

TRAINING BULLETIN NUMBER 80  
NYLON UTILITY STRAP

I. INTRODUCTION AND APPLICATIONS

The Los Angeles City Fire Department conducted a six month field evaluation of a 12 foot long strap made of one-inch nylon webbing. Nylon is a strong, light weight, synthetic material which is heat resistant and impervious to most chemicals. The one inch webbing has a tensile strength of 4,000 pounds.

During the evaluation period, this utility strap was tested in several applications and resulted in three approved uses:

- Hose Harness
- Ladder Strap
- Search and Rescue Tether

Knots

There are three knots that must be mastered to apply the strap to these uses, they are the "Overhead Follow-Through" (Water Knot), "Ring-Hitch" (Larks Foot), and the "Half-Hitch."

1. "Overhand Follow Through" (Water Knot) - Illustration #1. This shows the proper method of tying:

ILLUSTRATION #1  
("OVERHAND FOLLOW-THROUGH" KNOT)

NO PICTURE

2. "Ring-Hitch" (Larks Foot) - Illustration #2.  
To start, take a bite with the strap, pull the strap through the bite; this forms a loop which binds on itself.
3. "Half-Hitch" - Illustration #2.  
To begin, place a loop on the objective; take up tension on the "running line"; this will cause the half-hitch to bind on itself.

### Hose Harness

In this application, the utility strap will assist in transferring the nozzle pressure and the weight of a loaded line from the hands and arms to the shoulders and legs. This offers a tremendous advantage during extended use of 1-1/2", 1-3/4", 2", and 2-1/2" hand lines.

To put into operation as a hose harness, use the following procedures:

- 1: Tie the two ends of the strap together using an "overhand follow through." The strap will now form a continuous loop.
2. Place a "ring-hitch" approximately five to six feet from the base of the nozzle.
3. Place a "half-hitch" approximately two to three inches on the nozzle side of the "ring-hitch" knot.

ILLUSTRATION #2  
("RING-HITCH" AND "HALF-HITCH" KNOTS)

NO PICTURE

4. To don, start by facing away from the nozzle with the inside foot to the rear of the outside foot. Next, place the loop over your inside shoulder keeping your legs bent and back straight.
5. In one continuous motion, straighten your legs and pivot 180 degrees away from the hose and toward the nozzle. With the strap in place, it should hang diagonally across the front of the wearer with the nozzle comfortably in front (Illustration #3).

NOTE: It is important not to place the strap over your head as this will hamper your ability to escape in the event of an emergency.

6. To release the hose strap, simply reverse Steps 4 and 5.

ILLUSTRATION #3  
(HOSE HARNESS)

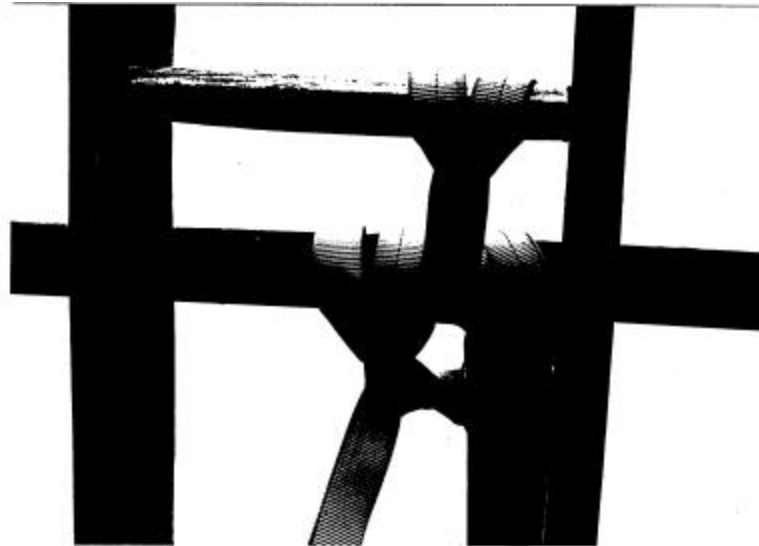


Ladder Strap (Illustration #4)

1. Attach one end to the desired rung using a "ring-hitch" (Larks Foot) knot.
2. Attach the other end to the laddering objective.
3. After the ladder is strapped, push the strap to either side of the rung to prevent it from interfering with travel.

NOTE: When anchoring an extension ladder to your objective, keep downward pressure on the fly section by selecting an anchor point on the objective below the attached rung of the fly section. Also, consider using vertical and horizontal anchoring points where possible to minimize movement of the ladder (Illustration #4).

ILLUSTRATION #4  
(LADDER STRAP)



Search and Rescue - Two Members (Illustration #5)

The use of the nylon utility strap in search and rescue situations allows a sizeable area to be searched quickly and safely by keeping two rescuers tethered together. One rescuer will act as the "anchor" maintaining contact with a hose line, a drop cord line, or a wall while the other rescuer sweeps the search area.

More than one nylon utility strap can be put together to allow a larger area to be covered. This is accomplished by attaching one strap to the other by means of a "ring-hitch."

To put into operation for search and rescue, use the following procedures:

1. Form a loop by tying the two ends of the strap together using an "overhand follow-through" knot.
2. Make a "ring-hitch" on both ends of the loop.
3. Each member places the "ring-hitch" over the palm of the hand tethering the rescuers together.

ILLUSTRATION #5  
(SEARCH AND RESCUE - TWO MEMBERS)

NO PICTURE

Search and Rescue - Three Members (Illustration #6)

With the addition of a third member to the Search and Rescue Team, it is advantageous for the anchor person to attach the two nylon utility straps to the cylinder bracket of- the breathing apparatus. This allows the anchorperson to use both hands while following the hose line or drop cord line.

ILLUSTRATION #6  
(SEARCH AND RESCUE - THREE MEMBERS)

NO PICTURE

II. CARE AND MAINTENANCE

1. Avoid sharp edges.
2. Avoid caustic chemicals.
3. Wash with dish soap and warm water; rinse thoroughly with cool water and air dry out of the sun light.

This training bulletin has been developed to introduce members to the nylon utility strap. While the Department has approved the above mentioned uses of this piece of equipment, it is realized that there are many other uses for it. These are left to the discretion of the member and are limited by the degree of safety and the specifications of the strap.

#### Distribution

Officers can acquire the nylon utility strap through the Supply and Maintenance Division. Ordering of the nylon utility strap shall be limited to one per member. To order the nylon utility strap use Stock #6566106, each, Nylon Strap 1" X 12 Feet.