

## Construction of TURNTILLBURN

TURNTILLBURN consists of a steel tube pivoted on high quality, encapsulated ball bearings fixed at both ends. The outer steel tube is coated with a special highly durable varnish while the suspension devices are anodised, which significantly enhances the durability of the TTB. Two hand pads are mounted for comfort in training.

TURNTILLBURN is made in Switzerland in collaboration with [www.diagonal-mechanik.ch](http://www.diagonal-mechanik.ch)

## Mounting

The TTB's eyelets allow for easy mounting, either by either clipping carabiners fixed into the eyelets or passing slings directly through the eyelets (8 mm cords). Hang your TTB from any stable and safe anchor e.g. a horizontal chin-up bar, an anchor above a door frame or attached to the ceiling. Ensure that the slings attaching the TTB to its anchors are correctly spaced: the distance between the anchor points must correspond to the width of the device.

## Safety

Before each training session, it is important to inspect the anchors from which your TTB is hanging to ensure they are secure. Please note that the device carries a maximum weight limit of 150 kg. In addition, it is important to place a good shock absorbing mat under the TTB to absorb any sudden falls; your reaction time will be too slow! As a newcomer please ensure that you pay attention to our training instructions in order to avoid any damage to your finger joints, ligaments or tendons. Do not develop any exercises of your own until you have gained some experience in training with the TTB.

TTB will not accept any liability for accidents occurring during the use of TTB for training.

## Maintenance

The TTB requires no particular maintenance. The ball bearings, which are the only movable part on the TTB, are encapsulated and well greased. All that is required is occasional wiping of the tube with a clean, dry cloth. It is in your interest to install your TURNTILLBURN in a dry and pleasant room. If the hand pads become worn out they are easily replaced. Release the two hex socket head cap screws on the anodised suspension device and remove them from the shaft. After moistening the tube with soap water, the new pads (available at dedicated bike shops) are easily installed. After the suspension device is reassembled, the hex socket head cap screws must be tightened to 12-14 Nm

## Warranty

TTB carries a one year guarantee against manufacturing flaws. Our guarantee becomes null and void once the product is dismantled.

## Training

By hanging on your TTB with your finger tips, and rolling your hands backwards and forwards, the extremely complex finger flexor muscles are trained across the full range of motion. The body load on the finger muscles can be regulated to a large extent by placing your feet in various positions on the floor or on a chair. To increase the load, you can either attach weights to your body, or perform controlled rolling movements while hanging from one hand at a time.

TURNTILLBURN newcomers should go through the following 4 training phases:

1. Build-up training (Hypertrophy): Increase of the muscular mass and strength through progressive resistance training, which requires a continuous, gradual increase in training loads (6-10 weeks). 6-12 repetitions should be performed until exhaustion.
2. Training for maximum strength (intramuscular co-ordination): Enhancement of the muscular reaction by the nervous system; that is an increase in the part of active muscle fibres from 40-60% to 80% (2-4 weeks). 1-3 repetitions should be performed until exhaustion.
3. Training of the endurance power (aerobic capacity): Enhancement of the muscular oxygen uptake and turnover recovery capacity (1-3 weeks). 30 or more repetitions should be performed until exhaustion.
4. Recovery: Reduced training (2-4 weeks).

TURNTILLBURN allows for single handed or two hand training. In addition, you can train a single finger or a group of fingers separately. The back of the hand can either face the athlete (pronated, the preferred position which corresponds with the climbing position) or away from the athlete (supinated).

Overleaf you will find our training programme. Good luck with your TURNTILLBURN

**TURNTILLBURN**

TURN TILL BURN GmbH, Rotachstrasse 21, CH-8003 Zürich, Tel. : +41 (0)44 451 67 94  
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## Training table

Remark: The dynamic exercises are more important than the static ones.

Abbreviations: T: Training unit(s)  
W: Week(s)  
S: Series  
E: Exercise(s) or repetition(s)

Phase	Duration	Training Type	Exercise	T/W	S/T	E/S
Build-up training (hypertrophy)	6-10 weeks	Dynamic eccentric-concentric for hypertrophy	Continuous roll in and out under load 1-2 sec per movement	1-3	4-10, Pauses 3-6 min	6-12, Load adjusted to a complete fatigue
		Static isometric training for hypertrophy	Motionless hang up during 5-10 sec, Load adjusted to a complete fatigue	1-3	4-10, Pauses 3-6 min	5-10, Pause 10 sec, Change the roll up angle of the hands
Training for maximum strength	2-4 weeks	Dynamic eccentric-concentric for maximum strength	Continuous roll in and out under maximum load	1-3	4-6, Pauses 5-10 min	1-3, Load adjusted to a complete fatigue
		Dynamic isolated eccentric for maximum strength	Roll out with max. load, Roll in released, Pauses between the exercises 10-20 sec	1-3	4-6, Pauses 4-8 min	3-6, Load adjusted to a complete fatigue
		Static isometric training for maximum strength	Motionless hanging, Load adjusted to a complete fatigue after 1-3 sec	1-3	4-6, Pauses 5-10 min	3-6, Pauses 10-20 sec
Training for endurance	1-3 weeks	Dynamic eccentric-concentric for endurance power	Continuous roll in and out under maximum load	1-3	3-5, Pauses 2-8 min	30-100, Load adjusted to a complete fatigue
		Static isometric training for endurance power	Motionless hanging, Load adjusted for complete fatigue after 10-20 sec	1-3	3-5, Pauses 2-8 min	20-40, Pause 10 sec Change the roll up angle of the hands
Recovery	2-4 weeks	Reduced training	Selected exercises			



## Introduction

The development of TTB is based on the results of sports medicine research into finger flexor strength training, particularly for rock climbing and sport in general. TTB allows you to develop the most important muscles needed for climbing and to keep them in shape with a reasonable amount of exercise thereafter. In addition, the TTB allows for targeted, muscle specific training. It was developed mainly for the advanced climber and is no substitute for conventional climbing training such as bouldering. However, if properly used, training with the TTB may verifiably increase rock climbing performance (*Isokinetics and Exercise Science, 2007*). Please read the following instructions carefully to ensure that your training with TTB is effective, risk free and safe. By carefully following our instructions you can substantially increase your performance while avoiding accidents or injury to the joints, ligaments and tendons of the fingers and wrists. TTB is even suitable for therapeutic purposes in the case of injured fingers, providing this is done under close medical supervision. For further information on both training and using the TTB for rehabilitation medical issues, please go to our home page: [www.turntillburn.ch](http://www.turntillburn.ch)

TURN TILL BURN GmbH, Rotachstrasse 21, CH-8003 Zürich, Tel. : +41 (0)44 451 67 94