

**Training Guide
for
Military Pentathlon**

OBSTACLE COURSE



VIENNA, March 2000

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THE OBSTACLE COURSE

I. Introduction

1. Description

The **obstacle course** (see figure 1) is 500 meters long. The course may consist of one or more lanes, recommended two, with 20 standardised obstacles. Each lane must have a width of a minimum 2 metres.

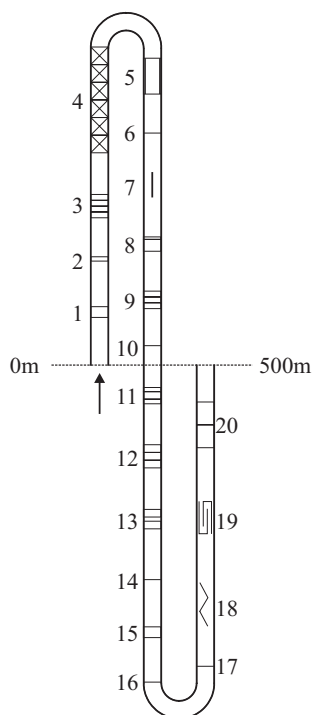


Figure 1: The obstacle course

2. Purpose

The purpose of the obstacle course is to develop physical and mental fitness soldiers need in combat.

Because of the complex physical demands involved, training on the obstacle course develops the following abilities:

- **physical fitness**, including,
 - strength,
 - stamina,
 - mobility;
- **techniques**, like,
 - moves (steps, holds),
 - distance assessment,
 - speed assessment, and
- **mental fitness**, including,
 - courage,
 - self confidence.

3. Instructors

Instructors are very important in obstacle course training because of the physical requirements put on the trainees. Instructors need:

- personal skills (they must be familiar at least with standard techniques),
- the capacity to describe movement accurately (demonstration),
- to detect mistakes and correct moves,
- to adhere to safety regulations.

4. Safety

To avoid accidents and injury the following **safety regulations must be observed:**

- prior to training, all obstacles must be checked; obstacles which do not meet the safety standards must not be used.
- obstacles made of concrete may be used when wet (safety depends on the condition of the track and the footwear); wooden or metal obstacles should not be used when wet, or with utmost care only.
- the sand in the landing pits must be soft and prepared before and during the use of the obstacle course. If this is impossible during the cold season, jumping from the respective obstacle should be avoided.
- in training regular soldiers, downward jumps should be kept to a minimum (climbing or sliding down from the obstacles instead) to prevent damage to joints and spine.
- except in competitions or tests, obstacles 1 (rope ladder) and 16 (ladder) should be climbed down at least halfway.

Safety improves considerably by controlled warming-up and the strict adherence to the regulations.

II. Crossing Techniques

1. Introduction

Standard and competition techniques are intended as guidelines for instructors and trainees, and should not prevent any experimentation to improve individual skills.

2. Standard Technique

NOTE: Move descriptions refer to right-handers.

The standard technique should be applied for beginners and for soldiers negotiating obstacles with equipment or rifles.

Obstacle 1: Rope ladder

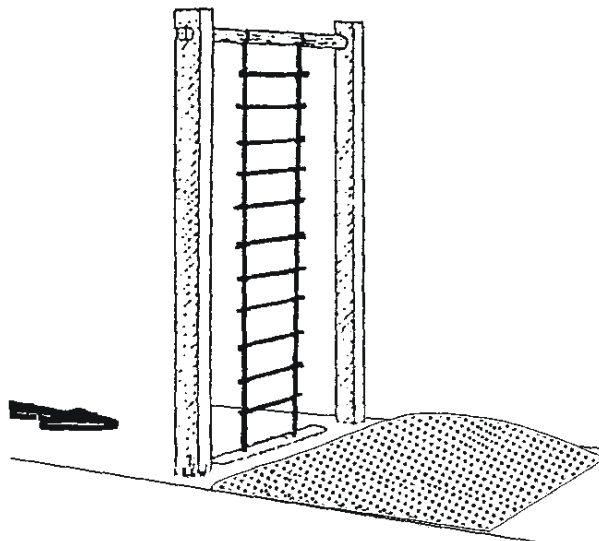


Figure 2: Rope ladder

Requirement: Cross the cross-beam and descend or jump to the other side on the prepared ground.

Rope ladder – standard technique:

Approach at moderate speed.

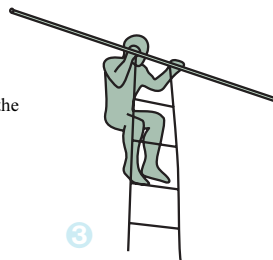
Jump onto the first or second rung, grip higher rungs securely with the hands, stand on rung in heel-down position.



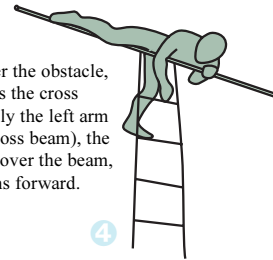
Co-ordinated climbing and gripping (staggered grip), leaning back slightly.



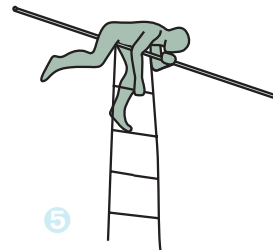
Both hands hold on to the cross beam.



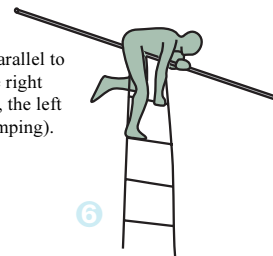
When rolling over the obstacle, the left hand grips the cross beam (alternatively the left arm hooks onto the cross beam), the right leg is lifted over the beam, and the torso leans forward.



Grip the top rung with the right hand for support.



The torso is kept parallel to the cross beam, the right leg steps on a rung, the left leg follows (No jumping).



Climb down and jump from low height (bottom half of the ladder), and turn into running direction.



Four-point landing in running direction.

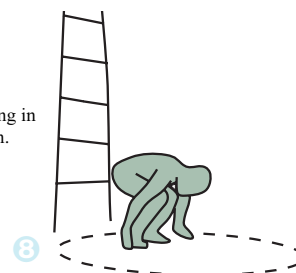


Figure 3: Rope ladder – standard technique

Obstacle 2: Double beam

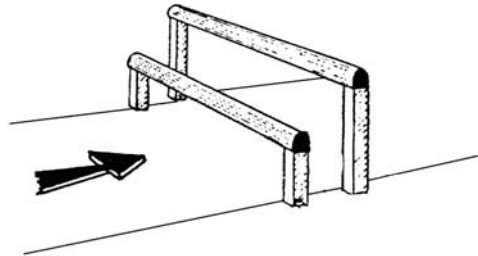


Figure 4: Double beam

Requirement: Jump on the first beam, make contact with the ground between the 2 beams, then pass over the second beam.

Double beam – standard technique:

– Option 1:

Increase speed when approaching.

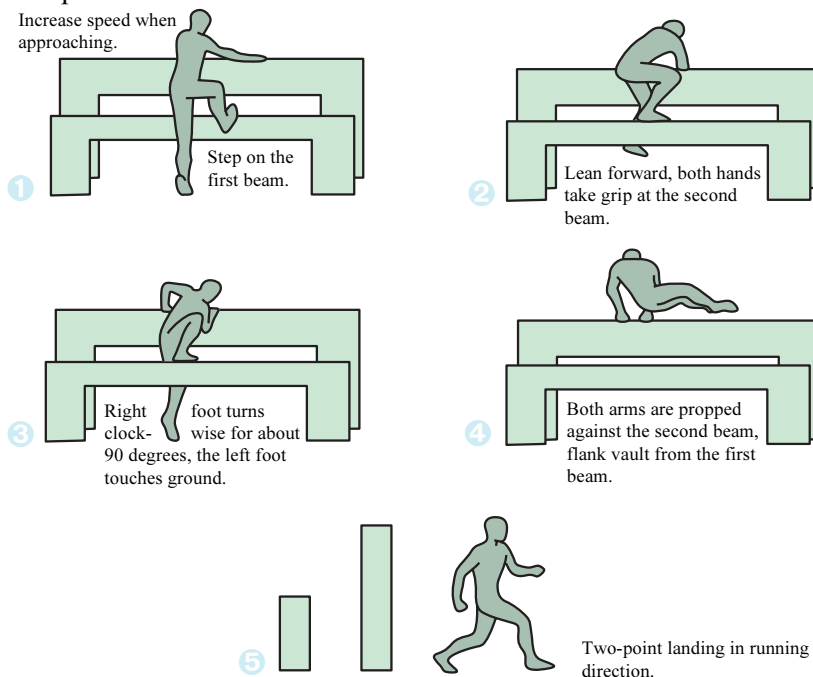


Figure 5: Double beam – standard technique (option 1)

- Option 2 particularly suited for round (tubular) beams:

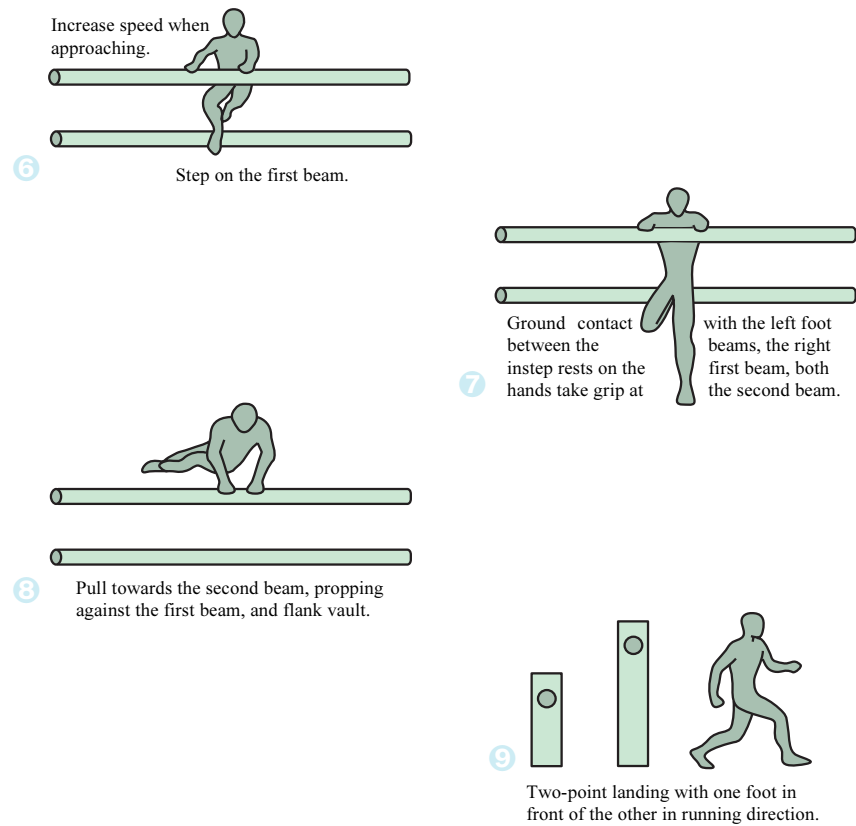


Figure 6: Double beam – standard technique (option 2)

Obstacle 3: Trip wire

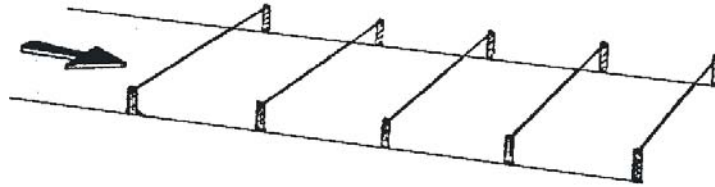


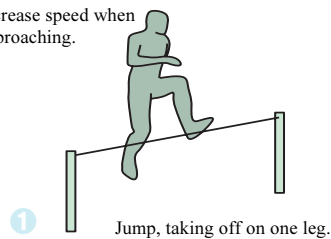
Figure 7: Trip wire

Requirement: Wires to be hurdled (touching or stretching the wires is permitted whereas deliberately jumping on the wires is forbidden).

Trip Wire – standard technique:

– Option 1:

Increase speed when approaching.



Short step after landing ("jumping off" leg does not change).

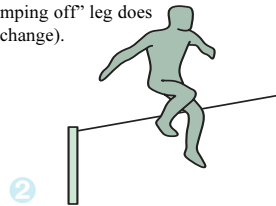
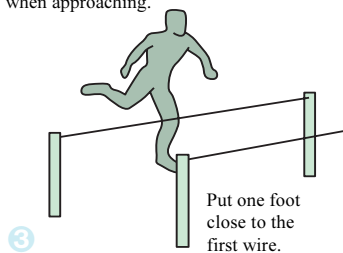


Figure 8: Trip wire – standard technique (option 1)

– Option 2:

Increase speed when approaching.



