

TRAINING SIMULATOR
JAKUB
C L I M B I N G

**FOR THE ARMED
FORCES**



uni system
Jakub

Czech Republic, Prague



TRAINING SIMULATOR JAKUB CLIMBING

STANDARD

PILOT

BIG

PARA

Modernisation of the military sector is also reflected in the area of training military professionals. The objectives and contents of training are constantly innovated, and new methods, procedures and training facilities implemented. The efficiency, intensity and comprehensiveness of training soldiers is increased.

One of the progressive directions is the use of simulators, which make it possible to model different variants of real conditions and situations, and to simulate activities for their solution. They are important mainly in cases when training in some important military activities cannot be carried out in real conditions, or can only be carried out to a limited extent, when training is organisationally and methodologically very difficult or too risky, economically costly or ecologically undesirable

FUNCTIONS OF THE SIMULATOR

The JAKUB CLIMBING training simulator is a methodologically self-contained training facility for simulating training in individual climbing skills and methods of team solutions to situations at height in conditions of army-combat commitments, in peace-making activities, during natural disasters and anti-terrorist actions. The JAKUB CLIMBING training simulator provides effective, intensive and attractive training in all military areas.





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It mainly serves for simulation training of:



- landing and reconnaissance units
- rapid commitment and immediate action units
- peacekeeping forces units
- mechanised, engineer, chemical and communications units
- selected health and logistics units
- military police
- pilots and crews of combat and transport aircraft
- search and rescue aircraft groups
- territorial defence units, etc





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The JAKUB CLIMBING training simulator makes it possible to carry out simulation training in:

Basic and special climbing skills and abilities, for example:

- standard techniques and improvised manners of climbing terrain walls and steep inclines with various configurations, climbing up and down through slots, folds and chimneys
- standard and improvised manners of protecting the co-climber, the primary climber and the team, construction of protective route
- climbing up and down on bars, pylons, trees, wire ladders and nets
- climbing up and down using single-wire techniques
- abseiling to a free depth and with the support of buildings, terrain structures and helicopters
- overcoming of depths by means of wire bridging, traverses and rope ferries
- overcoming of high buildings from the air or the ground through windows, balconies, lightning conductors, earth-leakage pipes
- overcoming of narrow throughputs, including smoky and flooded sections.



Comprehensive activities at height in various situations, for example:

- overcoming of defences of high structures and occupation of buildings from the ground and the air
- overcoming of exacting terrain by a small unit
- transport of armaments, ammunition and material in exacting terrain
- abseiling from helicopter to carry out combat, engineering, radiation and chemical survey
- establishment of UN watch and observation places in exacting terrain or buildings and monitoring of the situation
- hidden attack on tower buildings, imprisonment of persons with terrorist intentions, their bringing out from the building and transport
- rescue of persons in hard-to-access terrain
- rescue of persons from depth – channels, wells, ditches, combs and folds
- rescue of persons during floods, fire and demolition of buildings
- selected phases of parachute landing – preparation, jump, flight, landing.



Manners of preparation, survey of marching route in hard terrain, organisation of the unit and commanding in situations of activities at height

In addition to training possibilities, JAKUB CLIMBING can be used:

- for recreational climbing as a source of active entertainment during soldiers' leisure time
- for sports climbing of high-performance climbers and organisation of climbing races and competitions
- within rehabilitation activities for the purpose of movement prevention, or regeneration of the health and fitness of health-diminished soldiers
- during army presentation and recruitment events
- during cooperation of the army with fire units, the police, security and rescue units
- within preparation of the population to critical situations threatening human health and life

The JAKUB CLIMBING training simulator makes it possible to ally in full extent effective methodological procedures during training in partial and simple climbing elements up to the successful managing of comprehensive activities at height and their permanent training. This shortens the overall length of training and better provisional and final results are achieved.

