted fibers</td>
<td>Indicates heat damage</td>
</tr>
<tr>
<td>✗✔ Material marked w/permanent marker</td>
<td>Check w/manufacturer</td>
</tr>
<tr>
<td>✗ Kinks, hockling or knots</td>
<td></td>
</tr>
<tr>
<td>✗✔ Discoloration of rope &amp; brittle fibers (such as splinters/slivers)</td>
<td>Dependant on cause of discoloration but may indicate chemical attack or UV degradation</td>
</tr>
</tbody>
</table>

*HOCKLING* – unraveling of the lanyard due to constant turning in the same direction or shock loading.
Rope Lanyards (Synthetic) 
Inspection – Guidelines

Thimbles and Eyes
Visual and Touch Inspection ✔ Pass

Fail Criteria

Thimbles (steel or plastic) must be seated firmly in the eye. Thimbles must not show any sign of damage. Check around the eye itself for damage, wear or deterioration.

✘ Missing thimble(s)
✘ Loose thimble(s)
✘ Damaged thimbles - white stress marks, thimble collapsing over itself
✘ Eye damage due to cuts, nicks, abrasions, fraying, fused areas (look for same indicators as you would for the rope body itself.
✘ Eyes with metal thimbles – look for rust in or around the eye.

Rope Splices
In the construction of the lanyard the rope is spliced around a plastic or metal thimble. Eye splices in twisted rope having three or more strands shall have a minimum of four tucks (ANSI Z359.1-1992). (CSA-Z259.1-95 requires a minimum of five full tucks.) Both standards require the ends secured to prevent unraveling.

Visual and Touch Inspection ✔ Pass

Fail Criteria

✘ Splices not secured properly from unraveling – look for tape, shrink wrap tube, stiffening agent. (most common methods used by manufacturers.)
✘ Splices starting to unravel
✘ Splices showing damage or deterioration (look for same indicators as you would for the rope itself.)
Rope Lanyards (Synthetic)
Inspection – Guidelines

**Snap Hooks**
Snap hooks should be of the self-locking type. Snap hooks are generally proof tested to 3,600 lbs. and have minimum tensile strength of 5,000 lbs.

Visual and Manual Inspection

✔ Pass
✖ Fail Criteria

**Snap Hook**
✖ Snap hooks should be of the self-locking type
✖ No hook or eye distortion (twists, bends or elongation)
✖ Latch/keeper should seat into the nose w/o binding
✖ Latch/keeper should not be distorted or obstructed
✖ Overall deterioration/Excessive wear
✖ Modifications by the user
✖ Rust/pitting/corrosion
✖ No cracks ❌ No missing parts
✖ No excessive wear ❌ No rough or sharp edges

**Snap Hook Locking Mechanism**
✖ Disengage locking mechanism and open keeper (keeper should open freely)
✖ Disengage locking mechanism and release (locking mechanism should return to engaged position.

**Snap Hook Keeper**
✖ Check keeper spring action by opening the keeper and releasing. (Keeper should return to closed position without hanging up it should not close slowly.)
✖ Push on keeper without engaging locking mechanism (keeper should not open)
✖ Check to see the keeper is seated firmly on the snap hook nose – there should be no side play. (lateral movement)

**Tagging System**
Every lanyard must have a legible tag identifying the lanyard, model, date of manufacture, name of manufacturer, limitations and warnings.

✖ Check tag for date of manufacture and remove from service if past adopted service life policy
✖ If tagging system is missing or not legible remove lanyard from service.
Rope Lanyards (Synthetic)  
Inspection – Guidelines

<table>
<thead>
<tr>
<th>Cleaning and Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and mild detergent. Work up a thick lather, with a vigorous back and forth motion. Then wipe dry with a clean cloth.</td>
</tr>
<tr>
<td>Hang freely to dry, but away from excessive heat, steam or long periods of sunlight. Lanyards must be dry before storage.</td>
</tr>
<tr>
<td>Storage areas should be clean, dry and free of exposure to fumes, heat, direct ultra violet light, sunlight and corrosive elements. Lanyards should be kept off the floor to provide ventilation underneath. Never store directly on a concrete or dirt floor.</td>
</tr>
<tr>
<td>Note: Do not store lanyards next to batteries, chemical attack on the lanyard can occurs if battery leaks.</td>
</tr>
</tbody>
</table>
## Inspection Checklist – Fall Protection Equipment

### Rope Lanyards - Synthetic

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>DESCRIPTION – LANYARD</th>
<th>FAIL</th>
<th>PASS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Rope Fibers</strong></td>
<td>✗</td>
<td>✔</td>
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<tr>
<td></td>
<td><strong>Rope Splices</strong></td>
<td>✔</td>
<td>✔</td>
<td></td>
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<tr>
<td></td>
<td><strong>Thimbles &amp; Eyes</strong></td>
<td>✔</td>
<td>✔</td>
<td></td>
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<tr>
<td></td>
<td><strong>Rope Diameter</strong></td>
<td>✔</td>
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<td></td>
<td><strong>Labeling (tags)</strong></td>
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<td>✔</td>
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<tr>
<td></td>
<td><strong>Rope Hockling</strong></td>
<td>✔</td>
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<td><strong>SNAPHOOK</strong></td>
<td>✔</td>
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<td><strong>Hook Body</strong></td>
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<td><strong>Hook Nose</strong></td>
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<td><strong>Gate (keeper)</strong></td>
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<td><strong>Lock</strong></td>
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<td><strong>Eye</strong></td>
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<td><strong>Hinge</strong></td>
<td>✔</td>
<td>✔</td>
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<td></td>
<td><strong>Spring (inside gate)</strong></td>
<td>✔</td>
<td>✔</td>
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</tr>
</tbody>
</table>
Web Lanyards
Inspection – Guidelines

Webbing
Grasp the webbing with your hands and bend the webbing, checking both sides. This creates surface tension making damaged fibers or cuts easier to see. Webbing damage may not show up through a sight (visual) inspection only – manual (touch) inspection of the lanyard is equally important.

Visual and Touch Inspection

✔ Pass
✘ Fail Criteria

✘ Cuts, nicks or tears
✘ Broken fibers/cracks
✘ Overall deterioration
✘ Modifications by user
✘ Fraying/Abrasions Allowable 10%
✘ ✔ Discoloration of material Dependant on cause of discoloration
✘ Hard or shiny spots Indicates heat damage
✘ Change in core size Indicates possible fall
✔ Mildew Clean lanyard
✘ Undue Stretching Indicates possible fall
✘ Burnt, charred or melted fibers Indicates heat damage
✘ ✔ Material marked w/permanent marker Check w/manufacturer
✘ Excessive hardness or brittleness Indicates heat or uv damage
✘ Knots in lanyard

Stitching
Visual and Touch Inspection
✘ Pulled stitches
✘ Stitching that is missing
✘ Hard or shiny spots Indicates heat damage
✘ Cut stitches
✘ ✔ Discoloration of stitching Dependant on cause of discoloration
Web Lanyards
Inspection – Guidelines

Snap Hooks
Snap hooks should be of the self-locking type. Snap hooks are generally proof tested to 3,600 lbs. and have minimum tensile strength of 5,000 lbs.

Visual and Manual Inspection
✔ Pass
✗ Fail Criteria

Snap Hook
✗ Snap hooks should be of the self-locking type
✗ No hook or eye distortion (twists, bends or elongation)
✗ Latch/keeper should seat into the nose w/o binding
✗ Latch/keeper should not be distorted or obstructed
✗ Overall deterioration/Excessive wear
✗ Modifications by the user
✗ Rust/pitting/corrosion
✗ No cracks
✗ No excessive wear
6 No missing parts
6 No rough or sharp edges

Snap Hook Locking Mechanism
✗ Disengage locking mechanism and open keeper (keeper should open freely)
✗ Disengage locking mechanism and release (locking mechanism should return to engaged position).

Snap Hook Keeper
✗ Check keeper spring action by opening the keeper and releasing. (Keeper should return to closed position without hanging up it should not close slowly.)
✗ Push on keeper without engaging locking mechanism (keeper should not open)
✗ Check to see the keeper is seated firmly on the snap hook nose – there should be no side play. (lateral movement)

Tagging System
Every lanyard must have a legible tag identifying the lanyard, model, date of manufacture, name of manufacturer, limitations and warnings.

✗ Check tag for date of manufacture and remove from service if past adopted service life policy
✗ If tagging system is missing or not legible remove lanyard from service.
Web Lanyards
Inspection – Guidelines

Cleaning and Storage

Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and mild detergent. Work up a thick lather, with a vigorous back and forth motion. Then wipe dry with a clean cloth.

Hang freely to dry, but away from excessive heat, steam or long periods of sunlight. Lanyards must be dry before storage.

Storage areas should be clean, dry and free of exposure to fumes, heat, direct ultra violet light, sunlight and corrosive elements.