Hurdling of wires without making any steps in between (the trailing leg swings sideways), arms and legs swing in opposite directions (the foot should be put on the ground as close as possible to the next wire).

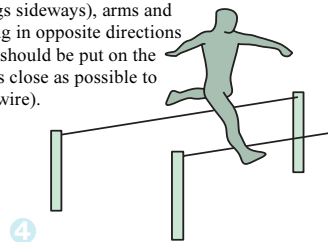


Figure 9: Trip wire – standard technique (option 2)

Obstacle 4: Network of wires

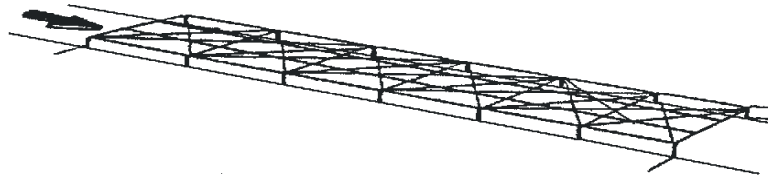


Figure 10: Network of wires

Requirement: Free style crawling under the wires.

– Network of wires – standard technique:

Approach at moderate speed.

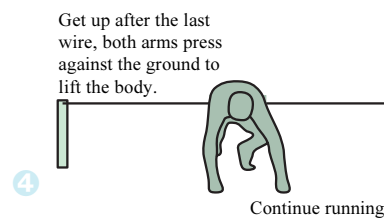
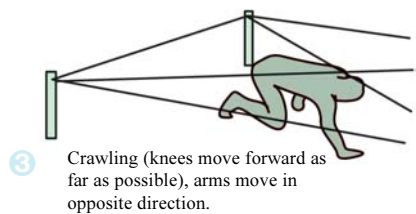
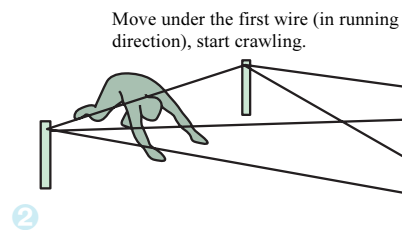
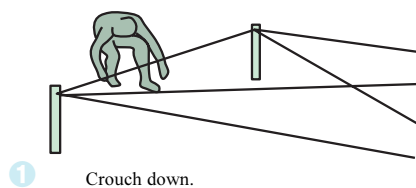


Figure 11: Network of wires – standard technique

Obstacle 5: Ford

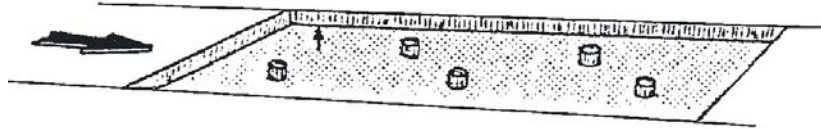


Figure 12: Ford

Requirement: Cross the ford by stepping on the plots only; there is no obligation to use all the plots; contact with the ground or sides of the ford is forbidden.

Ford – standard technique:

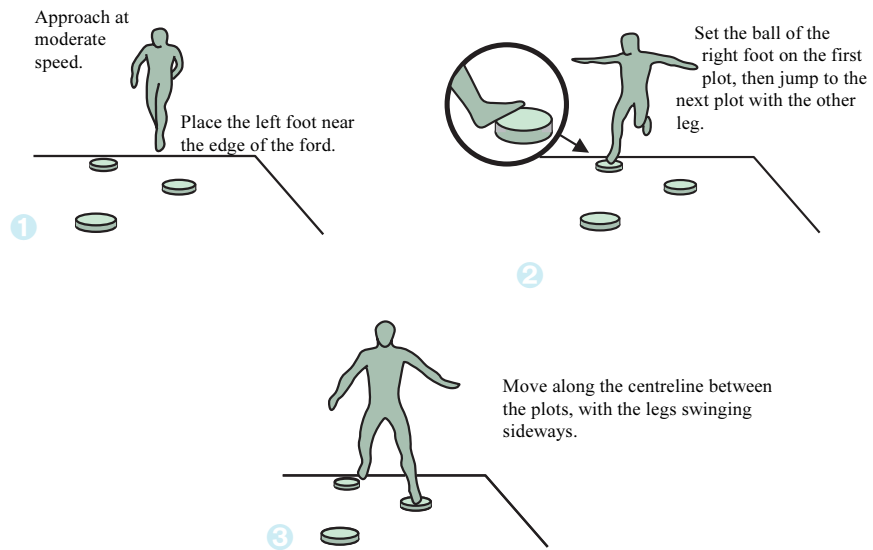


Figure 13: Ford – standard technique

Obstacle 6: Espalier

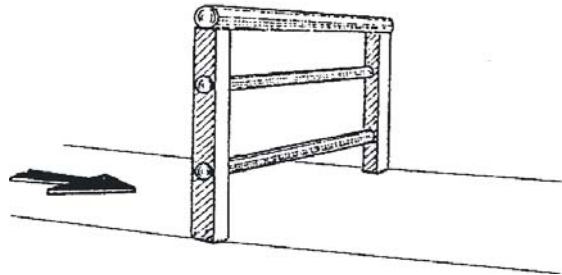


Figure 14: Espalier

Requirement: All styles permitted provided the top bar is crossed.

Espalier – standard technique:

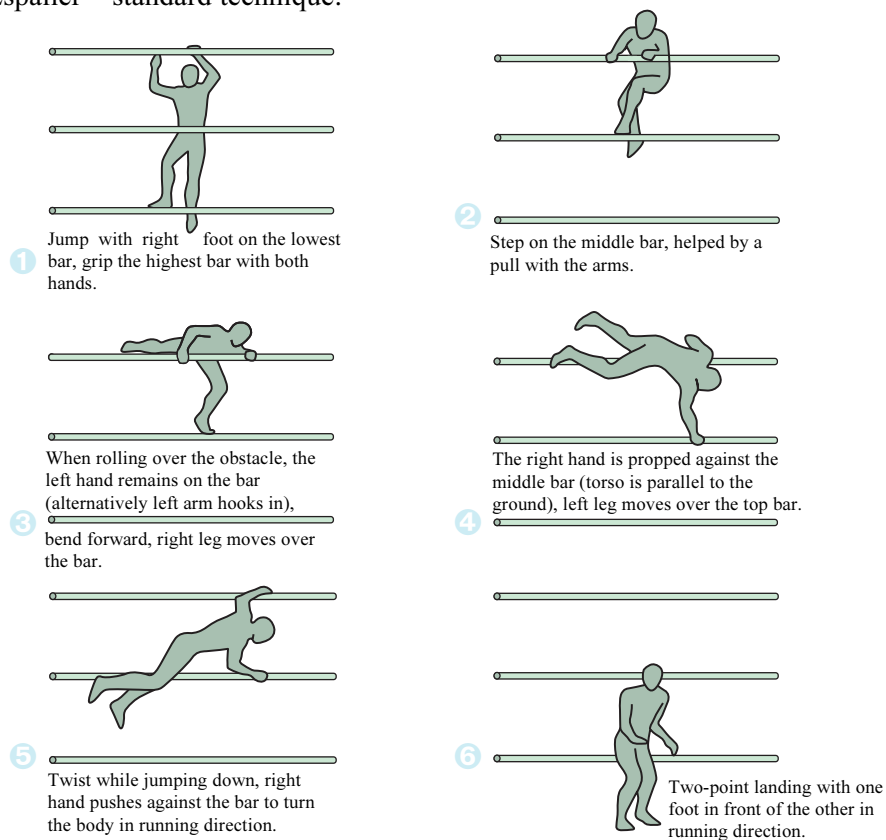


Figure 15: Espalier – standard technique

Obstacle 7: Balance beam



Figure 16: Balance beam

Requirement: Mount the beam, running up the sloping plank. Cross the beam lengthwise. At the far end jump to the ground. All loss of balance bringing contact with the ground is considered a fault.

Balance beam – standard technique:

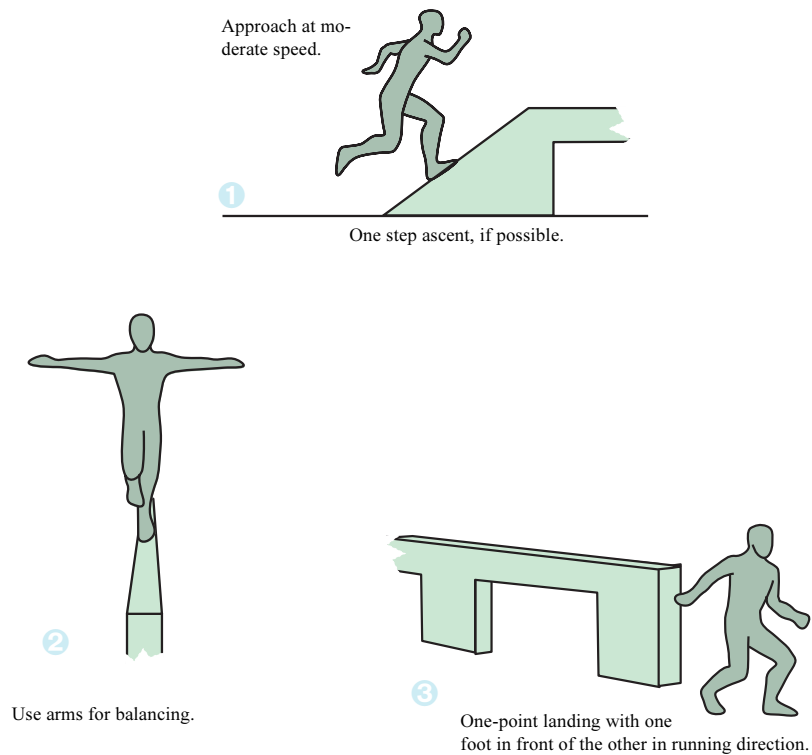


Figure 17: Balance beam – standard technique

Obstacle 8: Sloping wall with rope

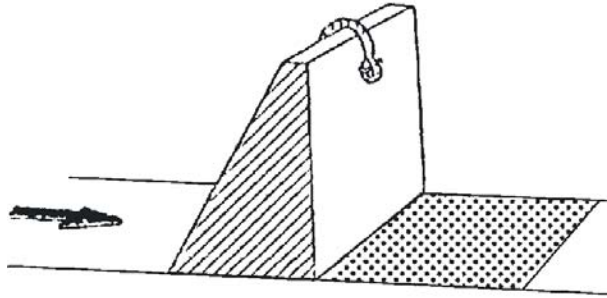


Figure 18: Sloping wall with rope

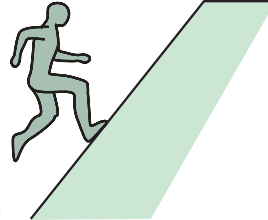
Requirement: Free-style crossing, with or without using the rope.

Sloping wall with rope – standard technique:

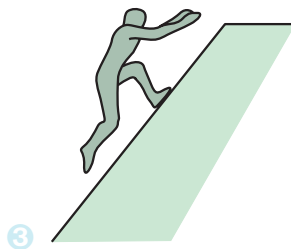
Approach at moderate speed.



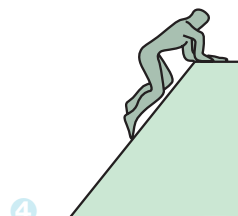
1 First step at high as possible, lean backward slightly to increase the friction between shoe and wall.