Simulation training on the JAKUB CLIMBING training simulator evidently decreases original training risks at height and provides a high rate of security of trainees thanks to the flawless possibilities of target-managed increase in demands for climbing training, the methods used for protection of soldiers and the technical properties of the training simulator. Throughout the simulation training the mental resistance of soldiers is considerably strengthened, fear of heights, depths and closed areas is decreased and the necessary certainty and confidence is gained. Team cooperation and mutual trust is developed.

Simulation training on the JAKUB CLIMBING training simulator positively decreases the economic demands of training in climbing skills and activities at height. The training simulator can be located in such a manner that it saves time and costs for preparation of soldier training. If necessary, it is possible to easily dismantle the training simulator, transport it on common means of transport and install it in a new area. The economy of simulation training is also boosted by the possibility of mass training. Up to 60 soldiers can train together on the training simulator.

Training in activities at height in real conditions is often in variance with strict ecological requirements. During intensive training there is considerable wearing of the rock relief and surfaces of tower structures (buildings, bridges, etc.). Simulation training on the ecologically harmless JAKUB CLIMBING simulation trainer entirely eliminates these problems.

Simulation training on the JAKUB CLIMBING training simulator does not replace or decrease the importance of field training of soldiers, but it is understood as an important methodological part of it, bringing visible effects especially in training and conditional phases of training.

CONSTRUCTION OF THE TRAINING SIMULATOR

The JAKUB CLIMBING training simulator is designed as a variable construction kit making it possible to select the optimal variant according to the direction of the training and the requirements of the user (STANDARD, PILOT, BIG, PARA, variants). An important factor is the technically easy and fast handling of the trainer's construction and the possibility of permanent completion by new training modules and creation of new variants.



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The JAKUB CLIMBING training simulator consists of:

1. The load-bearing construction
2. Training modules
3. Safety and methodological elements
4. The base of the training simulator
5. Additional facilities



1. The load-bearing construction

of the training simulator consists of a high-quality standard construction scaffold fulfilling the requirements of international standards. The surface of the construction is covered with a galvanised layer preventing the origination of corrosion, this considerably prolonging its service life.

Depending on the variant selected, the construction is in the form of a cube or prism with differing height and layout. In the lower parts of the construction there is the stabilisation load. The construction is sufficiently robust and free-standing and does not require anchoring in the recommended variants.



2. Training modules

create the outside and inside shell of the spatially arranged construction. They are the main functional elements of the training simulator used for training.



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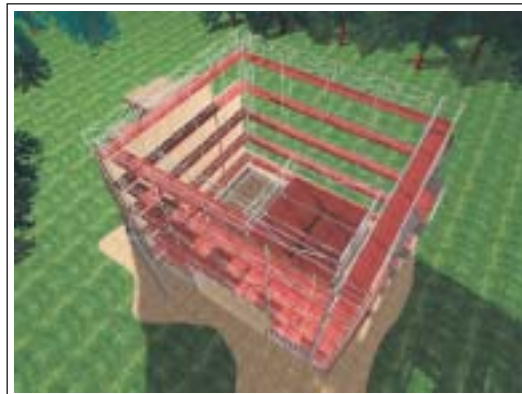
STANDARD

- various types of climbing walls – hill climbing, terrain, smooth, universal, etc.
- complete facades of buildings – with windows, balconies, cordons, lightning conductors, earth-leakage piping
- vertical and horizontal bars
- vertical wires, wire-rope bridging, transverse beams, wire-rope ways
- solid and wire ladders, wire nets
- abseiling tower 12 m