Note: Do not store lanyards next to batteries, chemical attack on the lanyard can occur if battery leaks.
# Inspection Checklist – Fall Protection Equipment

## Web Lanyards

<table>
<thead>
<tr>
<th>Description:</th>
<th>Model #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial #:</td>
<td>Date of Manufacture:</td>
</tr>
<tr>
<td>Inspector:</td>
<td>Date Inspected:</td>
</tr>
<tr>
<td>Inspector Signature:</td>
<td></td>
</tr>
</tbody>
</table>

**FAIL: ❑ Initial _______**  
**PASS: ✔ Initial _______**  
**REMOVE FROM SERVICE**  
**RETURN TO SERVICE**

---

### Style A - Self-locking Snaphook

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>DESCRIPTION – LANYARD</th>
<th>FAIL</th>
<th>PASS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Webbing</td>
<td>×</td>
<td>✔</td>
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<tr>
<td></td>
<td>Stitching</td>
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<tr>
<td></td>
<td>Wear Pads</td>
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<td>Labeling (tags)</td>
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<td></td>
<td><strong>SNAPHOOK</strong></td>
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<td>Hook Body</td>
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<td>Hook Nose</td>
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<td>Gate (keeper)</td>
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<td>Hinge</td>
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<td></td>
<td>Spring (inside gate)</td>
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</tbody>
</table>

### Style B - Snaphook

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Wire Rope Lanyards
Inspection – Guidelines

Wire Rope
Grasp the steel lanyard with your hands and rotate the lanyard, checking both sides. Watch for unusual wearing patterns on the wire. Broken strands or wires will separate from the body of the lanyard. To avoid hand injury always wear protective gloves when inspecting a wire rope lanyard.

Note: Unlike rigging inspection standards, wire rope used for the purpose of fall protection does not allow any broken wires or strands.

Visual and Touch Inspection

✔ Pass
✗ Fail Criteria

✗ Cuts, frayed areas
✗ Worn or broken strands/wires
✗ Overall deterioration/Excessive outside wear
✗ Modifications by the user
✗ Rust/pitting/corrosion
✗ Crushed/jammed or flattened strands
✗ Bulges in rope
✗ Gaps between strands
✗ Heat damage, torch burns or electric arc strikes
✗ Kinks, bird-caging
✗ Core protrusion
✗ Do not use frozen rope

Fittings
✗ Wear or Cracks
✗ Corrosion or Pitting
✗ Deformation/Bends
✗ Mismatched Parts or Modifications
✗ Obvious Damage

Splices
✗ Worn or broken wires
✗ Crushed/jammed or flattened strands
✗ Corrosion
**Inspection – Guidelines  Wire Rope Lanyards**

### Snap Hooks
Snap hooks should be of the self-locking type. Snap hooks are generally proof tested to 3,600 lbs. and have minimum tensile strength of 5,000lbs.

<table>
<thead>
<tr>
<th>Visual and Manual Inspection</th>
<th>✓ Pass</th>
<th>✗ Fail Criteria</th>
</tr>
</thead>
</table>

### Snap Hook

- ✗ Snap hooks should be of the self-locking type
- ✗ No hook or eye distortion (twists, bends or elongation)
- ✗ Latch/keeper should seat into the nose w/o binding
- ✗ Latch/keeper should not be distorted or obstructed
- ✗ Overall deterioration/Excessive wear
- ✗ Modifications by the user
- ✗ Rust/pitting/corrosion
- ✗ No cracks
- ✗ No excessive wear
- ✗ No rough or sharp edges

### Snap Hook Locking Mechanism

- ✗ Disengage locking mechanism and open keeper (keeper should open freely)
- ✗ Disengage locking mechanism and release (locking mechanism should return to engaged position).

### Snap Hook Keeper

- ✗ Check keeper spring action by opening the keeper and releasing. (Keeper should return to closed position without hanging up it should not close slowly.)
- ✗ Push on keeper without engaging locking mechanism (keeper should not open)
- ✗ Check to see the keeper is seated firmly on the snap hook nose – there should be no side play. (lateral movement)

### Tagging System

Every lanyard must have a legible tag identifying the lanyard, model, date of manufacture, name of manufacturer, limitations and warnings.

- ✗ Check tag for date of manufacture and remove from service if past adopted service life policy
- ✗ If tagging system is missing or not legible remove lanyard from service.

### Cleaning and Storage
Wipe off all surface dirt, dust and extra oils with a dry cloth.

Storage areas should be clean, dry and free of exposure to contaminants or corrosive elements.
Inspection Checklist – Fall Protection Equipment
Wire Rope Lanyards

<table>
<thead>
<tr>
<th>Description:</th>
<th>Model #:</th>
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<tbody>
<tr>
<td>Serial #:</td>
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<tr>
<td>Inspector Signature:</td>
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</table>

**FAIL: ✓ Initial_________**  **PASS: ❑ Initial_________**

REMOVE FROM SERVICE

RETURN TO SERVICE

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>DESCRIPTION – LANYARD</th>
<th>FAIL</th>
<th>PASS</th>
<th>COMMENTS</th>
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<tbody>
<tr>
<td></td>
<td>Broken Wires</td>
<td>❌</td>
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<td></td>
<td>Rust/Corrosion/Pitting</td>
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<td>Deformations</td>
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<td>Heat Damage</td>
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<td>Fittings/Thimbles</td>
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<td>Splices</td>
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</tbody>
</table>
Shock Absorbers – Pouch Style
Inspection – Guidelines

<table>
<thead>
<tr>
<th>Shock Absorbers – Pouch Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examine the outer portion of the pack.</td>
</tr>
</tbody>
</table>

Visual and Touch Inspection
✔ Pass
✘ Fail Criteria

- ✘ Burn holes
- ✘ Tears/cuts
- ✘ Modifications by user
- ✘ Chemical attack
- ✘ Obvious signs of deterioration

Stitching

Visual and Touch Inspection

- ✘ Pulled stitches
- ✘ Stitching that is missing
- ✘ Hard or shiny spots
- ✘ Cut stitches
- ✘ ✔ Discoloration of stitching
- ✘ Obvious signs of deterioration

Indicates heat damage
Dependant on cause of discoloration

End Loops

- ✘ Cuts or frays
- ✘ Obvious signs of deterioration
(There should be no damage to the end loops)

Shock Absorbers – Pouch Style
Inspection – Guidelines

<table>
<thead>
<tr>
<th>Snap Hooks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snap hooks should be of the self-locking type. Snap hooks are generally proof tested to 3,600 lbs. and have minimum tensile strength of 5,000 lbs.</td>
</tr>
</tbody>
</table>

Visual and Manual Inspection
✔ Pass
✘ Fail Criteria

Snap Hook

- ✘ Snap hooks should be of the self-locking type
- ✘ No hook or eye distortion (twists, bends or elongation)
- ✘ Latch/keeper should seat into the nose w/o binding
- ✘ Latch/keeper should not be distorted or obstructed
**Overall deterioration/Excessive wear**  
**Modifications by the user**  
**Rust/pitting/corrosion**  
**No cracks**  
**No excessive wear**  
**No missing parts**  
**No rough or sharp edges**

### Snap Hook Locking Mechanism
- Disengage locking mechanism and open keeper (keeper should open freely)  
- Disengage locking mechanism and release (locking mechanism should return to engaged position).

### Snap Hook Keeper
- Check keeper spring action by opening the keeper and releasing. (Keeper should return to closed position without hanging up it should not close slowly.)  
- Push on keeper without engaging locking mechanism (keeper should not open)  
- Check to see the keeper is seated firmly on the snap hook nose – there should be no side play. (lateral movement)

### Tagging System
Every pouch must have a legible tag identifying the pouch, model, date of manufacture, name of manufacturer, limitations and warnings.

- Check tag for date of manufacture and remove from service if past adopted service life policy  
- If tagging system is missing or not legible remove lanyard from service.

### Shock Absorbers – Pouch Style Inspection – Guidelines

#### Cleaning and Storage
Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Then wipe away any excess moisture with a dry clean cloth.

Dry away from excessive heat, steam or long periods of sunlight. Pouch must be dry before storage.

Storage areas should be clean, dry and free of exposure to fumes, heat, direct ultra violet light, sunlight and corrosive elements.

Note: Do not store pouch next to batteries, chemical attack on the lanyard can occur if battery leaks.

### Inspection Checklist – Fall Protection Equipment
### Shock Absorbers Pouch Style

<table>
<thead>
<tr>
<th>Description</th>
<th>Model #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial #:</td>
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<tr>
<td>Inspector:</td>
<td>Date Inspected:</td>
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<tr>
<td>Inspector Signature:</td>
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</tr>
</tbody>
</table>

**FAIL**: ❑ Initial_______  
**PASS**: ✔ Initial_______

**REMOVE FROM SERVICE**  
**RETURN TO SERVICE**

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#### Style A

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>DESCRIPTION – LANYARD</th>
<th>FAIL</th>
<th>PASS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pouch Damage</td>
<td>✗</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stitching</td>
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<td></td>
<td>End Loops</td>
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<td></td>
<td>Labeling (tags)</td>
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#### Style B

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>DESCRIPTION – LANYARD</th>
<th>FAIL</th>
<th>PASS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Snap Hook</td>
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<tr>
<td></td>
<td>Hook Body</td>
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<tr>
<td></td>
<td>Spring (inside gate)</td>
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</tbody>
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Synthetic Rope – Lifelines-Twisted Ropes
Inspection – Guidelines

Twisted Ropes
Grasp the rope with both hands and rotate the lifeline. Inspect strands from end to end. Remember to check inner strands for signs of damage, deterioration or chemical attack.