2 Run upwards the wall actively.



3 Lean forward after 3 or 4 steps.



4 Left arm is bent, lower arm rests on the wall, the right arm supports.

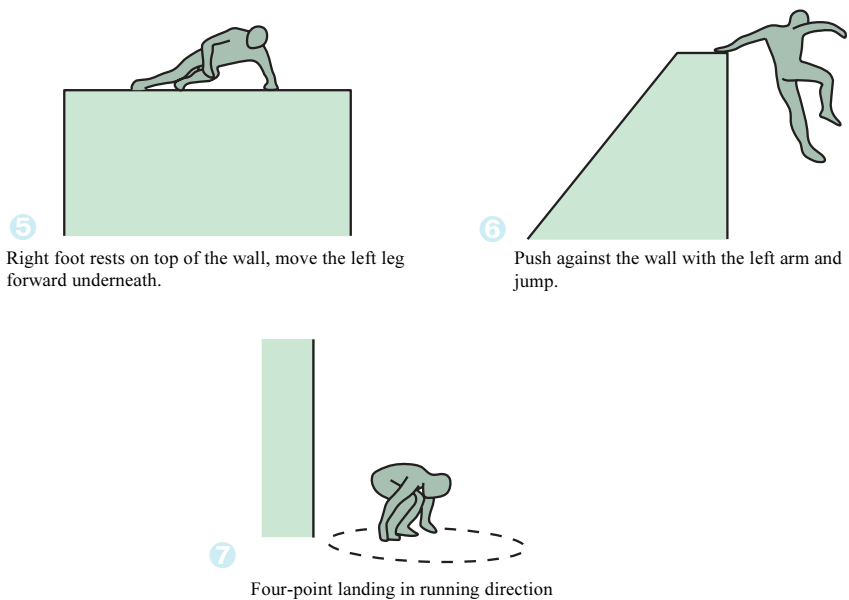


Figure 19: Sloping wall with rope – standard technique

Obstacle 9: Horizontal beams (over-under)

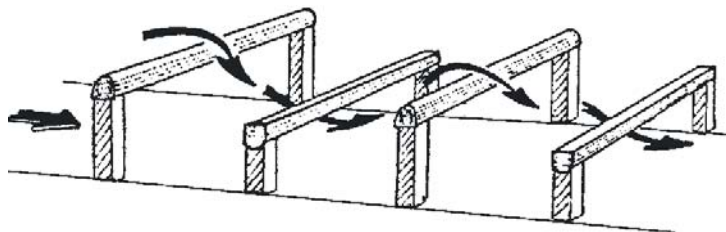
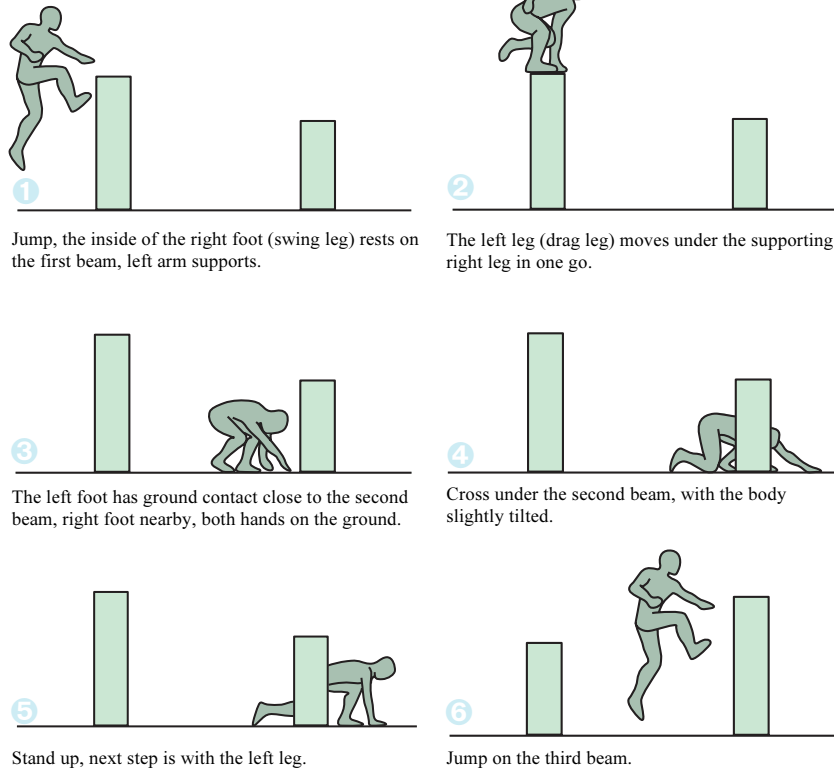


Figure 20: Horizontal beams (over-under)

Requirement: Cross the beams in order over – under – over – under, free style.

Horizontal Beams (over-under) – standard technique:

Approach at moderate speed.



The procedure for the third and fourth beam is the same as for the first and second.

Figure 21: Horizontal beams (over-under) – standard technique

Obstacle 10: Irish table

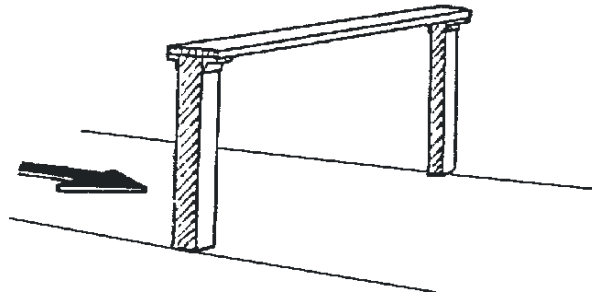
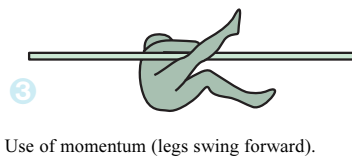
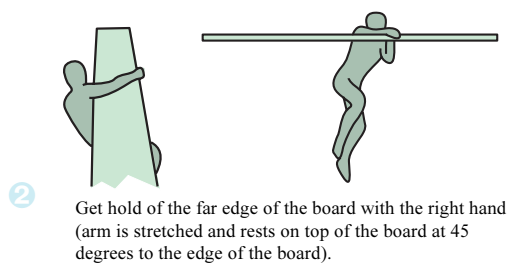
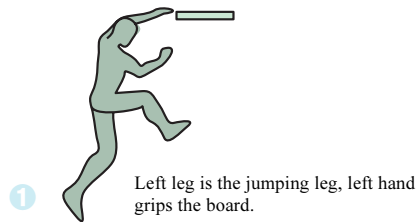


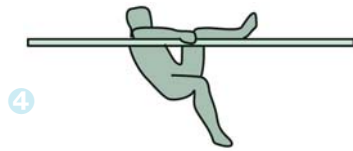
Figure 22: Irish table

Requirement: Pass over the obstacle in running direction, all styles are permitted. Uprights must not be used.

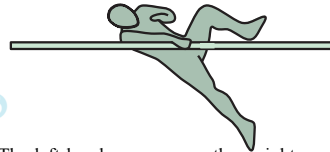
Irish table – standard technique:

Approach at moderate speed.





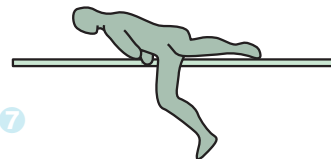
Lift left leg as high as possible when swinging back, place heel on the board.



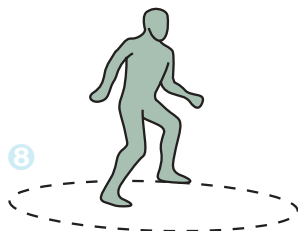
The left hand crosses over the right arm and grips the far edge of the board, stretch the body to raise the pelvis.



Roll over right shoulder by pulling with the left arm, the trailing right leg must be passed under the left leg.



Push against the top with the right hand and turn in running direction when jumping down.



Two-point landing with one foot in front of the other in running direction.

Figure 23: Irish table – standard technique

Obstacle 11: Tunnel and twin beams

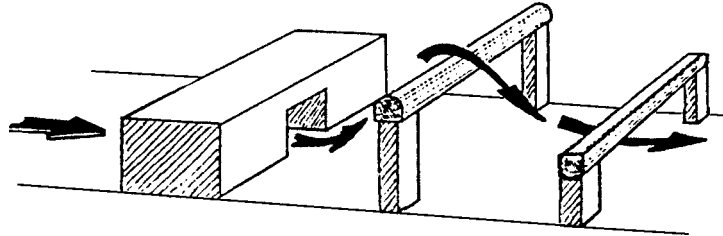
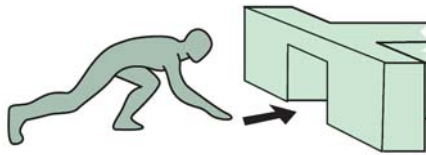


Figure 24: Tunnel and twin beams

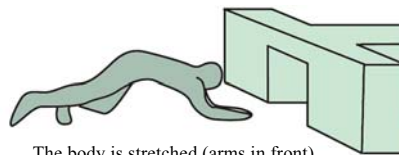
Requirement: Dive through the tunnel, climb over the first beam and pass under the second beam.

Tunnel and twin beams – standard technique:

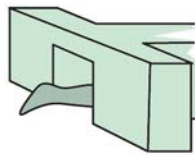
Slow down when approaching.



Take a large step, bend down, lower arms to the ground, keep the head straight.



The body is stretched (arms in front).



Dive through the tunnel, using the momentum of the running phase (crawl if necessary).



Get up, the next step is with the left leg.

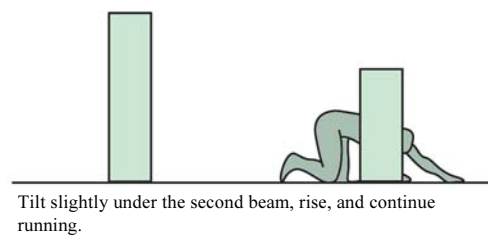
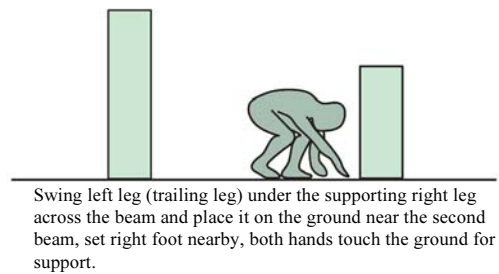
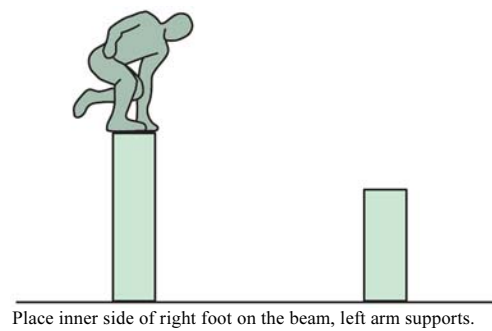
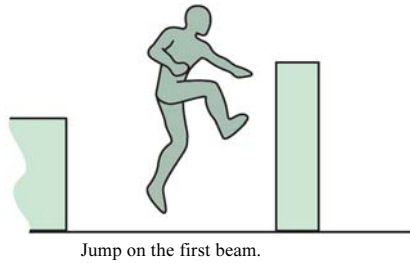


Figure 25: Tunnel and twin beams – standard technique

Obstacle 12: Four steps of beams

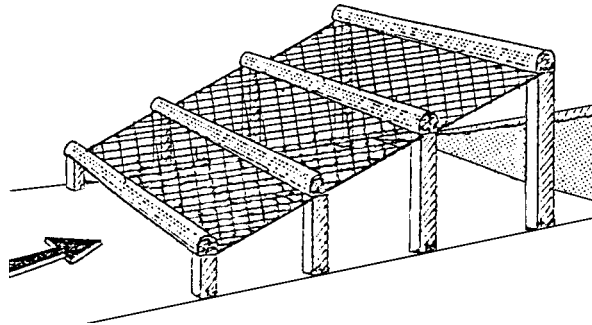
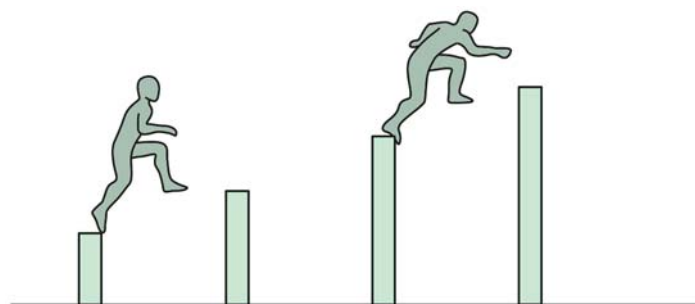
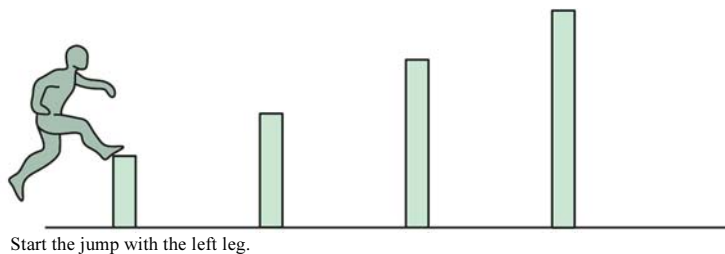


Figure 26: Four steps of beams

Requirement: Climb in free style and pass over all beams (do not touch the safety net)¹.

Four steps of beams – standard technique (see figure 27):

Increase speed when approaching.



¹ A safety net may be used when training regular soldiers or when using combat equipment.

