# Lifesaving Sport – Obstacle Assembly Instructions

Obstacles are used in the pool events of lifesaving competition. A description and standards are found in the equipment section of the *Canadian Competition Manual* and *ILS Competition Manual*.

> "The inner frame must consist of a net or another element which does not permit passage by a swimmer. The color of the net is to contrast with the water. The upper line of the obstacle is placed on the water level and is clearly visible."

## Obstacle size

The ILS standard for the width of obstacles is 240 cm (95 inches) because world championships are conducted in pools with lanes that are 240 cm wide. Community pools in Canada have lanes that vary in width from two metres (79 inches) to 240 cm (95 inches).

*Senior competition*: The height of obstacles shall be 70 cm (28 inches) and depending on the pool's lane design, wide enough to block the passage of a swimmer. A width of two meters (79 inches) will be appropriate for most pools.

*Junior competition*: The height of obstacles shall be 35 cm (14 inches). The width shall be two metres.

We recommend using a lighter material such as ¾" CPVC material which makes for easier storage and transportation and for quick installation.

## Material list

**For one senior obstacle**

8 x ¾" CPVC plastic pipe – 45 cm each (horizontal pieces)

5 x ¾" CPVC plastic pipe – 65 cm each (vertical pieces)

8 x CPVC plastic Ts

4 x CPVC plastic 90-degree elbows

1 x can of CPVC cement with applicator

1 x 183 cm (6 feet) copper pipe

1 x rubber mallet to put pieces together firmly

1 x black mesh fencing 200 cm x 70 cm

14 Zip ties

**For one junior obstacle**

8 x ¾" CPVC plastic pipe – 45 cm each (horizontal pieces)

5 x ¾" CPVC plastic pipe – 30 cm each (vertical pieces)

4 x CPVC plastic Ts

1 x CPVC plastic 90-degree elbows

1 x can of CPVC cement with applicator

1 x 183 cm (6 feet) copper pipe

1 x rubber mallet to put pieces together firmly

1 x black mesh fencing 200 cm x 35 cm

14 x Zip ties

## Cutting tips for CPVC pipe

Purchase three 10-foot pieces of CPVC pipe to build one senior obstacle:

Piece one – cut 3 x 65 cm, 2 x 45 cm

Piece two – cut 2 x 65 cm, 3 x 45 cm

Piece three – cut 3 x 45 cm

Purchase five 10-foot pieces of CPVC pipe to build two senior obstacles:

Piece one – cut 3 x 65 cm, 2 x 45 cm

Piece two – cut 2 x 65 cm, 3 x 45 cm

Piece three – cut 6 x 45 cm

Piece four – cut 3 x 65 cm, 2 x 45 cm

Piece five – cut 2 x 65 cm, 3 x 45 cm

Purchase two 10-foot pieces of CPVC pipe to build one junior obstacle:

Piece one – cut 4 x 45 cm, 4 x 30 cm

Piece two – cut 6 x 45 cm, 1 x 30 cm

## Assembly instructions

- Cut CPVC pipe into desired lengths (above).

- Cut copper pipe into lengths of 183 cm (6 feet).

- Drill three holes (each ¼" diameter) through each of the 45 cm pieces of CPVC: hole one at 22.5 cm from the end; holes two & three at 12.5 cm from each end.

- Drill two holes (each ¼" diameter) through the copper pieces, each 16 cm from the midpoint.

- Assemble the top bar of the obstacle:
  - lay all pieces on a flat or level surface
  - connect four 45 cm lengths with three CPVC Ts
  - place one CPVC T on each end
  - ensure all pieces are aligned and level

- Assemble the bottom bar of the obstacle:
  - lay all pieces on a flat or level surface
  - connect four 45 cm lengths with three CPVC Ts
  - insert copper pipe through the CPVC pieces
  - fasten one 90-degree elbow on each end
  - ensure all pieces are aligned and level

- Connect the top bar to the bottom bar by fastening five lengths of CPVC – either 65 cm (senior obstacle) or 30 cm (junior obstacle) – to the CPVC Ts and bottom elbows.

- If desired, attach black fencing to the obstacle frame using Zip ties.

- Insert extension bars if needed to support obstacles on lane ropes. Do not glue these in place!

February 2007