Synthetic fiber ropes will show a reduction in strength when used at elevated temperatures. For exposure to excessive temperatures specific for the rope fiber refer to the rope manufacturers specifications and instructions.

Damage and deterioration may not show up through a sight (visual) inspection only – manual (touch) the lanyard is equally important.

Rope Diameter
Weakened areas from extreme loads will appear as a noticeable change in original diameter. The rope diameter should be uniform throughout. If areas appear to be reduced more than 5% from original rope diameter **remove from service** – (ie: 5/8” rope, 5% reduction would be approx. 1/32” – calipers can be used to measure.)

Visual and Touch Inspection ✔ Pass ✗ Fail Criteria
- Fiber, cuts or nicks
- Broken fibers
- Fuzzy or worn fibers
- Overall deterioration
- Modifications by user
- Fraying/Abrasions
- Hard or shiny spots Indicates heat damage
- Fused fibers or strands Indicates heat damage
- Change in original diameter Indicates possible fall
- Burnt, charred or melted fibers Indicates heat damage
- ✔ Material marked w/permanent marker Check w/manufacturer
- Kinks, • hockling or knots
- ✔ Discoloration of rope & brittle fibers (such as splinters/slivers) Dependant on cause of discoloration but may indicate chemical attack or UV degradation

• **HOCKLING** – unraveling of the lanyard due to constant turning in the same direction or shock loading.
**Thimbles and Eyes**

<table>
<thead>
<tr>
<th>Visual and Touch Inspection</th>
<th>✔ Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>✗ Fail Criteria</td>
</tr>
</tbody>
</table>

Thimbles (steel or plastic) must be seated firmly in the eye. Thimbles must not show any sign of damage. Check around the eye itself for damage, wear or deterioration.

- ✗ Missing thimble(s)
- ✗ Loose thimble(s)
- ✗ Damaged thimble - white stress marks, thimble collapsing over itself
- ✗ Eye damage due to cuts, nicks, abrasions, fraying, fused areas (look for same indicators as you would for the rope body itself)
- ✗ Eyes with metal thimbles – look for rust in or around the eye.

**Rope Splices**

In the construction of the lifeline the rope is spliced around a plastic or metal thimble. Eye splices in twisted rope having three or more strands shall have a minimum of four tucks (ANSI Z359.1-1992). (CSA-Z259.1-95 requires a minimum of five full tucks.) Both standards require the ends secured to prevent unraveling.

<table>
<thead>
<tr>
<th>Visual and Touch Inspection</th>
<th>✔ Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>✗ Fail Criteria</td>
</tr>
</tbody>
</table>

- ✗ Splices not secured properly from unraveling – look for tape, shrink wrap tube, stiffening agent. (most common methods used by manufacturers.)
- ✗ Splices starting to unravel
- ✗ Splices showing damage or deterioration (look for same indicators as you would for the rope itself).
## Synthetic Rope – Lifelines (Twisted Ropes)
### Inspection – Guidelines

#### Snap Hooks
Snap hooks should be of the self-locking type. Snap hooks are generally proof tested to 3,600 lbs. and have minimum tensile strength of 5,000 lbs.

<table>
<thead>
<tr>
<th>Visual and Manual Inspection</th>
<th>✔ Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>✗ Fail Criteria</td>
</tr>
</tbody>
</table>

#### Snap Hook
- ✔ Snap hooks should be of the self-locking type
- ✔ No hook or eye distortion (twists, bends or elongation)
- ✔ Latch/keeper should seat into the nose w/o binding
- ✔ Latch/keeper should not be distorted or obstructed
- ✔ Overall deterioration/Excessive wear
- ✔ Modifications by the user
- ✔ Rust/pitting/corrosion
- ✔ No cracks
- ✔ No excessive wear
- ✔ No rough or sharp edges

#### Snap Hook Locking Mechanism
- ✔ Disengage locking mechanism and open keeper (keeper should open freely)
- ✔ Disengage locking mechanism and release (locking mechanism should return to engaged position).

#### Snap Hook Keeper
- ✔ Check keeper spring action by opening the keeper and releasing. (Keeper should return to closed position without hanging up it should not close slowly.)
- ✔ Push on keeper without engaging locking mechanism (keeper should not open)
- ✔ Check to see the keeper is seated firmly on the snap hook nose – there should be no side play. (lateral movement)

#### Tagging System
Lifelines must have a legible tag identifying the, model, date of manufacture, name of manufacturer, limitations and warnings.

- ✔ Check tag for date of manufacture and remove from service if past adopted service life policy
- ✗ If tagging system is missing or not legible remove lifeline from service.
Synthetic Rope – Lifelines (Twisted Ropes)
Inspection – Guidelines

Cleaning and Storage

Rope can be washed, to remove dirt or abrasive particles. Use a solution of mild detergent and cold water. (Note that washing can remove any coatings that may have been added to enhance the performance of the product)

Hang freely to dry, but away from excessive heat, steam or long periods of sunlight. Lifelines must be dry before storage.

Storage areas should be clean, dry and free of exposure to fumes, heat, direct ultra violet light, sunlight and corrosive elements. Lifelines should be kept off the floor to provide ventilation underneath. Never store directly on a concrete or dirt floor.

Note: Do not store lifelines next to batteries, chemical attack on the lifeline can occurs if battery leaks.

Inspection Checklist – Fall Protection Equipment
Rope Lifelines - Synthetic

<table>
<thead>
<tr>
<th>Description:</th>
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<tbody>
<tr>
<td>Serial #:</td>
<td>Date of Manufacture:</td>
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<tr>
<td>Inspector:</td>
<td>Date Inspected:</td>
</tr>
<tr>
<td>Inspector Signature:</td>
<td></td>
</tr>
</tbody>
</table>

✖FAIL: ☐ Initial_________ ✔PASS: ☐ Initial_________
REMOVE FROM SERVICE RETURN TO SERVICE
### Synthetic Rope – Lifelines - Braided Ropes

**Inspection – Guidelines**

**Braided Ropes**
Grasp the rope with both hands and rotate the lifeline. Run your hands along the entire length of lifeline. Inspect strands from end to end.

Synthetic fiber ropes will show a reduction in strength when used at elevated temperatures. For exposure to excessive temperatures specific for the rope fiber refer to the rope manufacturers specifications and instructions.

Damage and deterioration may not show up through a sight (visual) inspection only – manual (touch) the lanyard is equally important.

**Rope Diameter**
Weakened areas from extreme loads will appear as a noticeable change in original diameter. The rope diameter should be uniform throughout. If areas appear to be reduced more than *5% from original rope diameter remove from service – (ie: 5/8” rope, 5% reduction would be approx. 1/32” – calipers can be used to measure.)

Visual and Touch Inspection  

✔ Pass  

❌ Fail Criteria
Check for pulled cover strands
More than 4 consecutive pulled cover strands (which cannot be reincorporated into cover braid) Remove from service

Cover damage-core visible
Core damage-pulled, cut, abraded, powdered or melted strands
Cover-cuts or nicks
Cover-broken fibers
Overall deterioration
Modifications by user
Fraying/Abrasions
Hard or shiny spots Indicates heat damage
Fused fibers or strands Indicates heat damage
Change in original diameter Indicates possible fall
Burnt, charred or melted fibers Indicates heat damage
Material marked w/permanent marker Check w/manufacturer
Knots or kinks
Discoloration of rope & brittle fibers (such as splinters/slivers) Dependent on cause of discoloration but may indicate chemical attack or UV degradation

Synthetic Rope – Lifelines (Braided Ropes)
Inspection – Guidelines

Thimbles and Eyes

Visual and Touch Inspection
✔ Pass
✘ Fail Criteria

Thimbles (steel or plastic) must be seated firmly in the eye. Thimbles must not show any sign of damage. Check around the eye itself for damage, wear or deterioration.

Missing thimble(s)
Loose thimble(s)
Damaged thimbles - white stress marks, thimble collapsing over itself
Damage to female side of eye (side in contact with thimble)
Eye damage due to cuts, nicks, abrasions, fraying, fused areas (look for same indicators as you would for the rope body itself).
Eyes with metal thimbles – look for rust in or around the eye.

Fittings
Wear or Cracks
Corrosion or Pitting
Deformation/Bends
Mismatched Parts or Modifications
Obvious Damage
Synthetic Rope – Lifelines (Braided Ropes)
Inspection – Guidelines

Snap Hooks
Snap hooks should be of the self-locking type. Snap hooks are generally proof tested to 3,600 lbs. and have minimum tensile strength of 5,000 lbs.