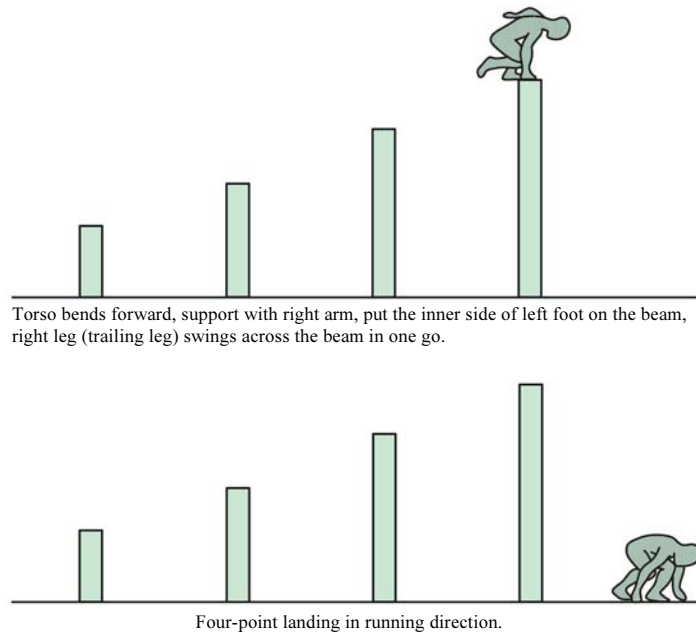


Figure 27: Four steps of beams – standard technique

Obstacle 13: Banquette and pit

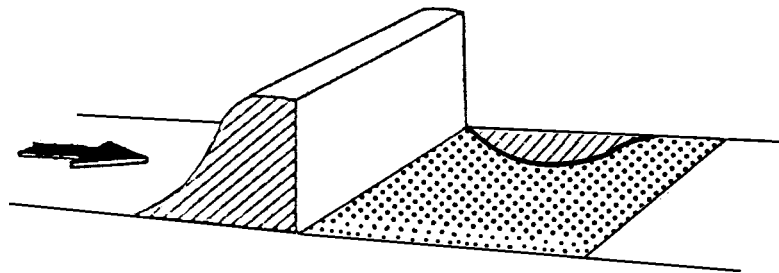


Figure 28: Banquette and pit

Requirement: Cross free-style.

Banquette and pit – standard technique:

Increase speed when approaching.

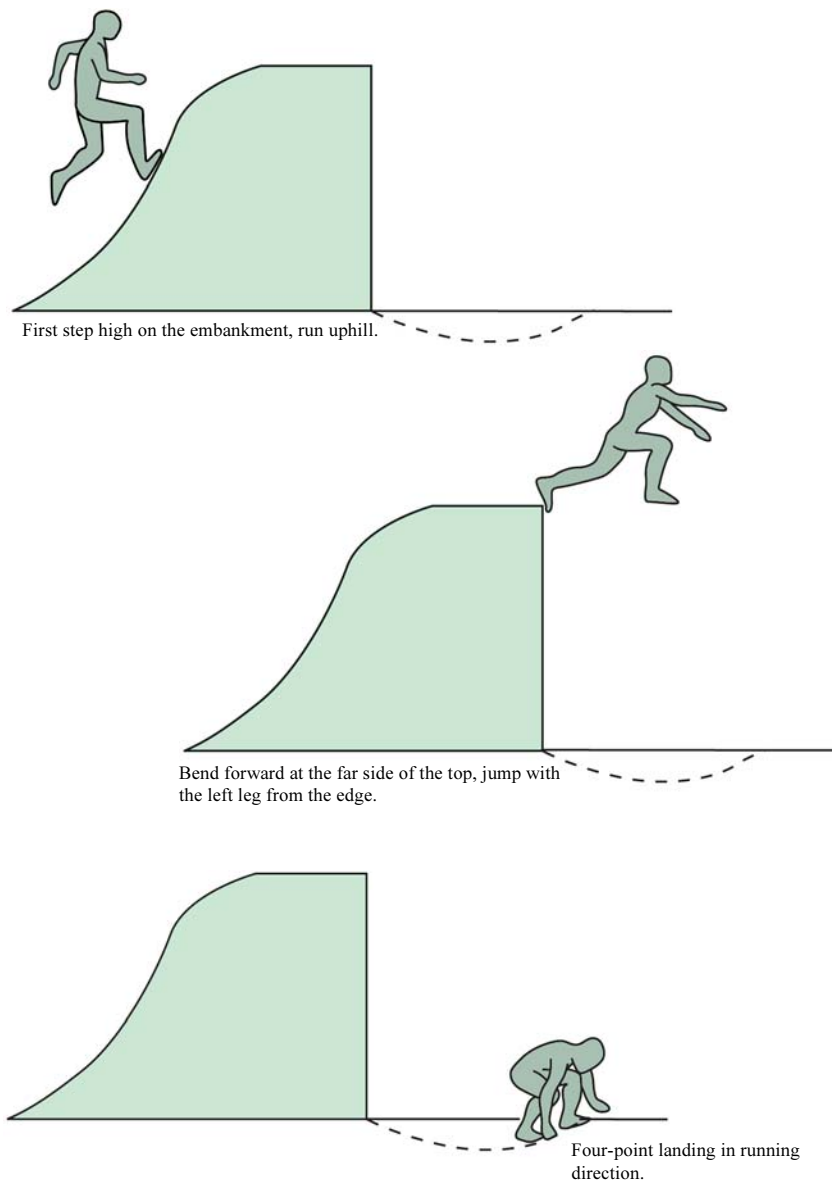


Figure 29: Banquette and pit – standard technique

Obstacle 14: Assault wall

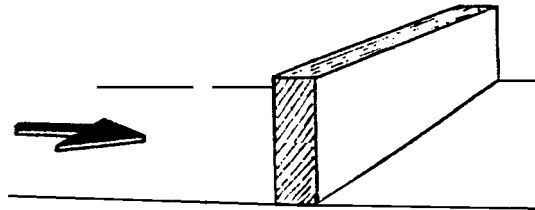


Figure 30: Assault wall

Requirement: Cross free-style.

Assault wall – standard technique:

Approach at moderate speed.

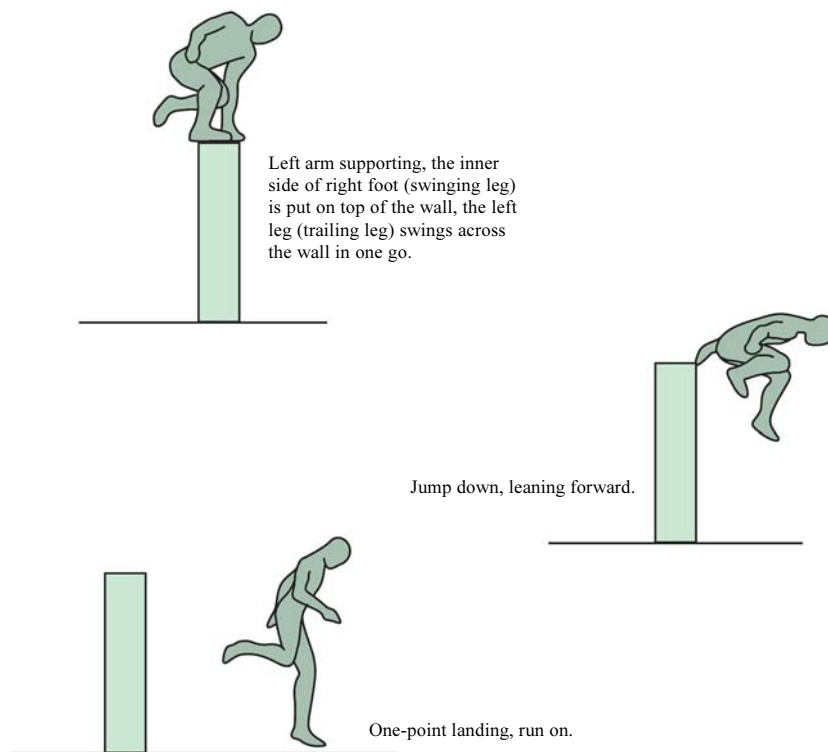


Figure 31: Assault wall – standard technique

Obstacle 15: Pit

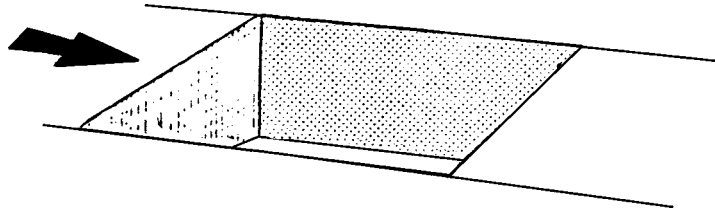
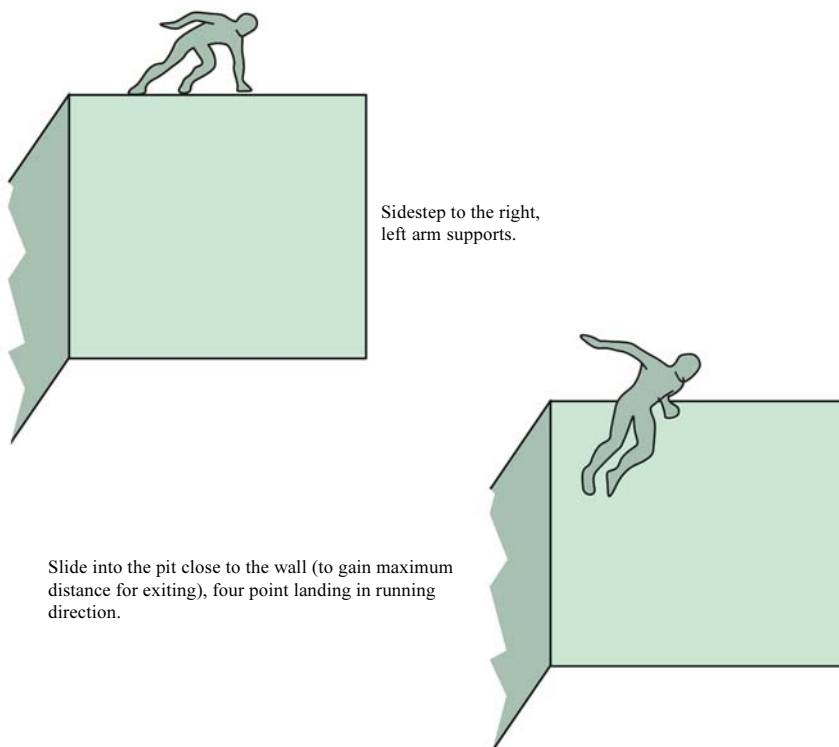


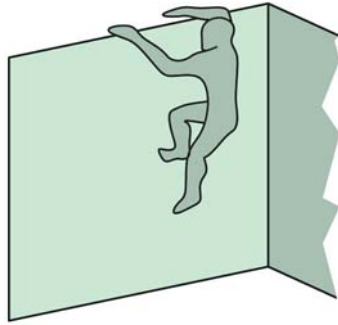
Figure 32: Pit

Requirement: Jump into the pit, then climb the front parapet without using the angles and the sides.

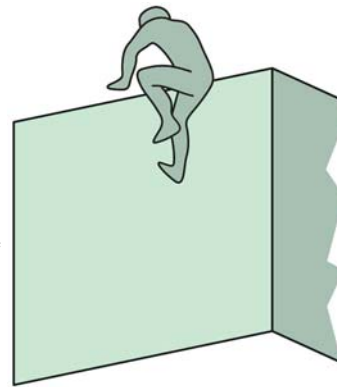
Pit – standard technique:

Reduce speed when approaching.

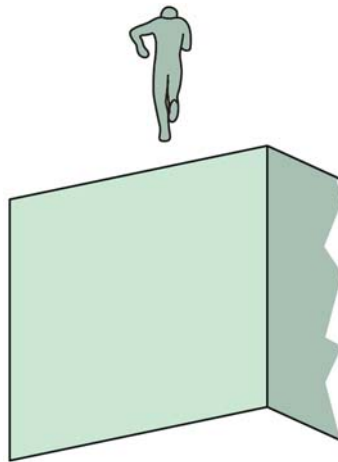




Approach run, jump with one leg onto the parapet (make contact with the right foot as high as possible on the parapet).



Pull up, right lower arm rests on top of the parapet, press up with left arm (pivot arm), place left foot sideways at the edge of the pit, push up with arms and left leg, and pull right leg up.



Stand up and run on.