height: 10 m (tower 12 m)
width: 10 m
length: 12.5 m

wider operating area: 20 x 27 m
narrower training area: 16 x 23 m

Current training capacity: 32 persons





TRAINING SIMULATOR JAKUB CLIMBING

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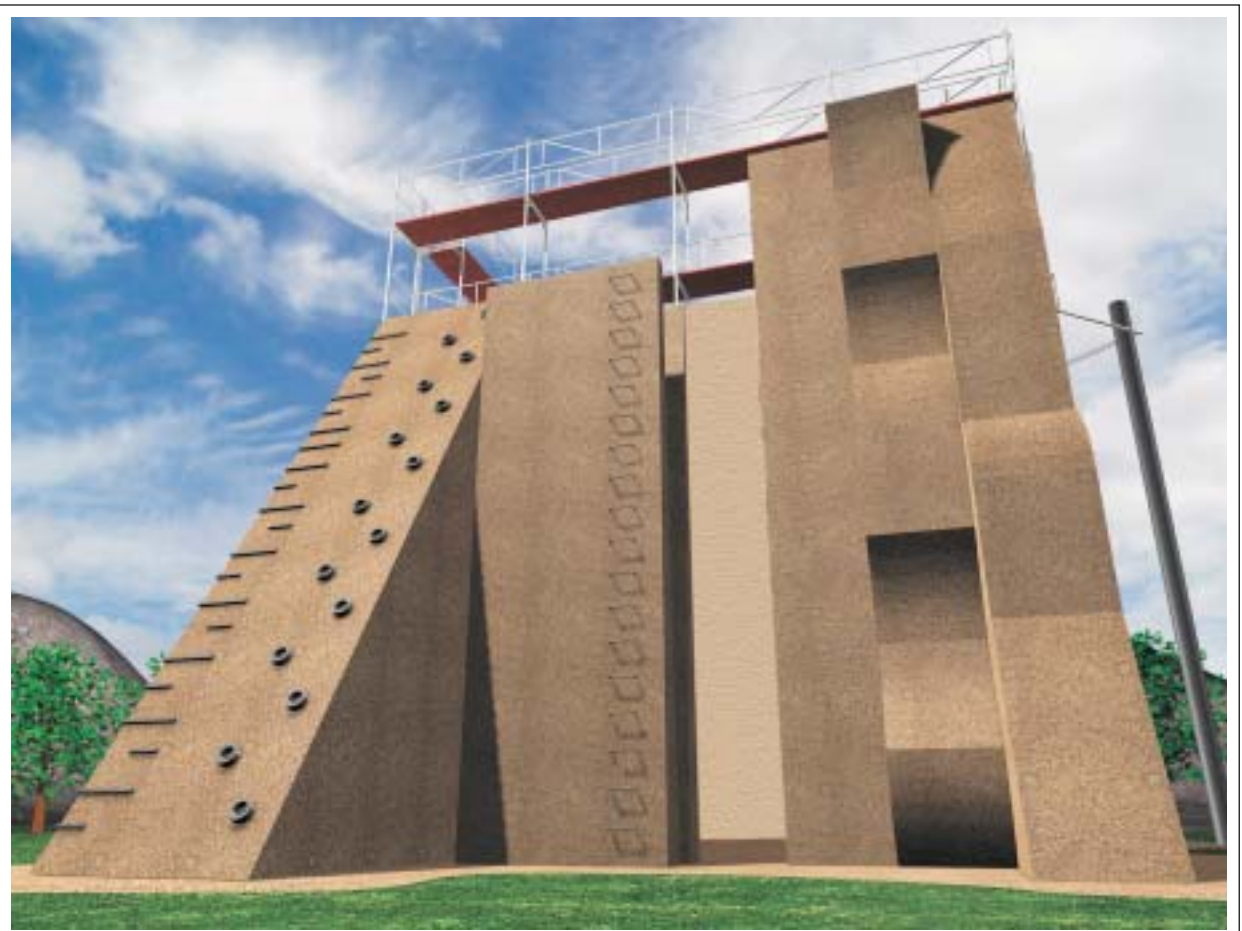
PILOT

