



**IPS** ★

Industrial Performance Services

**ITCS** ★

Industrial Tubular Catalyst Services

## SELF-RETRACTING LIFELINE WITH RECOVERY (3-IN-1) PROCEDURE

# Self-Retracting Lifeline with Recovery (3-in-1) Procedure

January 2023

## Self-Retracting Lifeline with Recovery

This type of SRL (Self-Retracting Lifeline) will have the ability of retrieval via a winching mechanism. The housing/cover will be non-field removable and 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 owner’s 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
3. **Retrieval Mode:** tests the units retrieval mechanism

**Visual and Touch Inspection**      ✓ **Pass**

**X Fail Criteria:**

**Housing/Cover — Inspect for:**

- Ensure casing bolts are tight
- Loose fasteners
- Missing parts
- X Cracks or wear
- Check all connecting areas-no deformations allowed
- Corrosion
- Overall deterioration
- Modifications by user
- Physical damage
- Bent, cracked, distorted, worn or malfunctioning parts

**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 manufacturer’s operation and installation instructions for exact location.**

## 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 injuries 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 X Fail Criteria

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

### Fittings

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

### Splices

- X      Worn or broken wires
- X      Crushed/jammed or flattened strands
- X      Corrosion

### Material required for conducting tests.

1. Anchor point (i.e.: tripod or similar device)
2. Retractable Lifeline

## Lanyard Retraction & Tension Test

**Do not** pull lifeline out of the housing or let it retract while the unit is lying 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 breaking 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.**

## 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
5. Result –line should not retrieve unless unit has been activated.
6. Now engage retrieval mode
7. 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**

**X Fail Criteria**

### Snap Hook

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

### Snap Hook Locking Mechanism

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

### Snap Hook Keeper

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

### Swivel Connectors

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



## Tagging System

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

- X Check tag for date of manufacture and remove from service if past adopted service life policy
- X 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 ultraviolet 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.

**Description:** \_\_\_\_\_

**Model #:** \_\_\_\_\_

**Serial #:** \_\_\_\_\_

**Date of Manufacture:** \_\_\_\_\_

**Inspector:** \_\_\_\_\_

**Date Inspected:** \_\_\_\_\_

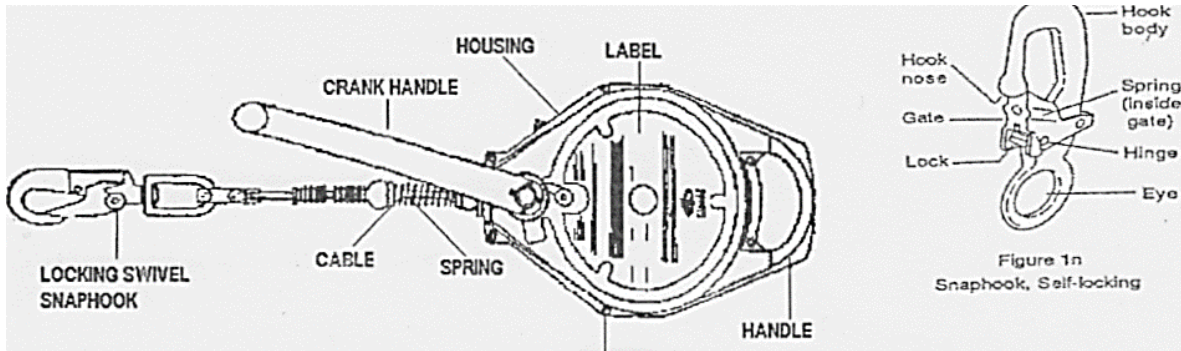
**X Fail:**  **Initial:** \_\_\_\_\_

**✓ Pass:**  **Initial:** \_\_\_\_\_

**REMOVE FROM SERVICE**

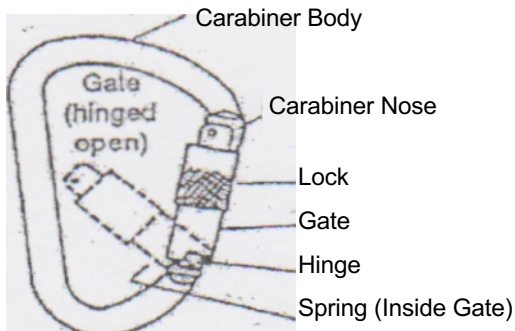
**RETURN TO SERVICE**

**REPAIR**

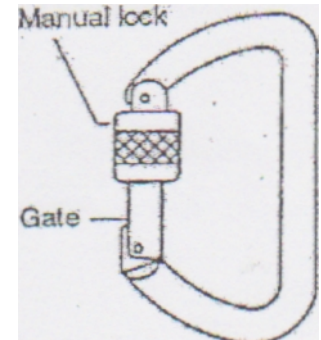


ITEM #	DESCRIPTION — GENERAL	FAIL x	PASS ✓	COMMENTS
	Load Impact Indicator			
	Housing cover			
	Deformation			
	Labelling (tags)			
	SNAPHOOK			(if applicable see Carabiners)
	Swivel Connectors			
	Hook Body			
	Hook Nose			
	Gate (keeper)			
	Lock			
	Eye			
	Hinge			
	Spring (inside gate)			
	Lifeline — Web			
	Webbing			
	Stitching			