Figure 33: Pit – standard technique

Obstacle 16: Vertical ladder

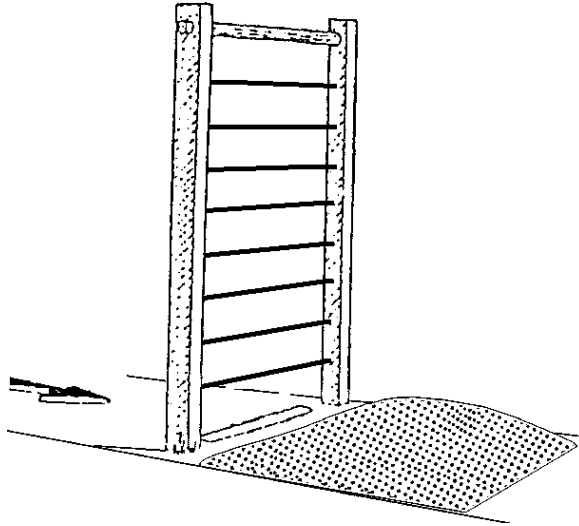
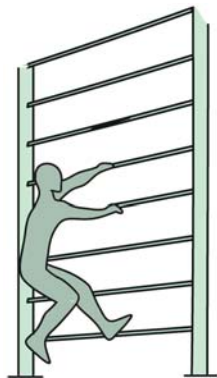


Figure 34: Vertical ladder

Requirement: Cross over the top beam and descend or jump to the other side on the prepared pit.

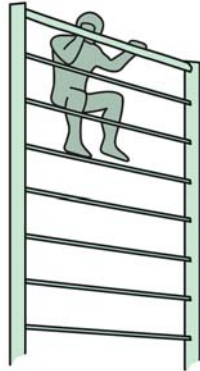
Vertical ladder – standard technique:



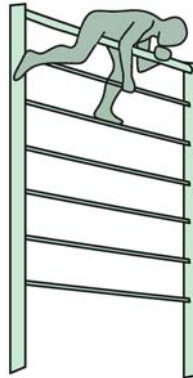
Approach at moderate speed.
Jump to first or second rung (heel down), tight grip with both hands.



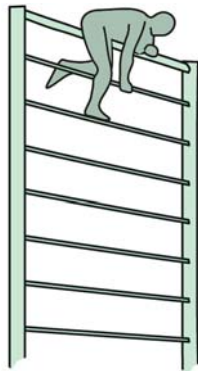
Co-ordinated climbing and hand hold (staggered), leaning back.



Both hands grip the top beam.



Left hand remains on the top beam during roll-over (alternatively, left arm hooks in), lean forward, right hand grips top rung and supports, right leg swings across the top beam.



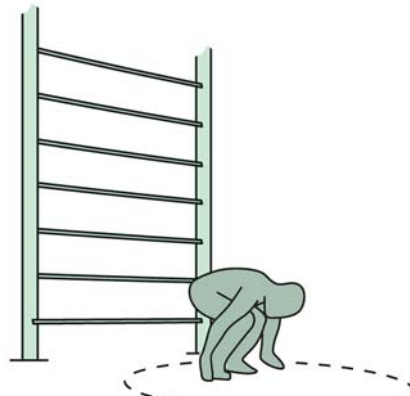
Right foot on rung, left leg follows, secure foot hold (no jumping).



Climb down.



Jump from low height (bottom half of the ladder), turn into running direction.



Four-point landing in running direction.

Figure 35: Vertical ladder – standard technique

Obstacle 17: Assault wall II

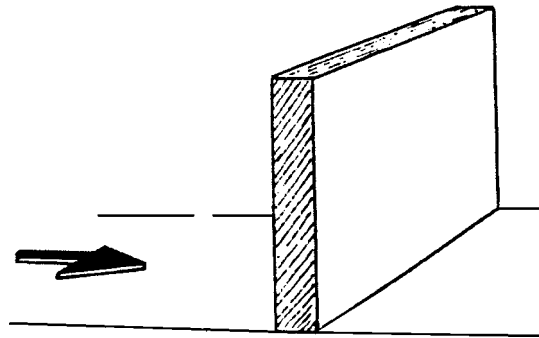
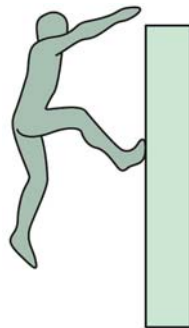


Figure 36: Assault wall II

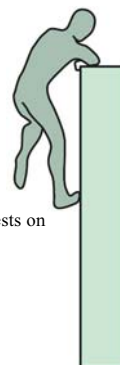
Requirement: Cross free-style.

Assault wall II – standard technique:

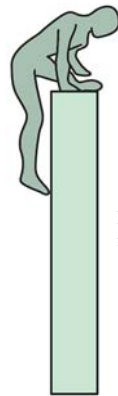
Increase speed when approaching.



Powerful take-off jump (right foot touches the wall as high as possible), both hands grip the top of the wall.



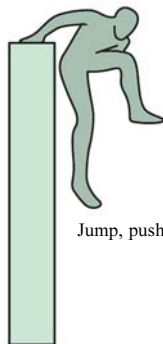
Right foot is propped against the wall, right lower arm rests on top of the wall, press up with left arm (pivot arm).



Place left foot sideways on top of the wall,
right arm stretches.



Right leg swings through.



Jump, pushing with right arm.

Two-point landing with one foot in
front of the other in running direction.

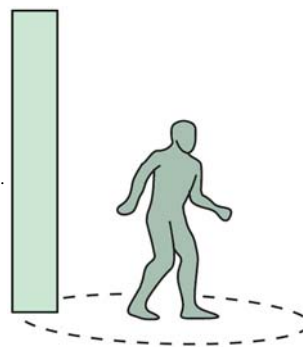


Figure 37: Assault wall II – standard technique

Obstacle 18: Balance beam (Zig-Zag)

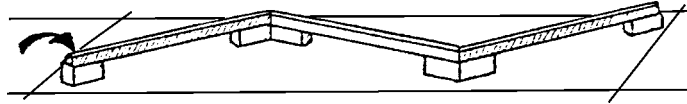
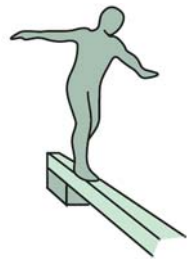


Figure 38: Balance beam

Requirement: Mount the beam ahead of the first limiting line. Cross the 3 beams, then at the far end jump to the ground beyond the second limiting line. Between the 2 lines, all loss of balance bringing contact with the ground is considered a fault.

Balance beam – standard technique:

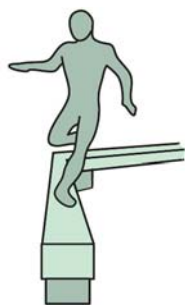
Approach at moderate speed.



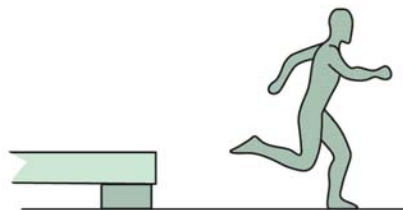
Jump on top, use arms for balancing.



Run (feet pointing outwards), cut corners by jumps.



Increase speed, jump to the ground at the far end.



Continue running on after one-point landing.

Figure 39: Balance beam – standard technique

Obstacle 19: Chicane

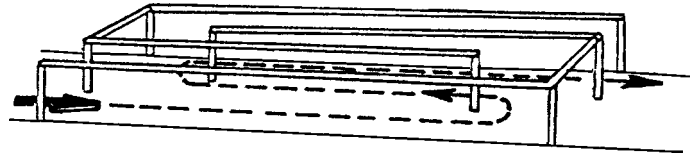


Figure 40: Chicane

Requirement: Run through the chicane. The railings or the uprights may be used for support.

Chicane – standard technique:

Approach at moderate speed.



Grip railings with both hands when changing direction (do not slow down).



Support changes of direction by determined arm pull.

Figure 41: Chicane – standard technique

Obstacle 20: Assault walls in succession

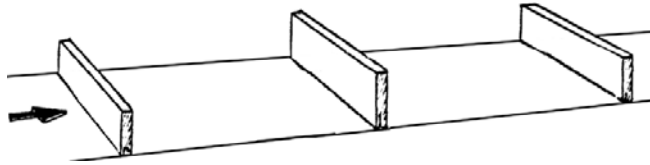


Figure 42: Assault walls in succession

Requirement: Cross all 3 walls free-style.

Assault walls in succession – standard technique:

Approach at moderate speed.

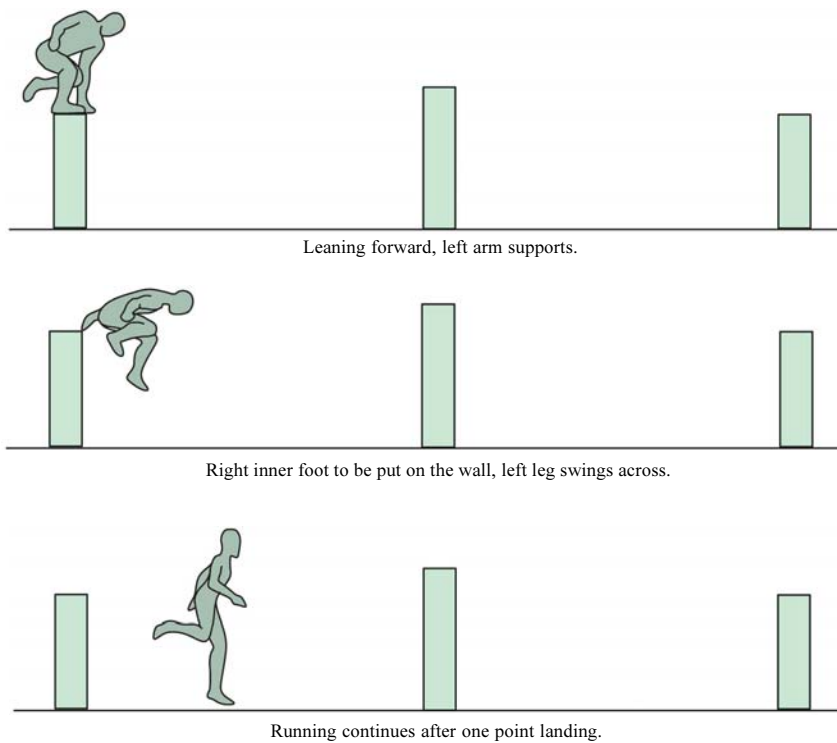


Figure 43: Assault walls in succession – standard technique

Same technique when crossing the second and the third wall.

3. Competition technique

This technique is a further development of the standard technique described above. It should be used by competitors on a high level of performance. Descriptions are in general terms, left and right hand approaches depend on individual techniques.

Obstacle 1: Rope ladder

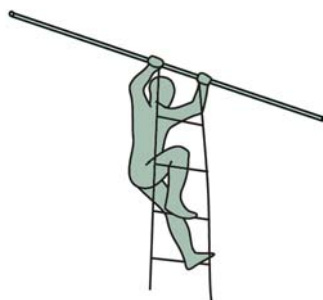
Rapid and energetic approach.



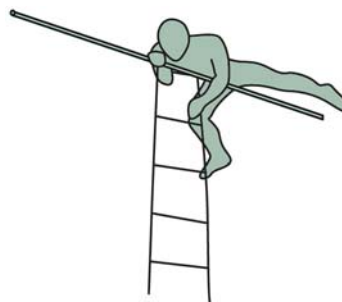
Jump to second or higher rung.



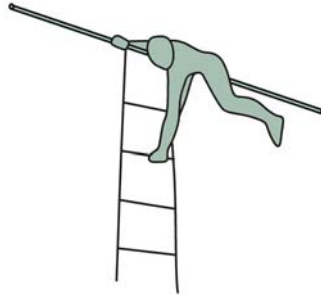
Quick climb.



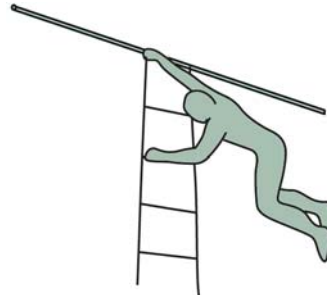
Start crossing phase as early as possible (third or fourth rung from the top), pull hard with both arms.



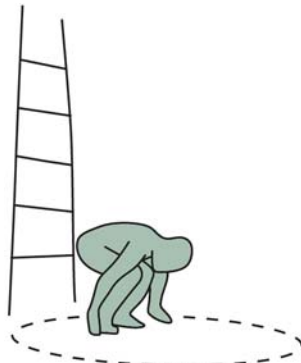
Swing leg supports pulling phase.



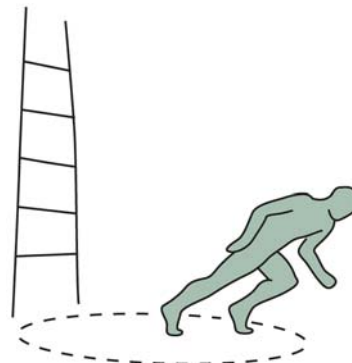
While crossing, take grip as low as possible support to delay movement of torso.



Turn body during jumping down, prepare for landing in running direction.



Four-point landing with one foot in front of the other in running direction.



Use momentum of landing to start running.

Figure 44: Rope ladder – competition technique

Obstacle 2: Double beam

Use standard technique but with higher speed, when approaching and crossing.

Obstacle 3: Trip wire

Approach at high speed.