Visual and Manual Inspection
✔ Pass
✘ Fail Criteria

Snap Hook
✘ Snap hooks should be of the self-locking type
✘ No hook or eye distortion (twists, bends or elongation)
✘ Latch/keeper should seat into the nose w/o binding
✘ Latch/keeper should not be distorted or obstructed
✘ Overall deterioration/Excessive wear
✘ Modifications by the user
✘ Rust/pitting/corrosion
✘ No cracks ✔ No missing parts
✘ No excessive wear ✔ No rough or sharp edges

Snap Hook Locking Mechanism
✘ Disengage locking mechanism and open keeper (keeper should open freely)
✘ Disengage locking mechanism and release (locking mechanism should return to engaged position.

Snap Hook Keeper
✘ Check keeper spring action by opening the keeper and releasing. (Keeper should return to closed position without hanging up it should not close slowly.)
✘ Push on keeper without engaging locking mechanism (keeper should not open)
✘ Check to see the keeper is seated firmly on the snap hook nose – there should be no side play. (lateral movement)

Tagging System
Date of manufacture and length of lifeline can be found on one of the metal ferrules.

✘ Check tag for date of manufacture and remove from service if past adopted service life policy
✘ If tagging system is missing or not legible remove lifeline from service.
**Inspection Checklist – Fall Protection Equipment**

**Braided Rope Lifelines - Synthetic**

<table>
<thead>
<tr>
<th>Description:</th>
<th>Model #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial #:</td>
<td>Date of Manufacture:</td>
</tr>
<tr>
<td>Inspector:</td>
<td>Date Inspected:</td>
</tr>
</tbody>
</table>

**Inspector Signature:**

ㄨ **FAIL: □ Initial_________**  ✔ **PASS: □ Initial_________**

**REMOVE FROM SERVICE**  **RETURN TO SERVICE**

![Braided Strands](image)

![Snaphook, Self-locking](image)

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>DESCRIPTION –</th>
<th>FAIL</th>
<th>PASS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rope Diameter</td>
<td>✗</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cover Damage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thimbles &amp; Eyes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fittings</td>
<td></td>
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<tr>
<td></td>
<td>Labeling (tags)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Discoloration</td>
<td></td>
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<tr>
<td></td>
<td>SNAPHOOK</td>
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<tr>
<td></td>
<td>Hook Body</td>
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<td></td>
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<tr>
<td></td>
<td>Hook Nose</td>
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<tr>
<td></td>
<td>Gate (keeper)</td>
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<tr>
<td></td>
<td>Lock</td>
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<td></td>
<td>Hinge</td>
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<tr>
<td></td>
<td>Spring (inside gate)</td>
<td></td>
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</tr>
</tbody>
</table>
Synthetic Rope – Lifelines - Kernmantle Ropes

Inspection – Guidelines

Kernmantle Ropes
Grasp the rope with both hands and rotate the lifeline. Run your hands along the entire length of the lifeline. Inspect from end to end.

Synthetic fiber ropes will show a reduction in strength when used at elevated temperatures. For exposure to excessive temperatures specific for the rope fiber refer to the rope manufacturers specifications and instructions.

Damage and deterioration may not show up through a sight (visual) inspection only – manual (touch) the lanyard is equally important.

Rope Diameter
Weakened areas from extreme loads will appear as a noticeable change in original diameter. The rope diameter should be uniform throughout. If areas appear to be reduced more than *5% from original rope diameter remove from service – (ie: 5/8” rope, 5% reduction would be approx. 1/32” – calipers can be used to measure.)

Visual and Touch Inspection
✔ Pass
✖ Fail Criteria

✖ Extremely fuzzy cover
✖ Check for bulges/lumps & flat spots
✖ Cover damage-core visible
✖ Check for indication of inner core damage – rope will have a hourglass shape
✖ Core damage-pulled, cut, abraded, powdered or melted strands
✖ Cover-cuts or nicks
✖ Cover-broken fibers
✖ Overall deterioration
✖ Modifications by user
✖ Fraying/Abrasions
✖ Compacted or hard
✖ Fused fibers or strands/shiny spots Indicates heat damage
✖ Change in original diameter Indicates possible fall
✖ Burnt, charred or melted fibers Indicates heat damage
✖ ✔ Material marked w/permanent marker Check w/manufacturer
✖ Knots or kinks
✖ ✔ Discoloration of rope & brittle fibers (such as splinters/slivers) Dependant on cause of discoloration but may indicate chemical attack or UV degradation
## Synthetic Rope – Lifelines (Kernmantle Ropes)  
### Inspection – Guidelines

<table>
<thead>
<tr>
<th>Thimbles And Eyes</th>
<th>✔ Pass</th>
<th>✗ Fail Criteria</th>
</tr>
</thead>
</table>

Thimbles (steel or plastic) must be seated firmly in the eye. Thimbles must not show any sign of damage. Check around the eye itself for damage, wear or deterioration.

- ✗ Missing thimble(s)
- ✗ Loose thimble(s)
- ✗ Damaged thimbles
- ✗ Damage to female side of eye (side in contact with thimble)
- ✗ Eye damage due to cuts, nicks, abrasions, fraying, fused areas (look for same indicators as you would for the rope body itself.)
- ✗ Eyes with metal thimbles – look for rust in or around the eye.

<table>
<thead>
<tr>
<th>Fittings</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗ Wear or Cracks</td>
</tr>
<tr>
<td>✗ Corrosion or Pitting</td>
</tr>
<tr>
<td>✗ Deformation/Bends</td>
</tr>
<tr>
<td>✗ Mismatched Parts or Modifications</td>
</tr>
<tr>
<td>✗ Obvious Damage</td>
</tr>
</tbody>
</table>
**Synthetic Rope – Lifelines (Kernmantle Ropes)
Inspection – Guidelines**

**Snap Hooks**
Snap hooks should be of the self-locking type. Snap hooks are generally proof tested to 3,600 lbs. and have minimum tensile strength of 5,000 lbs.

<table>
<thead>
<tr>
<th>Visual and Manual Inspection</th>
<th>✔ Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗ Fail Criteria</td>
<td></td>
</tr>
</tbody>
</table>

**Snap Hook**
- ✗ Snap hooks should be of the self-locking type
- ✗ No hook or eye distortion (twists, bends or elongation)
- ✗ Latch/keeper should seat into the nose w/o binding
- ✗ Latch/keeper should not be distorted or obstructed
- ✗ Overall deterioration/Excessive wear
- ✗ Modifications by the user
- ✗ Rust/pitting/corrosion
- ✗ No cracks
- ✗ No missing parts
- ✗ No excessive wear
- ✗ No rough or sharp edges

**Snap Hook Locking Mechanism**
- ✗ Disengage locking mechanism and open keeper (keeper should open freely)
- ✗ Disengage locking mechanism and release (locking mechanism should return to engaged position.)

**Snap Hook Keeper**
- ✗ Check keeper spring action by opening the keeper and releasing. (Keeper should return to closed position without hanging up it should not close slowly.)
- ✗ Push on keeper without engaging locking mechanism (keeper should not open)
- ✗ Check to see the keeper is seated firmly on the snap hook nose – there should be no side play. (lateral movement)

**Tagging System**
Date of manufacturer can be found on one of the metal ferrules.
- ✗ Check tag for date of manufacture and remove from service if past adopted service life policy
- ✗ If tagging system is missing or not legible remove lifeline from service.

---

**Inspection Checklist – Fall Protection Equipment**
Kernmantle Rope Lifelines - Synthetic

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>DESCRIPTION –</th>
<th>FAIL</th>
<th>PASS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rope Diameter</td>
<td>☒</td>
<td>✓</td>
<td></td>
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<tr>
<td></td>
<td>Cover Damage</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Thimbles &amp; Eyes</td>
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<td></td>
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<td></td>
<td>Labeling (tags)</td>
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<tr>
<td></td>
<td>Discoloration</td>
<td></td>
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<tr>
<td></td>
<td>SNAPHOOK</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Hook Body</td>
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<td></td>
<td>Hook Nose</td>
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<td></td>
<td>Gate (keeper)</td>
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<tr>
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<td>Hinge</td>
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<tr>
<td></td>
<td>Spring (inside gate)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 14d
Static Kernmantle Rope

Figure 11n
Snaphook, Self-locking

FAIL: ☐ Initial_________  PASS: ☑ Initial_________
REMOVE FROM SERVICE  RETURN TO SERVICE
## Synthetic Rope – Lifelines – Polysteel
### Inspection Guidelines

**Polysteel**
Grasp the rope with both hands and rotate the lifeline. Inspect strands from end to end. Remember to check inner strands for signs of damage, deterioration or chemical attack.

Synthetic fiber ropes will show a reduction in strength when used at elevated temperatures. For exposure to excessive temperatures specific for the rope fiber refer to the rope manufacturers specifications and instructions.

Damage and deterioration may not show up through a sight (visual) inspection only – manual (touch) the lanyard is equally important.

### Rope Diameter
Weakened areas from extreme loads will appear as a noticeable change in original diameter. The rope diameter should be uniform throughout. If areas appear to be reduced more than *5% from original rope diameter remove from service* – (ie: 5/8" rope, 5% reduction would be approx. 1/32" – calipers can be used to measure.)