ITEM #	LIFELINE – WIRE ROPE	FAIL X	PASS ✓	COMMENTS
	Broken Wires			
	Rust/Corrosion/Pitting			
	Deformations			
	Heat Damage			
	Fittings/Thimbles			
	Splices			
	<b>TESTS</b>			
	Retraction & Tension Test			
	Braking Test			
	Retrieval Mode Test			



**Carabiner Self-Locking**



**Carabiner Manual Locking**

**Self-Retracting Lifeline c/w recovery**

ITEM #	CARABINER	FAIL X	PASS ✓	COMMENTS
	Carabiner Body			
	Carabiner Nose			
	Gate (hinged open)			
	Lock			
	Gate			
	Hinge			
	Spring (inside gate)			
	Manual Lock			

# Revision History

Rev	Rev Date	Rev By	Approved By	Description
1.0	1/26/2009	Shayne Torrans	Shayne Torrans	Initial Procedure
1.1	11/29/2022	Shayne Torrans	Shayne Torrans	Format Revision

**Approvals:**

Procedure Owner

\_\_\_\_\_

Print Name

Date

\_\_\_\_\_

Signature

# Competency Assessment

No.	Questionnaire	C/NYC
Q1		
A1		
Q2		
A2		
Q3		
A3		
Q4		
A4		
Q5		
A5		

Enclosed Attachments	
Risk Assessment	<input checked="" type="checkbox"/>
Environmental Aspect and Impact	<input checked="" type="checkbox"/>
Training and Competency	<input checked="" type="checkbox"/>
Measure and Evaluation Tools	<input checked="" type="checkbox"/>

# Competency Checklist

To be filled out by Trainer and signed by Employee, Assessor and Supervisor before being returned to the HSEQT Manager for recording purposes.

Procedure	Competency	Date	Competent YES / NO	Employee Signature

(Please tick appropriate box)

This employee is competent in performing the job.


This employee has not attained the competency level.

\*

\* *If the employee has not attained all competency levels, the General Manager must assess the action to be taken, provide an extension of training or alternative action as listed below.*

Alternate action to be taken: \_\_\_\_\_

Signed By	Employee:	_____	Date:	_____
	Trainer:	_____	Date:	_____
	Assessor:	_____	Date:	_____
	Regional Manager:	_____	Date:	_____

# Environmental Aspects and Impacts

## Identified Environmental Aspects and Impacts

The following table is a summary of the likely environmental aspects and impacts that may be identified during site inspections. The significance of each impact needs to be assessed using the Risk Assessment Model.

Activity	Aspect	Impact
<b>Purchasing &amp; Administrative Work</b>	Consumption of goods	Conservation of natural resources
	Consumption of energy (eg. Electrical equipment and facilities)	Release of greenhouse gases and atmospheric pollution; Consumption of natural resources; Habitat loss
	Generation of waste (eg. Paper)	Consumption of space for waste disposal; Habitat loss
<b>Climate Control</b>	Consumption of energy	Release of greenhouse gases and atmospheric pollution; Consumption of natural resources; Habitat loss
	Generation of noise	Disturbance to community; Habitat loss
<b>Cleaning of – offices / vehicles</b>	Storage, use and release of chemicals	Contamination of air, water or soil; Risk to human health
<b>Transport (Fleet vehicles / staff travel)</b>	Consumption of energy	Release of greenhouse gases and atmospheric pollution; Consumption of natural resources; Loss of habitat at all stages of generation; Light pollution
	Consumption of goods (eg. Oil)	Consumption of natural resources; Generation of waste; Habitat loss; Biodiversity impacts
	Generation of waste (eg. Oil)	Consumption of space for waste disposal; Potential contamination of water or soil; Habitat loss
	Exhaust emission	Release of greenhouse gases and atmospheric pollution
	Use of dangerous goods (eg. Batteries)	Potential contamination of air, water or soil; Risk to human health
	Generation of noise	Disturbance to community; Habitat degradation
<b>Operations</b>		

Sample only.  
To be filled in

# Risk Assessment



Risk Assessment // insert name here					
Step No: Logical sequence	Sequence of Basic Job Steps documented in the Procedure, Work Instruction and project plans. Break down Job into steps.  Each step should be logical and accomplish a major task.	Potential Safety & Environmental Hazards/Impacts at the site of the Job  Identify the actual and potential health and safety hazards and the environmental impacts associated with each step of the job.	Risk Rating  Refer to the risk matrix or HSEQ.PRO.Risk Mgt	Recommended Corrective Action or Procedure  <i>Determine the corrective actions necessary to reduce the risk to as low as reasonably practical (ALARP) refer to HSEQ.PRO.Risk Mgt. The risk must be reduced or controlled to ALARP before work commences.</i>  Document who is responsible for implementing the controls to manage each hazard identified.	Risk Rating refer to the risk matrix or HSEQ.PRO.Risk Mgt
1.					
2.					
3.					
4.					
5.					



# Audit



<b>Process:</b> insert// <b>Procedure:</b> Insert //		Date:		Audited by:	
		Location of Audit:		Area Mgr/Supervisor:	
Item	Question	Evidence Sited	Comments		Conformance Score 0,3,5
1.					
2.					
3.					
4.					
5.					
6.					
7.					
AUDITOR'S SIGNATURE:		CONFORMANCE SCORE: / 25		0 – Non-Conformance	
SAFETY REP'S SIGNATURE:		CONFORMANCE %:		3 – Continuous Improvement Opportunity	
				5 – Total Conformance	