Set the steps close to the trip wires, contact of the wires is permitted.

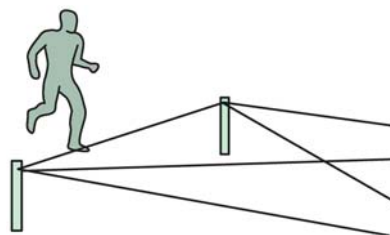
Wires are crossed without intermediary steps (shank of the trailing leg swings upward, instep stretched), body leans forward, set foot as close as possible to the next wire.



Figure 45: Trip wire – competition technique

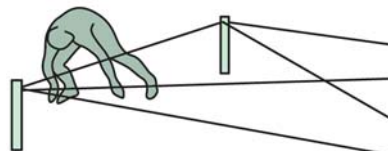
Obstacle 4: Network of wires

Approach at high speed.



Turn head and torso slightly sideways.

Lower torso, dive under network with leg and shoulder of the same side of the body first, use momentum.



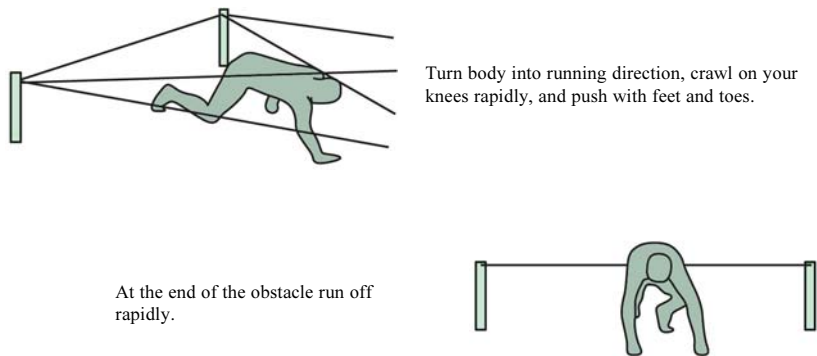


Figure 46: Network of wires – competition technique

Obstacle 5: Ford

Use standard technique but with higher speed .
Speed increases right after the last plot.

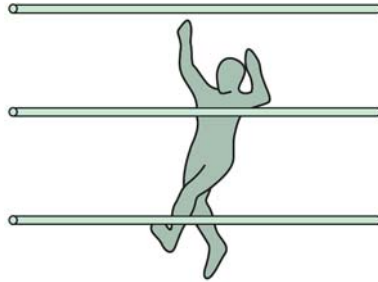
Alternative: Cross the ford without stepping on all plots.



Figure 47: Ford (alternative) – competition technique

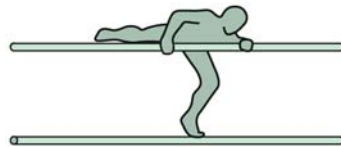
Obstacle 6: Espalier

Increase speed when approaching.



Take off with right foot from the ground. Left foot on the lowest bar, both hands grip the highest bar.

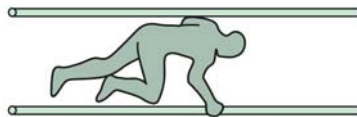
Jump off with left leg from the lower bar swinging the right leg powerfully over the top bar, and pull with both arms powerfully at the same time.



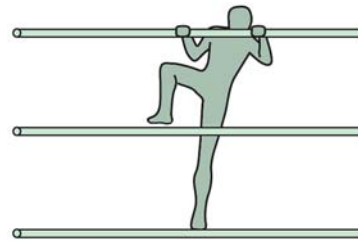
Lean forward for straddling, left hand remains on the highest bar, while right leg swings across.



Right hand takes grip at the middle bar and supports to delay movement when jumping down.



Turn body when jumping down, press with right arm.



Left leg stretches downward, delay right leg by lifting knee, one-point landing on left leg.

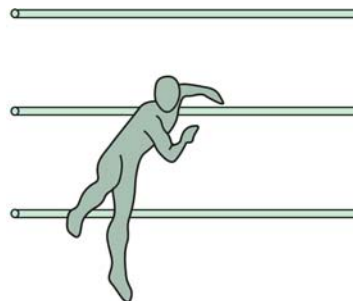


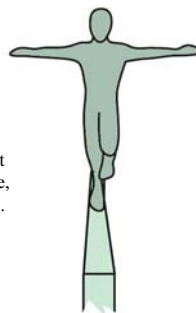
Figure 48: Espalier - competition technique

Obstacle 7: Balance beam

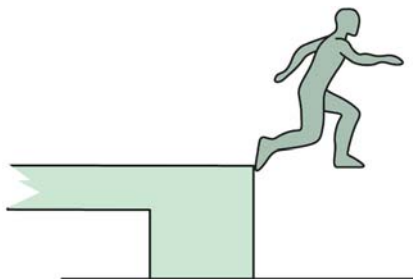
Increase speed when approaching.



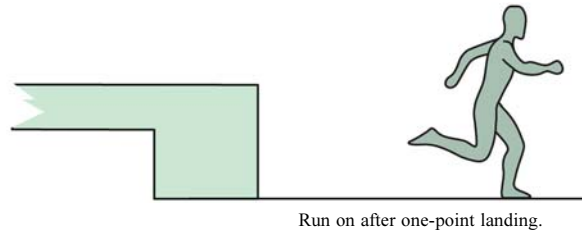
Run up the slope, first contact as high as possible.



At the begin of the horizontal beam delay for a short moment to find balance, then accelerate, run on, use arms for balancing.



Increase speed, jump.



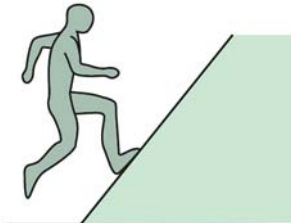
Run on after one-point landing.

Figure 49: Balance beam – competition technique

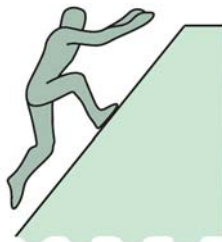
Obstacle 8: Sloping wall with rope

(Three step technique)

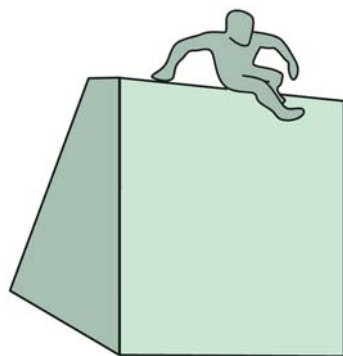
Approach at high speed.



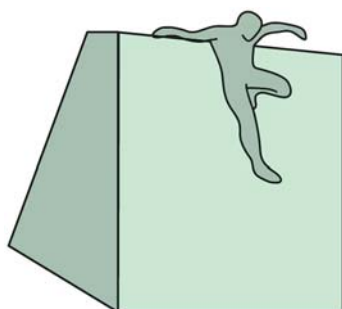
Run up the slope with only 2 foot contacts, if possible. In the sequence e.g. left – right (first and second step).



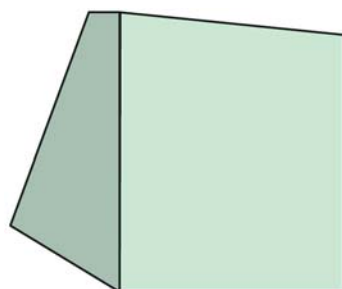
Lean forward, take grip with both hands on top of the wall and push powerfully, while left leg steps on top simultaneously (third step).



The right leg moves under the supporting left leg, use momentum jump down.



Right leg stretches downward in preparation of a one-point landing, landing with right leg.



Run on after one-point landing.

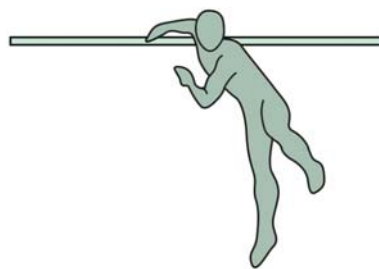
Figure 50: Sloping wall with rope – competition technique

Obstacle 9: Horizontal beams (over-under)

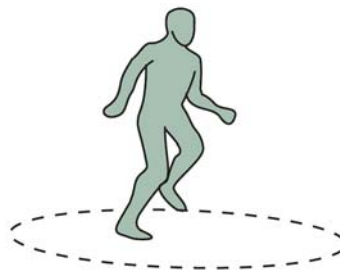
Approach at high speed. Higher crossing speed than in standard technique.

Obstacle 10: Irish table

Approach at high speed.



During jump, stretch trailing leg downward, lift knee to delay swing leg, one-point landing on trailing leg.



Run on after one-point landing.

Figure 51: Irish table – competition technique

Obstacle 11: Tunnel and twin beams

Approach at high speed to dive through the tunnel in one move. Mind your head!

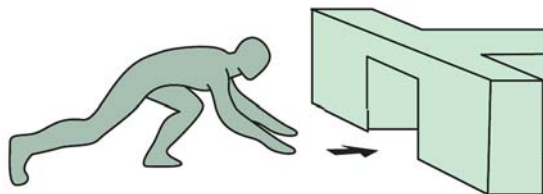


Figure 52: Tunnel and twin beams – competition technique

Obstacle 12: Four steps of beams

Approach at high speed, and increase speed further.

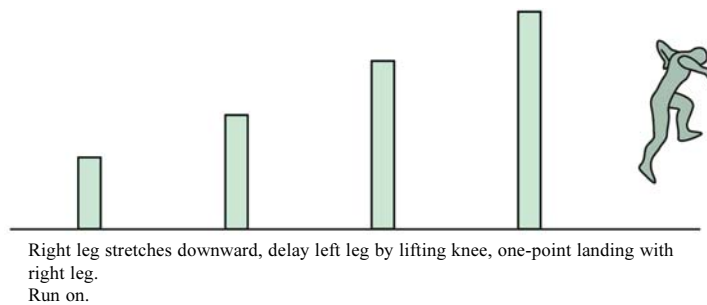
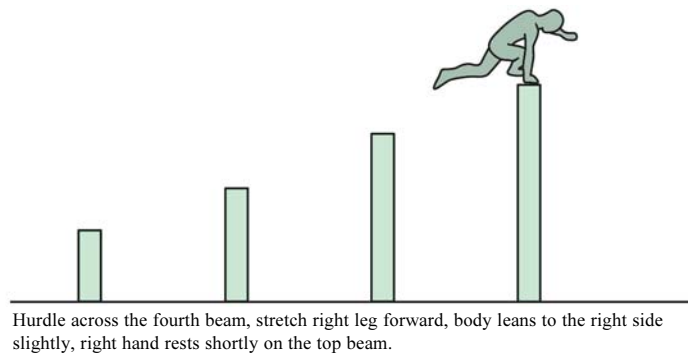
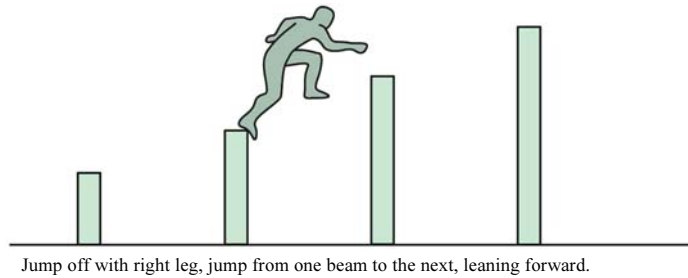
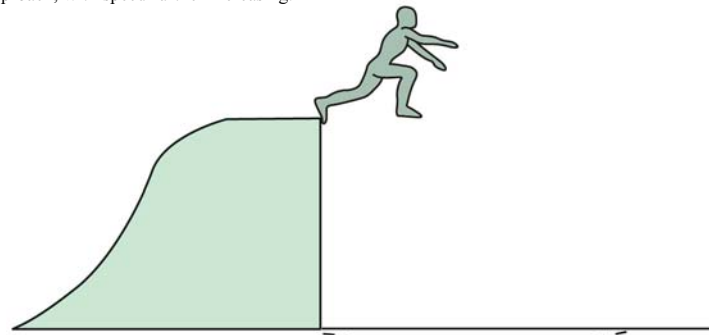


Figure 53: Four steps of beams – competition technique

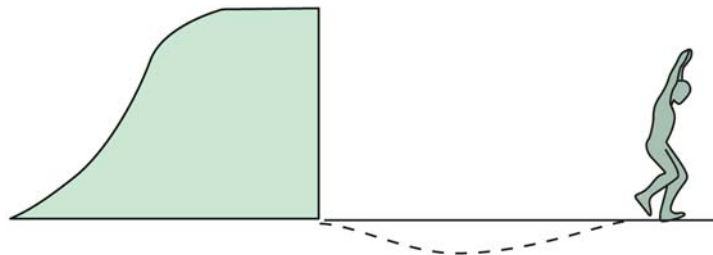
Variant: Take grip with the left hand on the top beam and flank right side and land on left leg first.