<table>
<thead>
<tr>
<th>Visual and Touch Inspection</th>
<th>✔ Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗ Fiber, cuts or nicks</td>
<td>✗ Fail Criteria</td>
</tr>
<tr>
<td>✗ Broken fibers</td>
<td></td>
</tr>
<tr>
<td>✗ Fuzzy or worn fibers</td>
<td></td>
</tr>
<tr>
<td>✗ Overall deterioration</td>
<td></td>
</tr>
<tr>
<td>✗ Modifications by user</td>
<td></td>
</tr>
<tr>
<td>✗ Fraying/Abrasions</td>
<td></td>
</tr>
<tr>
<td>✗ Hard or shiny spots</td>
<td>Indicates heat damage</td>
</tr>
<tr>
<td>✗ Fused fibers or strands</td>
<td>Indicates heat damage</td>
</tr>
<tr>
<td>✗ Change in original diameter</td>
<td>Indicates possible fall</td>
</tr>
<tr>
<td>✗ Burnt, charred or melted fibers</td>
<td>Indicates heat damage</td>
</tr>
<tr>
<td>✗ ✔ Material marked w/permanent marker</td>
<td>Check w/manufacturer</td>
</tr>
<tr>
<td>✗ Kinks, • hockling or knots</td>
<td></td>
</tr>
<tr>
<td>✗ ✔ Discoloration of rope &amp; brittle fibers (such as splinters/slivers)</td>
<td>Dependant on cause of discoloration but may indicate chemical attack or UV degradation</td>
</tr>
</tbody>
</table>

**HOCKLING** – unraveling of the lanyard due to constant turning in the same direction or shock loading.
## Synthetic Rope – Lifelines (Polysteel)
### Inspection – Guidelines

### Thimbles and Eyes

<table>
<thead>
<tr>
<th>Visual and Touch Inspection</th>
<th>✔ Pass</th>
<th>✗ Fail Criteria</th>
</tr>
</thead>
</table>

Thimbles (steel or plastic) must be seated firmly in the eye. Thimbles must not show any sign of damage. Check around the eye itself for damage, wear or deterioration.

- ✗ Missing thimble(s)
- ✗ Loose thimble(s)
- ✗ Damaged thimbles - white stress marks, thimble collapsing over itself
- ✗ Eye damage due to cuts, nicks, abrasions, fraying, fused areas (look for same indicators as you would for the rope body itself.)
- ✗ Eyes with metal thimbles – look for rust in or around the eye.

### Rope Splices

In the construction of the lifeline the rope is spliced around a plastic or metal thimble. Eye splices in twisted rope having three or more strands shall have a minimum of four tucks (ANSI Z359.1-1992). (CSA-Z259.1-95 requires a minimum of five full tucks.) Both standards require the ends secured to prevent unraveling.

<table>
<thead>
<tr>
<th>Visual and Touch Inspection</th>
<th>✔ Pass</th>
<th>✗ Fail Criteria</th>
</tr>
</thead>
</table>

- ✗ Splices not secured properly from unraveling – look for tape, shrink wrap tube, stiffening agent. (most common methods used by manufacturers.)
- ✗ Splices starting to unravel
- ✗ Splices showing damage or deterioration (look for same indicators as you would for the rope itself.)
Synthetic Rope – Lifelines (Polysteel)
Inspection – Guidelines

**Snap Hooks**
Snap hooks should be of the self-locking type. Snap hooks are generally proof tested to 3,600 lbs. and have minimum tensile strength of 5,000lbs.

| Visual and Manual Inspection | ✔ Pass | ✗ Fail Criteria |

**Snap Hook**
- ✔ Snap hooks should be of the self-locking type
- ✗ No hook or eye distortion (twists, bends or elongation)
- ✔ Latch/keeper should seat into the nose w/o binding
- ✔ Latch/keeper should not be distorted or obstructed
- ✔ Overall deterioration/Excessive wear
- ✔ Modifications by the user
- ✔ Rust/pitting/corrosion
- ✗ No cracks
- ✔ No missing parts
- ✔ No excessive wear
- ✔ No rough or sharp edges

**Snap Hook Locking Mechanism**
- ✗ Disengage locking mechanism and open keeper (keeper should open freely)
- ✗ Disengage locking mechanism and release (locking mechanism should return to engaged position.

**Snap Hook Keeper**
- ✗ Check keeper spring action by opening the keeper and releasing. (Keeper should return to closed position without hanging up it should not close slowly.)
- ✗ Push on keeper without engaging locking mechanism (keeper should not open)
- ✗ Check to see the keeper is seated firmly on the snap hook nose – there should be no side play. (lateral movement)

**Tagging System**
Lifelines must have a legible tag identifying the, model, date of manufacture, name of manufacturer, limitations and warnings.

- ✔ Check tag for date of manufacture and remove from service if past adopted service life policy
- ✗ If tagging system is missing or not legible remove lifeline from service.
Inspection Checklist – Fall Protection Equipment

Polysteel Rope Lifelines - Synthetic

<table>
<thead>
<tr>
<th>Description:</th>
<th>Model #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial #:</td>
<td>Date of Manufacture:</td>
</tr>
<tr>
<td>Inspector:</td>
<td>Date Inspected:</td>
</tr>
<tr>
<td>Inspector Signature:</td>
<td></td>
</tr>
</tbody>
</table>

**FAIL: □ Initial_________**  **PASS: □ Initial_________**

REMOVE FROM SERVICE  RETURN TO SERVICE

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>DESCRIPTION –</th>
<th>FAIL</th>
<th>PASS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rope Fibers</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rope Splices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thimbles &amp; Eyes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rope Diameter</td>
<td></td>
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<tr>
<td></td>
<td>Labeling (tags)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rope Hockling</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**SNAPHOOK**

| Hook Body |      |      |          |
| Hook Nose |      |      |          |
| Gate (keeper) |      |      |          |
| Lock      |      |      |          |
| Eye       |      |      |          |
| Hinge     |      |      |          |
| Spring (inside gate) |      |      |          |
Wire Rope Lifelines
Inspection – Guidelines

Wire Rope
Grasp the lifeline with your hands and rotate the lanyard, checking both sides. Watch for unusual wearing patterns on the wire. Broken strands or wires will separate from the body of the lanyard. **To avoid hand injury always wear protective gloves when inspecting a wire rope lanyard.**

Note: Unlike rigging inspection standards, wire rope used for the purpose of fall protection is not allowed any broken wires or strands.

Visual and Touch Inspection

<table>
<thead>
<tr>
<th>✔ Pass</th>
<th>✗ Fail Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗ Cuts, frayed areas</td>
<td></td>
</tr>
<tr>
<td>✗ Worn or broken strands/wires</td>
<td></td>
</tr>
<tr>
<td>✗ Overall deterioration/Excessive outside wear</td>
<td></td>
</tr>
<tr>
<td>✗ Modifications by the user</td>
<td></td>
</tr>
<tr>
<td>✗ Rust/pitting/corrosion</td>
<td></td>
</tr>
<tr>
<td>✗ Crushed/jammed or flattened strands</td>
<td></td>
</tr>
<tr>
<td>✗ Bulges in rope</td>
<td></td>
</tr>
<tr>
<td>✗ Gaps between strands</td>
<td></td>
</tr>
<tr>
<td>✗ Heat damage, torch burns or electric arc strikes</td>
<td></td>
</tr>
<tr>
<td>✗ Kinks, bird-caging</td>
<td></td>
</tr>
<tr>
<td>✗ Core protrusion</td>
<td></td>
</tr>
<tr>
<td>✗ Do not use frozen rope</td>
<td></td>
</tr>
</tbody>
</table>

Fittings

| ✗ Wear or Cracks | |
| ✗ Corrosion or Pitting | |
| ✗ Deformation/Bends | |
| ✗ Mismatched Parts or Modifications | |
| ✗ Obvious Damage | |

Splices

| ✗ Worn or broken wires | |
| ✗ Crushed/jammed or flattened strands | |
| ✗ Corrosion | |
Wire Rope Lifelines
Inspection – Guidelines

Snap Hooks
Snap hooks should be of the self-locking type. Snap hooks are generally proof tested to 3,600 lbs. and have minimum tensile strength of 5,000 lbs.

Visual and Manual Inspection ✔ Pass ✗ Fail Criteria

Snap Hook
✗ Snap hooks should be of the self-locking type
✗ No hook or eye distortion (twists, bends or elongation)
✗ Latch/keeper should seat into the nose w/o binding
✗ Latch/keeper should not be distorted or obstructed
✗ Overall deterioration/Excessive wear
✗ Modifications by the user
✗ Rust/pitting/corrosion
✗ No cracks ✗ No missing parts
✗ No excessive wear ✗ No rough or sharp edges

Snap Hook Locking Mechanism
✗ Disengage locking mechanism and open keeper (keeper should open freely)
✗ Disengage locking mechanism and release (locking mechanism should return to engaged position).