- The same training modules as for the STANDARD variant.
- Additional training modules:
 - o tree
 - o fold
 - o movable rubber pyramid

height: 10 m (tower 16 m)
width: 10 m
length: 12.5 m

wider operating area: 20 x 27 m
narrower training area: 16 x 23 m

Current training capacity: 40 persons





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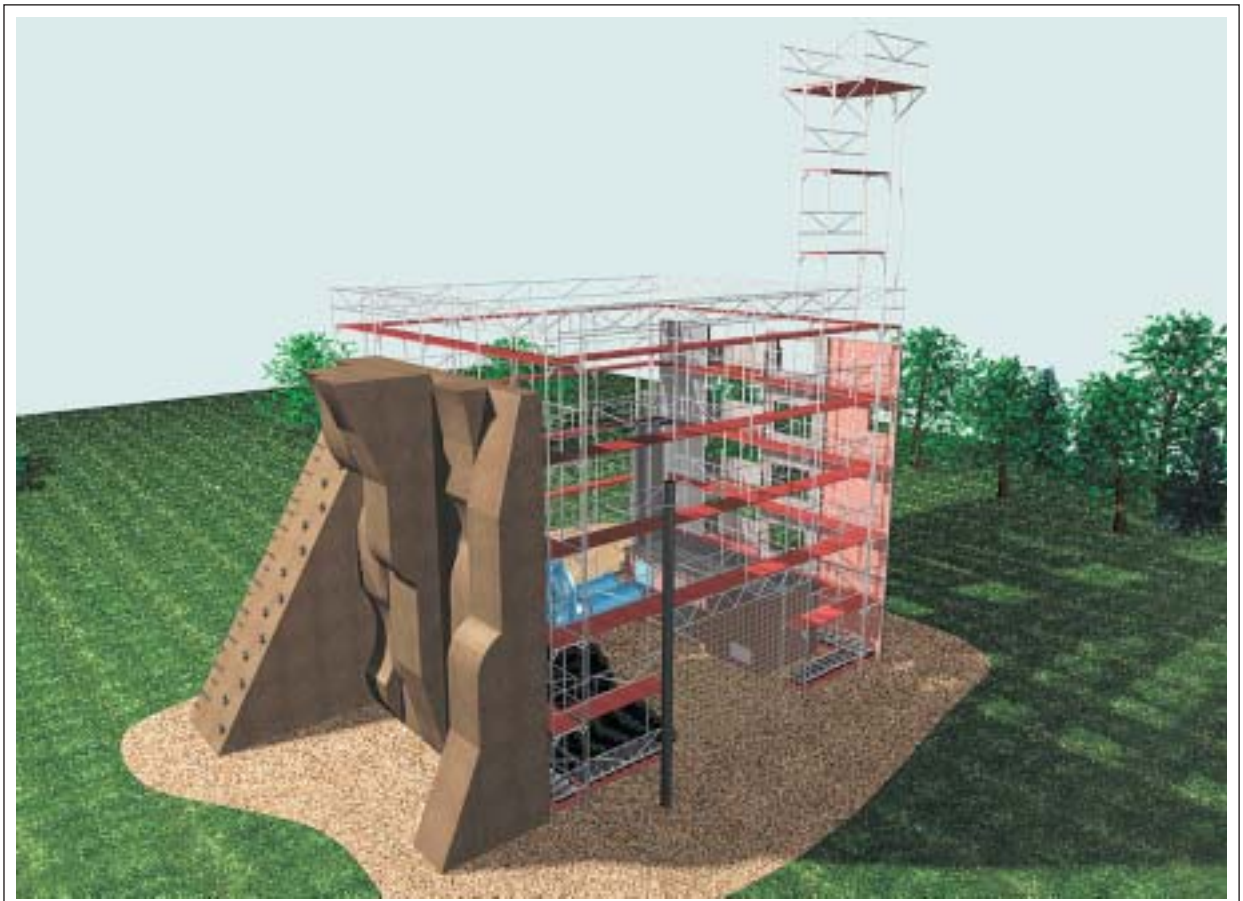
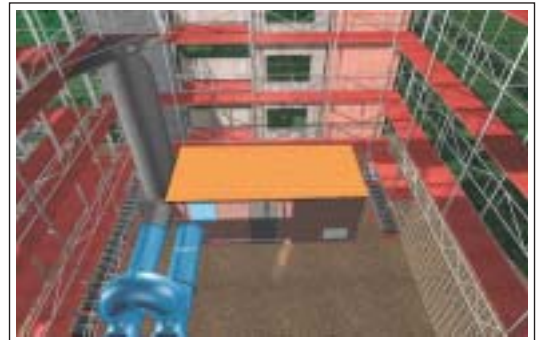
BIG

- The same training modules as for the STANDARD variant.
- Additional training modules:
 - o abseiling tower (16 m)
 - o access holes (shafts and piping)
 - o movable rubber pyramid
 - o tree
 - o fold
 - o single-storey (or two-storey) house.

height: 10 m (tower 16 m)
width: 10 m
length: 12.5 m

wider operating area: 20 x 27 m
narrower training area: 16 x 23 m

Current training capacity: 45 persons.