Obstacle 13: Banquette and pit

Fast approach, with speed further increasing.



Energetic jump from the top, delaying fall by raising the other leg.



One-point landing, with both arms raised to soften impact, run on.

Figure 54: Banquette and pit – competition technique

Obstacle 14: Assault wall

Fast approach.

Energetic jump towards the obstacle from as far away as possible,
Flank or even hurdle without or with brief support of the arm on top of the wall.

Run on after a one-point landing.

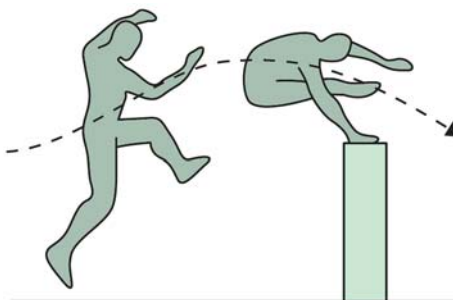
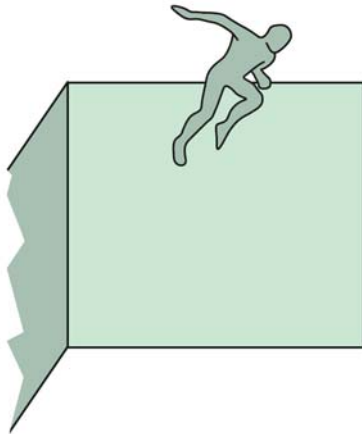
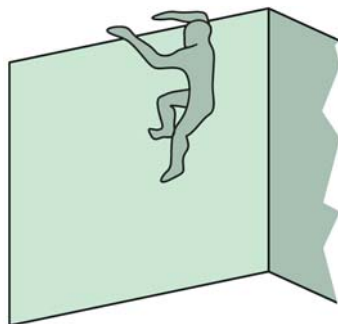


Figure 55: Assault wall – competition technique

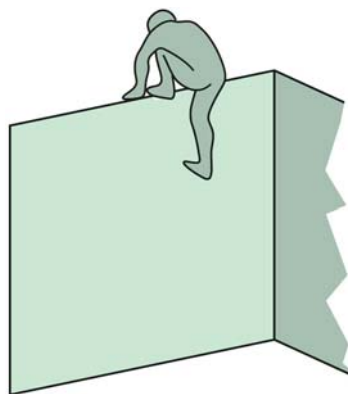
Obstacle 15: Pit



One-point landing in the pit.



Only 1 approach step, if possible, and energetic jump upwards.



When pushing up, immediately place one foot between both hands on the edge of the pit.

Figure 56: Pit – competition technique

Obstacle 16: Vertical ladder

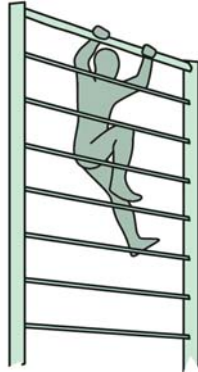
Fast and energetic approach.



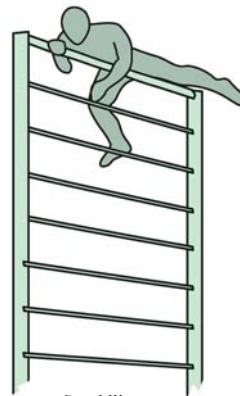
Jump to the second or a higher rung.



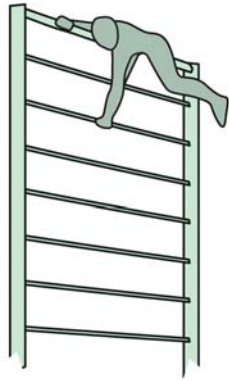
Fast climb.



Start the straddling phase from as low as possible (third or fourth rung from the top), energetic pull with both arms, the leg not standing on the rung swings upwards.



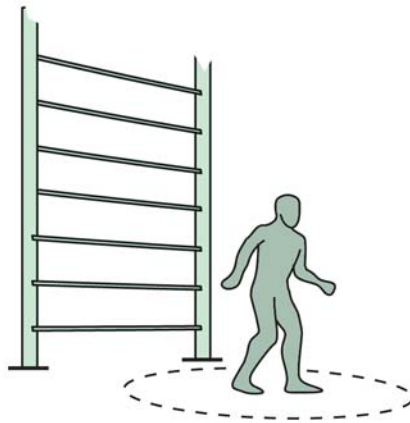
Straddling.



Take grip as low as possible for support to delay movement of torso.



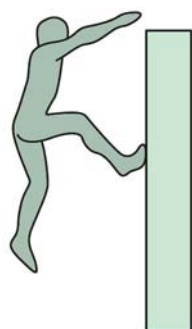
Body turns during falling (prepare for landing in running direction).



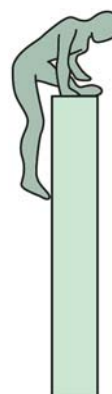
Two-point landing with one foot in front of the other in running direction, use momentum for running off.

Figure 57: Vertical ladder – competition technique

Obstacle 17: Assault wall II



Jump up the wall energetically.



Immediate push up with both arms on top of the wall. Then jump or flank over the wall.



Run on after a one-point landing.

Figure 58: Assault wall II – competition technique

Obstacle 18: Balance Beam (Zig-Zag)

Cross as fast as possible. Try to make as few steps as possible. (Sequence 4 – 3 – 3).

Obstacle 19: Chicane

Run fast.

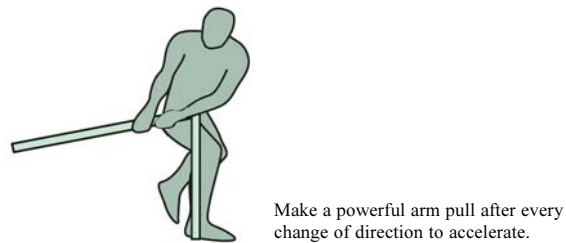


Figure 59: Chicane – competition technique

Obstacle 20: Three assault walls in succession

Fast approach, increase speed further.

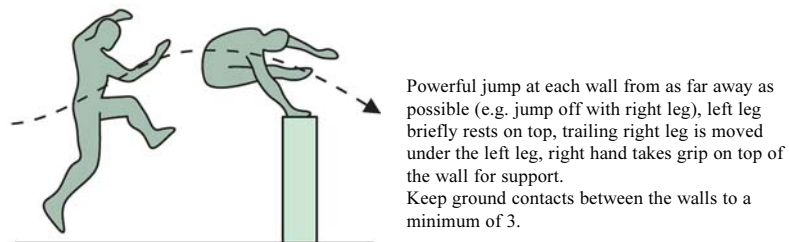


Figure 60: Three assault walls in succession – competition technique

III. Guidelines for Instructors

1. Introduction

Basic fitness training provides the minimum level of fitness required for crossing the obstacle course. Therefore, training on the obstacle course should begin after some period of basic military training or when some degree of physical fitness is ensured.

Instruction and training should be in groups of no more than 10 people with a similar level of fitness.

The crossing of the obstacles requires different skills. These techniques should therefore be trained in several steps, which are:

- familiarising with the equipment,
- learning standard techniques for selected obstacles,
- tackling the entire obstacle course,
- competition technique.

Depending on the situation, instructors must take and enforce the required safety measures.

2. Landing Techniques

Correct landing is a basic requirement for crossing obstacles. It is suggested that **landing techniques** (see chapter 4) are trained in the following order either before or when tackling the obstacles:

- Four-point landing (obstacles 1 and 16),
- Two-point landing on obstacles 6 (one foot in front of the other) and 17, and
- One-point landing on obstacles 7 and 18.

3. Basic Crossing Techniques

For the crossing of specific obstacles certain movement skills are needed – basic crossing techniques.

These are:

- table technique,
- ladder technique,
- wall technique,
- flanking technique,
- rhythm technique, and
- balancing technique.

Obstacles which can be crossed by applying similar basic technique:

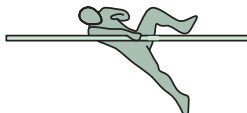

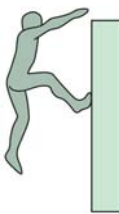

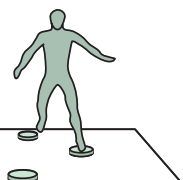
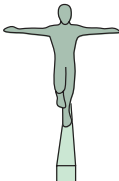
Obstacle (No.)		Basic technique
– Irish table (10)		Table technique
– Espalier (6)		Ladder technique
– Vertical ladder (16)		
– Rope ladder (1)		
– Assault wall II (17)		Wall technique
– Pit (15)		
– Sloping wall with rope (8)		
– Assault wall (14)		Flanking technique
– Three assault walls in succession (20)		
– Horizontal beams (over-under) (9)		
– Double beam (2)		
– Tunnel and twin beams (11)		
– Trip wire (3)		Rhythm technique
– Ford (5)		
– Four steps of beams (12)		
– Banquette and pit (13)		Balancing technique
– Balance beam Zig-Zag (18)		
– Balance beam (7)		

Figure 61: Basic techniques

4. Methodical sequence

The proper sequence is:

- preparatory exercises,
- introduction of the standard techniques by
 - descriptions,
 - explanations,
 - illustrations (e.g., pictures, videos), and
 - demonstrations (by instructors or suitable training staff).

Some movement techniques must be dealt with in greater detail and should be trained in less demanding situations. A comparison of achievement versus training goals as well as corrections will help to memorise correct movement.

Preparatory exercises help to familiarise with the equipment and movements, and include:

- games around the obstacles,
- exercising in pairs,
- group exercises, and
- free-style crossing of obstacles in both directions.

Minimum requirement for tackling the obstacle course is the mastering of the basic crossing techniques for

- obstacle 10: Irish table (training goal is the table technique),
- obstacle 16: Espalier (training goal is the straddle technique),
- obstacle 17: Assault wall II (training goal is the wall technique).

These techniques must be learned at the beginning. Other basic techniques follow later. Training should be conducted within groups of similar performance.

After mastering the basic crossing techniques, they should be tried on groups of similar obstacles where they can be applied.

Explanations, exercises, and corrections (frequent comparison of achievement and training goal) are methods to improve movement and its economy till all standard techniques are mastered. Drill exercises are to gain perfection.

Perfection should be achieved by increasing the demands. This involves:

- higher crossing speed (at obstacles),
- higher running speed (between obstacles), or
- tackling longer sections (6 to 10 obstacles) in one go,
- tackling the entire obstacle course in one go, and
- use competition technique.

5. Landing Technique Exercises

The exercises described below serve as examples. They may be modified by the instructor according to requirement and situation (obstacle course, weather conditions, group performance).

Landing techniques on the obstacle course are:

- four-point landing (hands and feet)
- two-point landing (feet only)
- one-point landing (one foot only).

Four-point landing is applied for beginners or when using equipment and when jumping from high obstacles.

The competition techniques uses two or one-point landing only.

Four-Point Landing (hands and feet)

Train at: Obstacle 18: Balance beam (Zig-Zag)

Obstacle 16: Vertical ladder

Obstacle 1: Rope ladder

Use on: Obstacle 1: Rope ladder

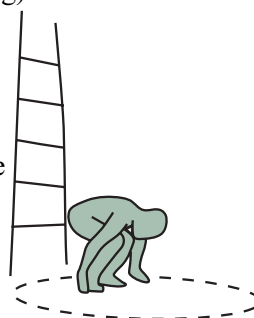
Obstacle 8: Sloping wall with rope

Obstacle 12: Four steps of beams

Obstacle 13: Banquette and pit

Obstacle 15: Pit

Obstacle 16: Vertical ladder



Description of Movement	Notes for the Instructor
<p>Posture at the end of falling phase:</p> <ul style="list-style-type: none"> – legs open at hip width (parallel or step) – knees slightly bent, torso leaning forward, arms in front (pre-tension). – Landing on both feet, ease impact by bending knees, palms touch the ground, slow down torso (bent leg squat). 	<p>Most frequent mistakes:</p> <ul style="list-style-type: none"> – no pre-tension, – legs open too wide or not enough, – torso straight or bent too far forward, – body twisted.

Preparatory Exercises	Notes for the Instructor
Exercises to improve jumping skills (rope skipping, running jump, jumping lane, ...). Jumping exercises on obstacles.	Jump training is energy consuming. Therefore the training programme must match the overall group performance.

Training Programme	Notes for the Instructor
Vertical stretch jump, four-point landing. Approach run, one leg jump, four-point landing. Get used to the height of the obstacles. Jump from obstacle 16: (Vertical ladder) and obstacle 1: (Rope ladder) from third, fourth and fifth rungs – four-point landing.	Start with one step, increase approach run and speed.