Snap Hook Keeper
✗ Check keeper spring action by opening the keeper and releasing. (Keeper should return to closed position without hanging up it should not close slowly.)
✗ Push on keeper without engaging locking mechanism (keeper should not open)
✗ Check to see the keeper is seated firmly on the snap hook nose – there should be no side play. (lateral movement)
Inspection Checklist – Fall Protection Equipment

Wire Rope

<table>
<thead>
<tr>
<th>Description:</th>
<th>Model #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial #:</td>
<td>Date of Manufacture:</td>
</tr>
<tr>
<td>Inspector:</td>
<td>Date Inspected:</td>
</tr>
<tr>
<td>Inspector Signature:</td>
<td></td>
</tr>
</tbody>
</table>

**FAIL:** ❌ Initial_________  **PASS:** ✔ Initial_________

REMOVE FROM SERVICE  RETURN TO SERVICE

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>DESCRIPTION – WIRE ROPE</th>
<th>FAIL</th>
<th>PASS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Broken Wires</td>
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<td>✔</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rust/Corrosion/Pitting</td>
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<td></td>
<td>Deformations</td>
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<td></td>
<td>Heat Damage</td>
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<tr>
<td></td>
<td>Fittings/Thimbles</td>
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<td></td>
<td>Splices</td>
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<td>Labeling (tags)</td>
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<td></td>
<td>SNAPHOOK</td>
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<tr>
<td></td>
<td>Hook Body</td>
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<td></td>
<td>Hook Nose</td>
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<td>Gate (keeper)</td>
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<td>Lock</td>
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<td></td>
<td>Hinge</td>
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<tr>
<td></td>
<td>Spring (inside gate)</td>
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</tbody>
</table>
Fall Limiters - Inspection

Retractable Lanyard (Housing/Cover Field Removable)
Inspection – Guidelines

Self Retracting Lanyard - Complete w/ Webbing Lifeline

This type of SRL is usually 8’ to 10’ in length and the housing/cover is not permanently affixed to the unit.

When inspecting a self retracting lanyard be sure to pull out all the lifeline material. Lifeline material must be inspected end to end.

Test methods employed will be:
1.) Lanyard Retraction & Tension Test: tests the lifelines tension & ability to retract
2.) Braking Test: tests the braking mechanism is working and engaging.

Visual and Touch Inspection

✔ Pass
☒ Fail Criteria

☒ Check load impact indicator* for activation (if retractable is equipped with one)
☒ Loose fasteners
☒ Physical damage or missing parts
☒ Cracks or wear
☒ Check all connecting areas-no deformations allowed
☒ Corrosion
☒ Overall deterioration
☒ Modifications by user
☒ Bent, cracked, distorted, worn or malfunctioning parts
☒ Inspect lifeline for cuts, burns, corrosion, kinks, frays or worn areas
☒ Inspect lifeline sewing for loose, broken or damaged stitches
☒ Inspect lifeline for discoloration, brittleness, melted fibers, shiny/hard spots
☒ Inspect housing inside and out for deformations, cracks, physical damage
☒ ✔ Check for paint, dirt, grease or other materials (contaminants) Remove contaminants as per manufacturers instructions.

Note: The load impact indicator* can be a fold sewn into the webbing lifeline above the snap hook. A warning flag is included and will be exposed should the lifeline be subjected to fall arresting forces.

Material required to conduct tests.
1.) Anchor point (ie: tripod or similar device)
2.) Self Retracting Lifeline
Retractable Lanyard (Housing/Cover Field Removable) Inspection – Guidelines

Lanyard Retraction & Tension Test:
The purpose of the lanyard retraction & tension test is to ensure the lifeline is retracting smoothly into and out of the housing.

**STEPS**
1.) Mount self retracting lanyard on anchorage point
2.) Pull out 50% of the lifeline length
3.) Maintain a light tension on the lifeline
4.) Allow lifeline to retract back into housing. (Always maintain light tension when lifeline is retracting.)

Note: If lifeline does not pull out smoothly or sticks when retracting, pull all of the lifeline out of the housing and allow it to retract slowly under tension. Then repeat the above test.

**Result –** The lifeline should pull out freely and retract all the way back into the unit. Remove from service if device does not pass this test.

Braking Test
The purpose of the braking test is to ensure that the retractable’s braking mechanism is working and engaging.

**STEPS**
1.) Mount self retracting lifeline on anchorage point
2.) Grasp lifeline and apply a sharp steady pull downward until brakes engage
3.) Keep tension on lifeline until brakes are fully engaged
4.) Release tension
5.) Allow lifeline to retract into housing under light tension

**Result –** Brakes should engage. There should be no slippage of the lifeline while the brakes are engaged. Once tension is released, the brakes should disengage and the unit should return to retractable mode. Remove from service if device does not pass this test.
Retractable Lanyard (Housing/Cover Field Removable)  
Inspection – Guidelines

Snap Hooks
Snap hooks should be of the self-locking type. Snap hooks are generally proof tested to 3,600 lbs. and have minimum tensile strength of 5,000 lbs.

Visual and Manual Inspection

✔ Pass
☒ Fail Criteria

Snap Hook
☒ Snap hooks should be of the self-locking type
☒ No hook or eye distortion (twists, bends or elongation)
☒ Latch/keeper should seat into the nose w/o binding
☒ Latch/keeper should not be distorted or obstructed
☒ Overall deterioration/Excessive wear
☒ Modifications by the user
☒ Rust/pitting/corrosion
☒ No cracks
☒ No missing parts
☒ No excessive wear
☒ No rough or sharp edges

Snap Hook Locking Mechanism
☒ Disengage locking mechanism and open keeper (keeper should open freely)
☒ Disengage locking mechanism and release (locking mechanism should return to engaged position.

Snap Hook Keeper
☒ Check keeper spring action by opening the keeper and releasing. (Keeper should return to closed position without hanging up it should not close slowly.)
☒ Push on keeper without engaging locking mechanism (keeper should not open)
☒ Check to see the keeper is seated firmly on the snap hook nose – there should be no side play. (lateral movement)

Swivel Connectors
☒ Swivel connections must not be loose and be allowed to swivel freely as designed
☒ No physical damage, cracks, bends, deformations
Retractable Lanyard (Housing/Cover Field Removable)
Inspection – Guidelines

Tagging System
Every retractable should have a identification system, with details such as model, date of manufacture, name of manufacturer, limitations and warnings.

- Check tag for date of manufacture and remove from service if past adopted service life policy
- If tagging system is missing or not legible remove retractable from service.

Cleaning and Storage
Periodically clean the exterior of the device and wipe the lifeline using a damp cloth and mild detergent. Towel dry.

Store in a clean dry location, free of exposure to fumes, heat, direct ultra violet light, sunlight and corrosive elements.

The lifeline should be fully retracted into the unit when not in use. Failure to do so on some models may cause premature weakening of the mainspring resulting in a loss of lifeline retraction.

Inspection Checklist – Fall Protection Equipment
Retractable Lanyard (Housing/Cover Field Removable)

<table>
<thead>
<tr>
<th>Description:</th>
<th>Model #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial #:</td>
<td>Date of Manufacture:</td>
</tr>
<tr>
<td>Inspector:</td>
<td>Date Inspected:</td>
</tr>
</tbody>
</table>

 Inspector Signature:

- FAIL: ☐ Initial_________  ✔ PASS: ☐ Initial_________

REMOVE FROM SERVICE  RETURN TO SERVICE
<table>
<thead>
<tr>
<th>ITEM #</th>
<th>DESCRIPTION –</th>
<th>FAIL</th>
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</thead>
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<tr>
<td></td>
<td>Webbing</td>
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<td>Stitching</td>
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<td>Labeling (tags)</td>
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<td>Deformation</td>
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<td>Housing</td>
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<td><strong>SNAPHOOK</strong></td>
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<td>If applicable see carabiners</td>
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<td></td>
<td>Swivel Connectors</td>
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<td>Spring (inside gate)</td>
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<td><strong>Tests</strong></td>
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<td>Braking Test</td>
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</tbody>
</table>

![Carabiner, Self-locking](image1.png)

![Carabiner Manual-locking](image2.png)
## Retractable Lanyard (Housing/Cover Field Removable)

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>DESCRIPTION</th>
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<tr>
<td></td>
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<td>Carabiner Nose</td>
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<td>Spring (inside gate)</td>
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<td></td>
<td>Manual Lock</td>
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</tbody>
</table>

## Retractable Lanyard (Housing/Cover Non Field Removable)

### Inspection – Guidelines

#### Self Retracting Lanyard – Webbing or Wire Rope Lifeline
This type of SRL is usually 20’ in length or greater. The housing/cover will be non field removable and will require special tools to open. **Do not open unit unless you have been authorized and trained by the manufacturer.**

Note: Manufacturers may require that the unit be sent in for an annual inspection – check owners manual for details.

When inspecting a self retracting lanyard be sure to pull out **all** the lifeline material. Lifeline material must be inspected end to end.

Test methods employed will be:
1. Lanyard Retraction & Tension Test: tests the lifelines tension & ability to retract
2. Braking Test: tests the braking mechanism is working and engaging.

