

Rescue lift

- Threefold purchase, 6-part tackle, built of low friction rings
- 4 m lifting height
- Can be fixed to shroud and/or spinnaker halyard
- 10-fold safety margin* for rescue of persons from the water
- Lift capacity up to 1000 kg working load* can be realised by 6 x 4 mm dyneema
- Very low weight and small package size:
≤ 800 g including safety carabiner and snap shackle
30 x 20 x 5 cm, suits into air luggage



Rescue lift use and construction

with threefold purchase built of low friction rings and dyneema line*, safety carabiner and snap shackle

The rescue lift is attached to fix point on the starboard shroud. A Threefold purchase is built of six parts tackle with 4 mm dyneema line and low friction rings. It allows to rescue a person outboard and safe lifting of 200 kg* and up to 1000 kg* from the water above the yachts life lines or guard rail on board.

The fix point is constructed with a 60 cm open sling and a [Franz-Bachmann-Bandklemmknoten](#) (Bachmann band clamp hitch) at the starboard shroud, which is installed before leaving the port.

At its top (**1. UP ↑**) the rescue lift has a safety carabiner (fixed with a short soft shackle) and an additional long soft shackle. Either one can be hooked to the fix point and/or a spinnaker halyard. If used with the halyard, then the other shackle can be used as a horizontal fix to the shroud, which can move up and down.

The threefold purchase has a length of 4 m (6-part tackle x 4 m = 24 m of 4 mm dyneema line). On sailing yachts at least 3 m are needed for securely lifting a person from the waterline above the yachts life lines or guard rail. The additional 1 m provides for some horizontal and vertical flexibility of the rescue lift in strong wave motion. The rescue of a person from the water with 200 kg leaves a 10-fold safety margin*. A working load of up to 1000 kg* can be realised.

At its lower end, a simple 20 cm loop of 6 mm dyneema and a snap shackle with a bright grip line are used to secure a person over board (**2. ATTACH**). The snap shackle can be fixed to the lift strap of a life jacket (in the water) or to an extended [personal rescue loop](#), which can be pulled onto the deck. If the person over board wears a life belt with a life line/lanyard, its shackle can be hooked into the dyneema loop. Any additional length of a line attached to the lower end of the rescue lift will require to fix its top end to a halyard and to hoist it, before starting to pull the purchase! The additional height is required to still securely lift the person above the yachts life line or guard rail.

About 15 m of coiled 4 mm dyneema line extend from the top low fiction ring. This line can be pulled (**3. PULL ←**) by hand with sailing gloves and/or led to a winch in the cockpit. Its end can be secured on the winch by multiple coiling of the thin dyneema line around the winch drum. Pull at moderate speed in order to limit the heat from friction at the dyneema line. The yellow purchase line has loop splices on both ends, fixed to the top of the rescue lift by a very small soft shackle and for improved grip or for extension at the pull end.

* Very careful work with the dyneema line is required to assure the strength and safety of the dyneema loops and splices. Use as life saving equipment must rely on the professional assessment of the materials used, the individual work process and its result as well as regular check of the equipment before use. Therefore, this instruction is subject to an absolute disclaimer of warranty and waiver of liability (see also [CC BY 4.0 license](#)).

Rescue lift required parts

Material:

- 40 m dyneema hollow braided line, yellow, 4 mm diameter, ≥ 10 kN breaking load*, incl. 1 m for small soft shackle for fixing the end of the purchase line to the top
- 6 m dyneema hollow braided line, red, 6 mm diameter, ≥ 40 kN breaking load, ≥ 1 t working load*
- 4x small low friction rings 10x7 mm
2x large low friction rings 14x10 mm
- Snap shackle with swivel eye and strong welded ring for opening, ≥ 20 kN breaking load, stainless
- Safety carabiner with 25 mm wide opening, ≥ 20 kN breaking load, e.g. Tango, Key Lock, ...
- Soft shackle, ≥ 20 kN beraking load (or DIY from additional 1.5 m dyneema 6 mm)
- Nylon or polyester open sling , 60 cm, ≥ 20 kN breaking load, 16 mm band width
- 30 cm 8 mm grip line for snap shackle opening, bright colour, e.g. Liros Reflecta
- Whipping twine (or strong dental floss)
- Short pieces of duct tape and adhesive reflective tape

Tools:

- Sharp cutter
- Cutting board (strong wood board works well)
- 4 m measure
- Splicing fids for 4 mm, 6 mm and 8 mm line diameter
- Needle
- Water permanent marker for indicating the instruction key words "1. UP ↑", "2. ATTACH", "3. PULL ←" at either end of the rescue lift