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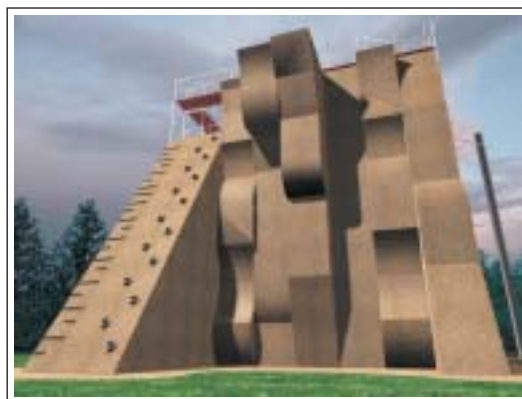
PARA

- The same training modules as for the BIG variant.
- Additional training modules:
 - o landing module:
 - segment for training of final phases of landing
 - segment for parachute control
 - segment for simulating training in parachute landing in the phase of preparation, jumping, flight (moving on sloped wire 30 m) and landing.

height: 10 m (tower 16 m)
width: 12.5 m
length: 42.5 m

wider operating area: 24 x 50 m
narrower training area: 19 x 46 m

Current training capacity: 60 persons.





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3. Safety and methodological elements

Protective elements create a simple, but very effective, system of protection of trainees even in conditions and situations with a high rate of risk. The system contains many tried-and-tested elements for climbing activities:

- a) Protective points – installed on the whole route of climbing directly on the training modules or above them (protective eyes, hooks, protective fittings).
- b) Climbing sets for trainees – standard climbing tools, e.g. climbing ropes, snap hooks, abseiling eights, helmets and climbing harnesses which protect the trainees during the whole course of climbing.
- c) The railing of the load-bearing construction – located in the passing parts of the training simulator and prevents trainees falling. In the training parts of the simulator's construction, due to training reasons there is no railing and standard wire railing is installed.
- d) Principles of safe climbing – a brief set of basic rules and recommendations for safe climbing.
- e) Climbing instructors and trainers – organise training on the simulator, protect trainees and supervise the keeping of order, climbing discipline and rules and principles of training on the simulator.

Methodological elements of the training simulator are made up of benches and fixed ladders of the load-bearing construction. They provide contact of the instructor and the trainee, his methodological conductance and monitoring of his current position. They also make possible methodological training through gradual increase in the height and complexity of the training.





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4. Base of the training simulator

Installation of the JAKUB CLIMBING training simulator requires a horizontal and solid base which, in addition to ensuring the stated static requirements, makes it possible to use the training simulator under unfavourable climatic conditions (rain, snow, slush). The best base is one from concrete or asphalt. In the case of a flat ground surface (clay, sand, gravel sand, etc.), the training simulator is installed on concrete feet.



5. Additional facilities

The user is offered additional facilities, for example, lighting for training during difficult visibility, light and sound effects for psychological modelling of real situations, etc.

Together with the technical set of the training simulator, the supplier offers:

- a) audiovisual, image and text equipment
- b) training methodologies
- c) operating conditions, post-guarantee maintenance
- d) a set of safety principles and measures during training.
- e) training of instructors and trainers.

According to the user's requirements, the supplier ensures comprehensive consulting and advisory activity during selection of the optimal variant of training simulator in terms of training requirements and bilateral conditions. The supplier also offers transport of the training simulator to the place of destination, recommendation of a suitable place for its location, professional assembly, regular technical inspections and issuance of a certificate.