Visual and Touch Inspection  
✔ Pass  
✘ Fail Criteria

### Housing/Cover – Inspect For
✘ Ensure casing bolts are tight  
✘ Loose fasteners  
✘ Missing parts  
✘ Cracks or wear  
✘ Check all connecting areas-no deformations allowed  
✘ Corrosion
Load Impact Indicator

- Check load impact indicator* for activation (if retractable is equipped with one)

Note: The load impact indicator* may be located in the lanyard above the snap hook. A label will be exposed when subjected to fall arresting forces. The load impact indicator may also be located on the snap hook or the unit itself. Check manufacturers operation and installation instructions for exact location.

Retractable Lanyard (Housing/Cover Non Field Removable)

Inspection – Guidelines

Inspection of Webbing for Retractable Lanyard

**Webbing**

Grasp the webbing with your hands and bend the webbing, checking both sides. This creates surface tension making damaged fibers or cuts easier to see. Webbing damage may not show up through a sight (visual) inspection only – manual (touch) the lanyard is equally important.

Visual and Touch Inspection

✔ Pass

✖ Fail Criteria

- Cuts, nicks or tears
- Broken fibers/cracks
- Overall deterioration
- Modifications by user
- Fraying/Abrasions  Allowable 10%
- ✔ Discoloration of material  Dependant on cause of discoloration
- Hard or shiny spots  Indicates heat damage
- Change in core size  Indicates possible fall
- ✔ Mildew  Clean lanyard
- ✔ Undue Stretching  Indicates possible fall
- Burnt, charred or melted fibers  Indicates heat damage
- ✔ Material marked w/permanent marker  Check w/manufacturer
- Excessive hardness or brittleness  Indicates heat or uv damage
- Knots in lanyard
Retractable Lanyard (Housing/Cover Non Field Removable)
Inspection – Guidelines

Wire Rope
Grasp the steel lanyard with your hands and rotate the lanyard, checking both sides. Watch for unusual wearing patterns on the wire. Broken strands or wires will separate from the body of the lanyard. To avoid hand injury always wear protective gloves when inspecting a wire rope lanyard.

Note: Unlike rigging inspection standards, wire rope used for the purpose of fall protection is not allowed any broken wires or strands.

Visual and Touch Inspection  ✔ Pass
❌ Fail Criteria
❌ Cuts, frayed areas
❌ Worn or broken strands/wires
❌ Overall deterioration/Excessive outside wear
❌ Modifications by the user
❌ Rust/pitting/corrosion
❌ Crushed/jammed or flattened strands
❌ Bulges in rope
❌ Gaps between strands
❌ Heat damage, torch burns or electric arc strikes
❌ Kinks, bird-caging
❌ Core protrusion
❌ Do not use frozen rope

Fittings
❌ Wear or Cracks
❌ Corrosion or Pitting
❌ Deformation/Bends
❌ Mismatched Parts or Modifications
❌ Obvious Damage

Splices
❌ Worn or broken wires
❌ Crushed/jammed or flattened strands
❌ Corrosion

Material required to conduct tests.
1.) Anchor point (ie: tripod or similar device)
2.) Retractable Lifeline
Retractable Lanyard (Housing/Cover Non Field Removable) Inspection – Guidelines

**Lanyard Retraction & Tension Test:**

Do not pull lifeline out of the housing or let it retract while the unit is laying flat. Always inspect and operate the unit in a mounted position.

The purpose of the lanyard retraction & tension test is to ensure the lifeline is retracting smoothly into and out of the housing.

**STEPS**
1.) Mount retractable on anchorage point
2.) Pull out 50% of the lifeline length
3.) Maintain a light tension on the lifeline (approx. 1 lb. (0.45kg)
4.) Allow lifeline to retract back into housing. (Always maintain light tension when lifeline is retracting.)
5.) Repeat Steps 2 to 4 this time pulling out 100% of lifeline length

**Do Not** allow lifeline to retract into housing uncontrolled – this could result in injury and damage to the unit.

Note: If lifeline does not pull out smoothly or sticks when retracting, pull the entire lifeline out of the housing and allow it to retract slowly under tension. Then repeat the above test.

**Result** – The lifeline should pull out freely and retract all the way back into the unit. Remove from service if device does not pass this test.

**Braking Test**

The purpose of the braking test is to ensure that the retractable’s braking mechanism is working and engaging.

**STEPS**
1.) Mount retractable on anchorage point
2.) Grasp lifeline and apply a sharp steady pull downward until brakes engage
3.) Keep tension on lifeline until brakes are fully engaged
4.) Release tension
5.) Allow lifeline to retract into housing under light tension

**Result** – Brakes should engage. There should be no slippage of the lifeline while the brakes are engaged. Once tension is released, the brakes should disengage and the unit should return to retractable mode. Remove from service if device does not pass this test.
Retractable Lanyard (Housing/Cover Non Field Removable)
Inspection – Guidelines

Snap Hooks
Snap hooks should be of the self-locking type. Snap hooks are generally proof tested to 3,600 lbs. and have minimum tensile strength of 5,000 lbs.

Visual and Manual Inspection
✔ Pass
☒ Fail Criteria

Snap Hook
☒ Snap hooks should be of the self-locking type
☒ No hook or eye distortion (twists, bends or elongation)
☒ Latch/keeper should seat into the nose w/o binding
☒ Latch/keeper should not be distorted or obstructed
☒ Overall deterioration/Excessive wear
☒ Modifications by the user
☒ Rust/pitting/corrosion
☒ No cracks
☒ No excessive wear
☒ No missing parts
☒ No rough or sharp edges

Snap Hook Locking Mechanism
☒ Disengage locking mechanism and open keeper (keeper should open freely)
☒ Disengage locking mechanism and release (locking mechanism should return to engaged position.

Snap Hook Keeper
☒ Check keeper spring action by opening the keeper and releasing. (Keeper should return to closed position without hanging up it should not close slowly.)
☒ Push on keeper without engaging locking mechanism (keeper should not open)
☒ Check to see the keeper is seated firmly on the snap hook nose – there should be no side play. (lateral movement)

Swivel Connectors
☒ Swivel connections must not be loose and be allowed to swivel freely as designed
☒ No physical damage, cracks, bends, deformations
# Retractable Lanyard (Housing/Cover Non Field Removable) Inspection – Guidelines

## Tagging System

Every retractable should have an identification system, with details such as model, date of manufacture, name of manufacturer, limitations and warnings.

- Check tag for date of manufacture and remove from service if past adopted service life policy
- If tagging system is missing or not legible remove retractable from service.

## Cleaning And Storage

Periodically clean the exterior of the device and wipe the lifeline using a damp cloth and mild detergent. Towel dry.

- Store in a clean dry location, free of exposure to fumes, heat, direct ultra violet light, sunlight and corrosive elements.

- The lifeline should be fully retracted into the unit when not in use. Failure to do so on some models may cause premature weakening of the mainspring resulting in a loss of lifeline retraction.
Inspection Checklist – Fall Protection Equipment

Retractable Lanyard (Housing/Cover Non Field Removable)

<table>
<thead>
<tr>
<th>Description:</th>
<th>Model #:</th>
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</thead>
<tbody>
<tr>
<td>Serial #:</td>
<td>Date of Manufacture:</td>
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<td>Inspector:</td>
<td>Date Inspected:</td>
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<td>Inspector Signature:</td>
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</table>

✗FAIL: ☐ Initial_________ ✓PASS: ☐ Initial_________

REMOVE FROM SERVICE    RETURN TO SERVICE

REPAIR

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<td>Deformation</td>
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<td>Labeling (tags)</td>
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<td>SNAPHOOK</td>
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<td>If applicable see carabiners</td>
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<td>Swivel Connectors</td>
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<td>Hook Nose</td>
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<td>Gate (keeper)</td>
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<tr>
<td>Spring (inside gate)</td>
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<td>Lifeline – Web</td>
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<td>Stitching</td>
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## Retractable Lanyard (Housing/Cover Non Field Removable)

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<td>Rust/Corrosion/Pitting</td>
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<td>Splices</td>
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### Tests
- Retraction & Tension
- Braking Test

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## Retractable Lanyard (Housing/Cover Non Field Removable)

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<td>Gate (hinged open)</td>
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<td>Spring (inside gate)</td>
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<td></td>
<td>Manual Lock</td>
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</tbody>
</table>

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![Carabiner Self-locking](image1)

![Carabiner Manual-locking](image2)
Self Retracting Lifeline Complete w/ Recovery Inspection – Guidelines

<table>
<thead>
<tr>
<th>Housing/Cover – Inspect For</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔ Ensure casing bolts are tight</td>
</tr>
<tr>
<td>✔ Loose fasteners</td>
</tr>
<tr>
<td>✔ Missing parts</td>
</tr>
<tr>
<td>✔ Cracks or wear</td>
</tr>
<tr>
<td>✔ Check all connecting areas-no deformations allowed</td>
</tr>
<tr>
<td>✔ Corrosion</td>
</tr>
<tr>
<td>✔ Overall deterioration</td>
</tr>
<tr>
<td>✔ Modifications by user</td>
</tr>
<tr>
<td>✗ Physical damage</td>
</tr>
<tr>
<td>✗ Bent, cracked, distorted, worn or malfunctioning parts</td>
</tr>
</tbody>
</table>

Load Impact Indicator

✔ Check load impact indicator* for activation (if retractable is equipped with one)

Note: The load impact indicator* may be located in the lanyard above the snap hook. A label will be exposed when subjected to fall arresting forces. The load impact indicator may also be located on the snap hook or the unit itself. Check manufacturers operation and installation instructions for exact location.
Self Retracting Lifeline Complete w/ Recovery
Inspection – Guidelines

Wire Rope
Grasp the steel lanyard with your hands and rotate the lanyard, checking both sides. Watch for unusual wearing patterns on the wire. Broken strands or wires will separate from the body of the lanyard. **To avoid hand injury always wear protective gloves when inspecting a wire rope lanyard.**

Note: Unlike rigging inspection standards, wire rope used for the purpose of fall protection is not allowed any broken wires or strands.