Rescue lift weight and cost estimate

for threefold purchase built of low friction rings and dyneema line, safety carabiner and snap shackle

Components	weight estimate	material est. cost
Threefold purchase (tackle): 40 m 4 mm dyneema, ≥ 10 kN breaking load,	260 g	57 €
Rescue lift: 6 m 6 mm dyneema, ≥ 40 kN breaking load, ≥ 1 t working load	130 g	26 €
Low friction rings, 4x 10x7 mm, 2x 14x10 mm	60 g	54 €
Snap shackle with swivel eye, ≥ 20 kN breaking load	130 g	14 €
Safety carabiner with wide opening, ≥ 20 kN breaking load	130 g	17 €
Soft shackle, 2 t braking load (or DIY from additional 1.5 m 6 mm dyneema)	30 g	15 € (7 €)
Nylon or polyester open sling , 60 cm, ≥ 20 kN breaking load	50 g	4 €
Short grip line and pieces of duct tape and reflective tape	5 g	4 €
Complete rescue lift incl. safety carabiner, snap shackle, threefold purchase	800 g	200 €

Rescue lift, completely coiled



Rescue lift, coiled and packed

30 x 20 x 5 cm



FLASCHENZUG - KRAN
5-fach, Dyneema 4 mm ϕ
Arbeitslast 1250 daN = 1,25t
TACKLE - CRIST
Dyneema 4 mm ϕ
load 1250 daN = 1,25t

Permanent fix point at starboard shroud by 60 cm sling and [Franz Bachmann Bandklemmknoten](#)



The hitch can best be tested with a hammock



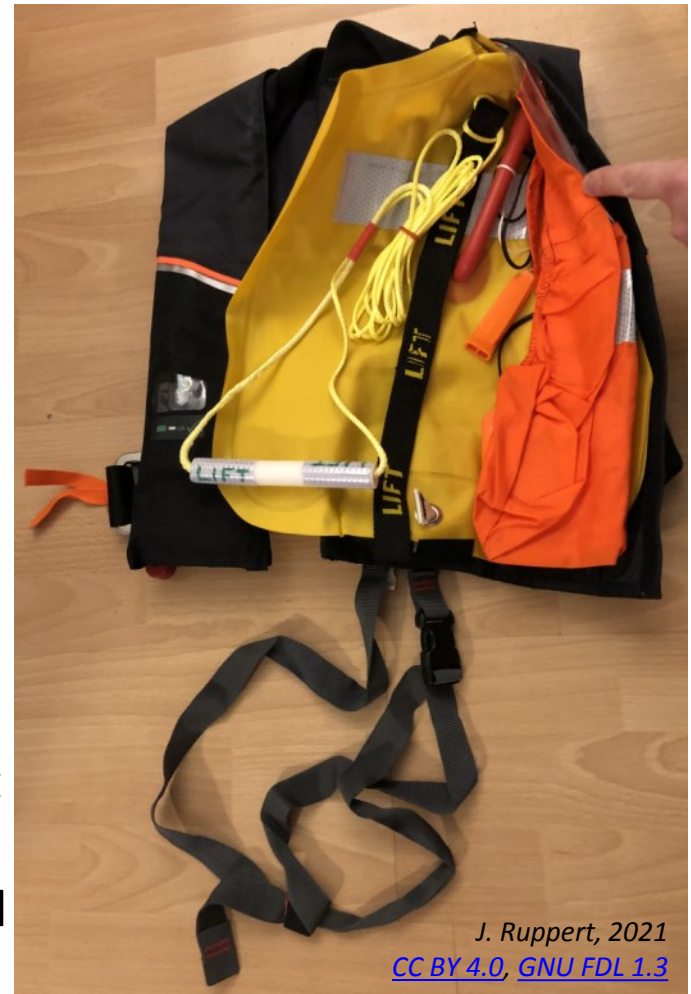
Personal rescue loop

A personal rescue loop is commercially available from <http://moblifesavers.com/>. It is approved for several life jackets.

The website also provides further detailed instruction on:

1. How to fit it to the life belt or lift strap of a life jacket
2. How to use it for the rescue of a person over board

A Do-It-Yourself solution for the [personal rescue loop](#) allows adding a floating lift handle with reflective tape. It is fitted into a life jacket and extends its lift strap by 1.6 m. A person over board can then be secured from on board of a sailing yacht.



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