Two-Point Landing (feet only)

Train at: Obstacle 18: Balance beam (Zig-Zag)

Obstacle 16: Vertical ladder

Obstacle 6: Espalier

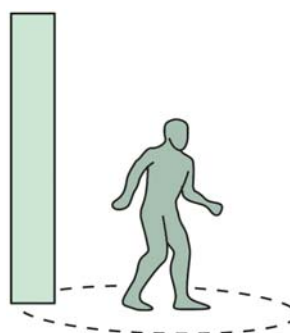
Obstacle 17: Assault wall II

Use on: Obstacle 2: Double beam

Obstacle 6: Espalier

Obstacle 10: Irish table

Obstacle 17: Assault wall II



Description of Movement	Notes for the Instructor
Posture at the end of falling phase as for four-point landing, however, torso vertical, arms to the sides.	Most common mistakes:
Two-point landing, ease impact by bending knees.	<ul style="list-style-type: none"> – no pre-tension, – legs too close together, – step too wide, – bending too far forward or back.

Training Programme	Notes for the Instructor
Leapfrogging over other people, two-point landing. Jump with two-point landing from: <ul style="list-style-type: none"> – balance beams, – both beams with approach run, – the assault wall. 	Train combinations of moves.

Training Programme	Notes for the Instructor
<p>Jump as above with two-point landing with one foot in front of the other. Jump from obstacle 16: (Vertical ladder), second, third, and fourth rungs</p> <p>Jump from obstacle 6: (Espalier), and obstacle 17: (Assault wall II) with two-point landing.</p> <p>Get used to the height of the obstacles.</p>	

One-Point Landing (one foot only)

Train at: Obstacle 18: Balance beam (Zig-Zag)

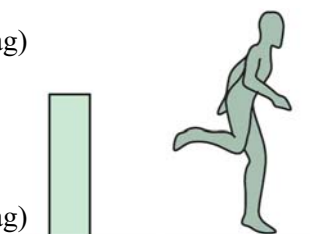
Obstacle 7: Balance beam

Use on: Obstacle 7: Balance beam

Obstacle 14: Assault wall

Obstacle 18: Balance beam (Zig-Zag)

Obstacle 20: Three assault walls in success



Description of Movement	Notes for the Instructor
Posture at the end of the falling phase: arms and legs as for jump run, upright torso.	Most frequent mistakes:
Landing on one foot (pre-tension), continue running.	<ul style="list-style-type: none"> – landing leg without sufficient pre-tension (danger of bending knee all the way), – leaning forward too far, – break in running.

Training Programme	Notes for the Instructor
Running on obstacle 18: (Balance beam – Zig-Zag), jumping, one-point landing.	One trainee after the other in one direction.
One-point landing from obstacle 7: (Balance beam).	

6. Training Programmes for Basic Crossing Techniques

Table technique

Train on: Obstacle 10: Irish table

Use on: Obstacle 10: Irish table



Training Programme	Notes for the Instructor
<p>Approach the obstacle at a brisk pace along a slight bend, jump high, one hand grips the far edge of the top, the other hand grips the near end of the top (hard grip), swing.</p> <p>As above, but slow approach, several swings, swing back, head leaning back, jump leg moves up sideways, heel touches table top.</p>	<p>Pad near edge of the top (attach a blanket, mat, or similar). Describe, explain, show, demonstrate.</p> <p>Determine jump leg, number of steps, mark jump site. Jump off with one leg</p> <p>Watch for body contact with the top. Arm-tilt is about 45 degrees to the top, fingers grip the far edge, swing direction to be determined (parallel to the gripping arm).</p> <p>Assist.</p>

Training Programme	Notes for the Instructor
As above, without swings.	Assist.
As above, but oblique approach run.	
As above, cross free arm over the stretched holding arm (= crossed grip), turn torso over the top, touch down, and down-slide from rest.	<p>Direction of approach around 45 degrees (to match the direction of the arm gripping the far edge of the top).</p> <p>Assist.</p>
As above, trailing leg is moved under the leg, that is already with the heel on the top side of the table, slide-down.	Crossed grip far ahead (right/left), body-stretch.
Straight approach, emphasis on the swing of the legs.	<p>Improve movement awareness, correct,</p> <p>Most common mistakes:</p> <ul style="list-style-type: none"> – insufficient swings, – pelvis too low, – not enough body tension. <p>Combine approach – crossing technique – landing technique.</p> <p>Pad the landing spot with a mat.</p>

Ladder technique

Train on: Obstacle 6: Espalier

Use on: Obstacle 1: Rope ladder

Obstacle 6: Espalier

Obstacle 16: Vertical ladder



Familiarisation with the Equipment	Notes for the Instructor
Free-style crossing of the lower, middle, and highest bars of obstacle 6: (Espalier).	Several trainees simultaneously.
Training Programme	Notes for the Instructor
Step on the lower, then the middle bar, grip the highest bar with both hands, balance torso on the highest bar, legs stretched downwards on the respective side.	Describe, explain, demonstrate.
As above, the right hand reaches over the top bar down to the middle bar, the left hand grips the highest bar (or arm hooks in), straddle, the right foot steps on the lower bar, then the left foot, descend with the right foot in running direction.	Secure gripping.
As above, approaching quickly. (including drop and landing).	Description for right-handers. Demonstrate and describe repeatedly. Check secure grip and movement after straddling.
	Place a mat on the landing spot.

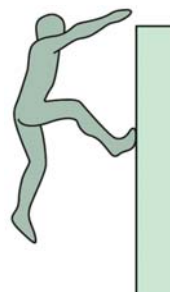
Training Programme	Notes for the Instructor
Complete movement.	<p>Mark the take-off spot, propping phase to assist upward movement.</p> <p>Combination of approach run – crossing technique – landing technique.</p> <p>Place a mat on the landing area.</p>

Competition technique	Notes for the Instructor
<p>Stand on the lowest bar, hands on the highest bar. Push with the resting leg (jump leg), swing the swing leg sideways and upward, combined with a determined arm pull. Lift knee up to the highest bar, go back to starting position.</p> <p>As above, body rests on the highest bar, body balance (stable position).</p> <p>As above, continue movement up to gripping the middle bar (after straddling), reverse straddling, climb down.</p> <p>Complete movement without drop phase, step down from lowest bar.</p> <p>Complete movement.</p>	<p>Combination of arm and leg movement, jump leg stretched (long pendulum motion).</p> <p>Most common mistakes:</p> <ul style="list-style-type: none"> – arm pull too soon (this makes supporting and jump leg operation difficult), – swing leg is bent too much at first.

Wall technique

Train on: Obstacle 17: Assault wall II
 Obstacle 8: Sloping wall with rope

Use on: Obstacle 8: Sloping wall with rope
 Obstacle 15: Pit
 Obstacle 17: Assault wall II



Training Programme	Notes for the Instructor
Take 2 or 3 approach steps, jump the wall (foot contact as high as possible), jump backwards.	Mark jumping height. Test leg and foot position to experience static friction on the obstacle.
Slow running approach, jump the wall (stemming step), both hands grip the edge of the wall, jump backwards.	Partner aid during sliding back to starting position.
As above, lean forward, place stretched free leg (swing leg) with inner foot on top of the wall, lift pelvis, continue turning, slide down backwards. Complete movement.	Combine approach (crossing landing) Place a mat on the landing spot.

Training, Obstacle 15: Pit	Notes for the Instructor
<p>Before training in the pit ensure that crossing of obstacle 17 (Assault Wall II) is negotiated easily already.</p> <p>Jump into the pit, jump up the other side, slide down again, turn around, approach wall again, climb out of the pit, using wall technique.</p>	<p>Several people train at the same time, "intensive conditioning", train in series (e.g., 3 x 20 s, 2 minutes break).</p>
Obstacle 8: Sloping Wall with Rope	Notes for the Instructor
<p>Walk up the slope with the help of the rope.</p> <p>Slow running approach, one step up the slope, lean forward, hands prop against the wall, slide down.</p> <p>As above, but take two steps up the slope.</p> <p>Faster approach, run halfway up and down, jump away from the obstacle.</p>	<p>Lean back, caution when slope surface is slippery. Test for static friction with the ball of the foot.</p> <p>Lean back when running up the slope, use momentum, contact with the whole of the sole (increase friction). Energetic run up the slope. Prepare the landing pit.</p> <p>Take care of joints and spine. Do not jump down too often.</p>

Obstacle 8: Sloping Wall with Rope	Notes for the Instructor
<p>Increase approach speed, run up the slope, lean forward, place hands on the top, prop with lower arms, rope assisted climb-down, or slide down the reverse side after propping up.</p> <p>Complete movement.</p>	<p>Combine approach – basic and landing techniques.</p>

Flank technique

Train on: Obstacle 7: Balance beam

Obstacle 14: Assault wall

Use on: Obstacle 9: Horizontal beams

Obstacle 11: Tunnel and twin beams

Obstacle 14: Assault wall

Obstacle 20: Three assault walls in succession



Training Programme	Notes for the Instructor
Walk towards the Balance beam, both hands grip top of the obstacle, stretched leg is placed with inner foot on top of beam, downward push and step onto the beam with the other leg.	Watch for body and leg stretching, turn pelvis forward during step motion. Repeat several times, change sides.
As above, but obstacle 14: Assault wall.	Try to stay low above the obstacle.
Complete movement.	Combination of approach – crossing and landing.

Obstacle 20: Three Assault Walls in Succession	Notes for the Instructor
Complete movement, number of ground contacts between the walls not restricted. Complete movement, 5 ground contacts between the walls. Complete movement, 4 ground contacts between the walls.	Correct faulty flank technique. Secure at the middle wall. 4 ground contacts require changing sides when flanking (therefore learners should begin with their weaker side), and approach at higher speed.
Obstacle 11: Tunnel and twin beams	Notes for the Instructor
Learn dive movement <ul style="list-style-type: none"> – from step position, – from walking, – from running slowly. Approach run, dive through the tunnel. Crossing of the Twin beams as for obstacle 9: Horizontal beams. Complete movement.	Prepare the obstacle: the surface of the ground of the tunnel must be smooth, cover with PVC foil or similar, sprinkle with chalk, mark take-off spot. Body tension, palms and forearms slide on the prepared surface.
Obstacle 14: Assault wall	Notes for the Instructor
Fast approach, take-off at some distance from the obstacle.	Determine take-off point.

Rhythm technique

Train on: Obstacle 3: Trip wire
 Use on: Obstacle 5: Ford
 Obstacle 12: Four steps of beams
 Obstacle 13: Banquette and pit

Preparatory training	Notes for the Instructor
Take-off jump with one leg.	Addinonal co-ordination and jumping training.
Running jumps.	Use markings instead of wires (variable distances).
Repeat all exercises, legs swin- ging sideways.	Vary distances. For final training markings at 2 meter intervals (like the obstacle).

Training programme	Notes for the Instructor
Free-style crossing of the wires in running direction.	Legs swing sideways.
Crossing with 2 ground contacts between the wires.	
Crossing with 1 ground contact between each wire.	This requires a close approach of the first wire.

Extended training, obstacle 5: Ford	Notes for the Instructor
Follow markings.	Markings instead of plots (e.g., chalk, carpet tiles, cloth, etc.). Vary distances.
Cross the obstacle from the side.	The middle of the foot must be placed at the edge of the plots, contact 2 plots.

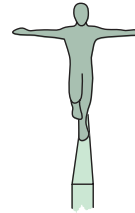
Extended training, obstacle 5: Ford	Notes for the Instructor
Cross slowly in running direction (jumps).	Last ground contact in front of the obstacle is with the left foot. Concentrate on take-off from each plot.
Complete movement.	Increase speed, ensure contact with the ball of the foot. Decrease sideways movement of the torso when passing the obstacle.
Obstacle 12: Four steps of beams	Notes for the Instructor (use safety net if possible)
Run over markings on the ground.	Prepare markings on soft ground.
Run up to the third beam, turn round, and run down.	Increase distances for jump run. Secure, and prepare the landing pit.
Run to the fourth beam, stand, run down.	Feet stand fully on top of the beam.
Run up at higher speed, reduce speed at last beam.	Increase speed.
Jump down from top beam, four-point landing.	Try active jump run upwards.
	Flank technique requires the "correct" foot to be set on the first beam.
	Combination of approach, crossing and landing techniques.

Balancing technique

Train on: Obstacle 18: Balance beam (Zig-Zag)

Use on: Obstacle 7: Balance beam

Obstacle 18: Balance beam (Zig-Zag)



Training programme	Notes for the Instructor
Balanced walk on top of the beam.	Take-off jump at corners with the "inner" foot.
Jump on the obstacle, delay for a moment, accelerate.	
Jump across corners.	
Balance on rail of chicane.	
Complete movement.	