Visual and Touch Inspection

✔ Pass
✖ Fail Criteria

✖ Cuts, frayed areas
✖ Worn or broken strands/wires
✖ Overall deterioration/Excessive outside wear
✖ Modifications by the user
✖ Rust/pitting/corrosion
✖ Crushed/jammed or flattened strands
✖ Bulges in rope
✖ Gaps between strands
✖ Heat damage, torch burns or electric arc strikes
✖ Kinks, bird-caging
✖ Core protrusion
✖ Do not use frozen rope

Fittings

✖ Wear or Cracks
✖ Corrosion or Pitting
✖ Deformation/Bends
✖ Mismatched Parts or Modifications
✖ Obvious Damage

Splices

✖ Worn or broken wires
✖ Crushed/jammed or flattened strands
✖ Corrosion

Material required to conduct tests.

1.) Anchor point (ie: tripod or similar device)
2.) Retractable Lifeline
Self Retracting Lifeline Complete w/ Recovery Inspection – Guidelines

**Lanyard Retraction & Tension Test:**

Do not pull lifeline out of the housing or let it retract while the unit is laying flat. Always inspect and operate the unit in a mounted position.

The purpose of the lanyard retraction & tension test is to ensure the lifeline is retracting smoothly into and out of the housing.

**STEPS**

1.) Mount retractable on anchorage point
2.) Pull out 50% of the lifeline length
3.) Maintain a light tension on the lifeline (approx. 1 lb. (0.45kg))
4.) Allow lifeline to retract back into housing. (Always maintain light tension when lifeline is retracting.)
5.) Repeat Steps 2 to 4 this time pulling out 100% of lifeline length

**Do Not** allow lifeline to retract into housing uncontrolled – this could result in injury and damage to the unit.

Note: If lifeline does not pull out smoothly or sticks when retracting, pull all of the lifeline out of the housing and allow it to retract slowly under tension. Then repeat the above test.

**Result –** The lifeline should pull out freely and retract all the way back into the unit. Remove from service if device does not pass this test.

**Braking Test**

The purpose of the braking test is to ensure that the retractable’s braking mechanism is working and engaging.

**STEPS**

1.) Mount retractable on anchorage point
2.) Grasp lifeline and apply a sharp steady pull downward until brakes engage
3.) Keep tension on lifeline until brakes are fully engaged
4.) Release tension
5.) Allow lifeline to retract into housing under light tension

**Result –** Brakes should engage. There should be no slippage of the lifeline while the brakes are engaged. Once tension is released, the brakes should disengage and the unit should return to retractable mode. Remove from service if device does not pass this test.
Self Retracting Lifeline Complete w/ Recovery Inspection – Guidelines

Retrieval Mode Test:
The purpose of the retrieval mode test is to ensure that the retractable’s retrieval mechanism is working and engaging.

Note: some units when in the lowering position will require a minimum of 75lbs.

STEPS
1.) Mount retractable on anchorage point
2.) Grasp lifeline & pull out several feet of lifeline
3.) Hold line in position, maintaining light tension on the line
4.) Without engaging retrieval mode attempt to retrieve line
   Result – line should not retrieve unless unit has been activated.
5.) Now engage retrieval mode
6.) Keeping light tension on the line – use the winch handle to retrieve the line into the device.
   Result – Brakes should engage. There should be no slippage of the lifeline while the brakes are engaged. Once tension is released, the brakes should disengage and the unit should return to retractable mode. Remove from service if device does not pass this test.

Snap Hooks
Snap hooks should be of the self-locking type. Snap hooks are generally proof tested to 3,600 lbs. and have minimum tensile strength of 5,000lbs.

Visual and Manual Inspection

✔ Pass
✖ Fail Criteria

Snap Hook
✖ Snap hooks should be of the self-locking type
✖ No hook or eye distortion (twists, bends or elongation)
✖ Latch/keeper should seat into the nose w/o binding
✖ Latch/keeper should not be distorted or obstructed
✖ Overall deterioration/Excessive wear
✖ Modifications by the user
✖ Rust/pitting/corrosion
✖ No cracks
✖ No excessive wear
✖ No missing parts
✖ No rough or sharp edges
**Self Retracting Lifeline Complete w/ Recovery Inspection – Guidelines**

**Snap Hook Locking Mechanism**
- Disengage locking mechanism and open keeper (keeper should open freely)
- Disengage locking mechanism and release (locking mechanism should return to engaged position).

**Snap Hook Keeper**
- Check keeper spring action by opening the keeper and releasing. (Keeper should return to closed position without hanging up it should not close slowly.)
- Push on keeper without engaging locking mechanism (keeper should not open)
- Check to see the keeper is seated firmly on the snap hook nose – there should be no side play. (lateral movement)

**Swivel Connectors**
- Swivel connections must not be loose and be allowed to swivel freely as designed
- No physical damage, cracks, bends, deformations

**Tagging System**
Every retractable should have a identification system, with details such as model, date of manufacture, name of manufacturer, limitations and warnings.
- Check tag for date of manufacture and remove from service if past adopted service life policy
- If tagging system is missing or not legible remove retractable from service.

**Cleaning and Storage**
Periodically clean the exterior of the device and wipe the lifeline using a damp cloth and mild detergent. Towel dry.

Store in a clean dry location, free of exposure to fumes, heat, direct ultra violet light, sunlight and corrosive elements.

The lifeline should be fully retracted into the unit when not in use. Failure to do so on some models may cause premature weakening of the mainspring resulting in a loss of lifeline retraction.
# Inspection Checklist – Fall Protection Equipment

## Self Retracting Lifeline Complete w/ Recovery

<table>
<thead>
<tr>
<th>Item</th>
<th>Description – General</th>
<th>Fail</th>
<th>Pass</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Load Impact Indicator</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Housing cover</td>
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<tr>
<td></td>
<td>Deformation</td>
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<tr>
<td></td>
<td>Labeling (tags)</td>
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</tr>
<tr>
<td>SNAPHOOK</td>
<td>(if applicable see Carabiners)</td>
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<tr>
<td></td>
<td>Swivel Connectors</td>
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<tr>
<td></td>
<td>Hook Body</td>
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<tr>
<td></td>
<td>Hook Nose</td>
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<tr>
<td></td>
<td>Gate (keeper)</td>
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<tr>
<td></td>
<td>Lock</td>
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<td>Eye</td>
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<td></td>
<td>Hinge</td>
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<tr>
<td></td>
<td>Spring (inside gate)</td>
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<tr>
<td>Lifeline – Web</td>
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</tr>
<tr>
<td></td>
<td>Webbing</td>
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<tr>
<td></td>
<td>Stitching</td>
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*FAIL: ❌ Initial_________  ✔PASS: ❌ Initial_________
REMOVED FROM SERVICE  RETURN TO SERVICE  REPAIR
### Self Retracting Lifeline c/w Recovery

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>DESCRIPTION – LIFELINE – WIRE ROPE</th>
<th>FAIL</th>
<th>PASS</th>
<th>COMMENTS</th>
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<tbody>
<tr>
<td></td>
<td>Broken Wires</td>
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<tr>
<td></td>
<td>Rust/Corrosion/Pitting</td>
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<td></td>
<td>Deformations</td>
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<td>Heat Damage</td>
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<td>Fittings/Thimbles</td>
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<tr>
<td></td>
<td>Splices</td>
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<tr>
<td><strong>Tests</strong></td>
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<td>Retraction &amp; Tension Test</td>
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<td>Retrieval Mode Test</td>
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![Carabiner Diagram](image1.png)

### Self Retracting Lifeline Complete w/ Recovery

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>DESCRIPTION CARABINER</th>
<th>FAIL</th>
<th>PASS</th>
<th>COMMENTS</th>
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<tbody>
<tr>
<td></td>
<td>Carabiner Body</td>
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<td></td>
<td>Carabiner Nose</td>
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<td></td>
<td>Gate (hinged open)</td>
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<tr>
<td></td>
<td>Lock</td>
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<td>Gate</td>
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<td></td>
<td>Hinge</td>
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<tr>
<td></td>
<td>Spring (inside gate)</td>
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<tr>
<td></td>
<td>Manual Lock</td>
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</table>

![Carabiner Diagram](image2.png)