

# User manual

## Copilot 3



CE

2012-1





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# Medical Devices Directive 93/42/EEC

## Declaration of Conformity

For

**Class 1 Medical Devices**

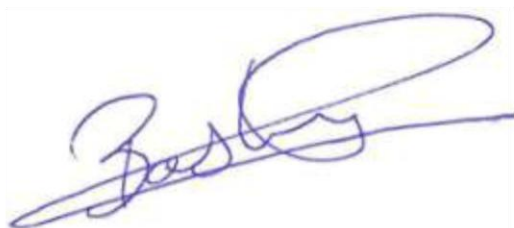
**Manufacturer's name:** Huka B.V.  
**Manufacturer's address:** Münsterstraat 13, 7575 ED  
Oldenzaal, the Netherlands  
**Product:** Tandem tricycle  
**Device name:** Copilot 3 - 24

I, the undersigned, hereby declare that the equipment specified above, is in compliance with the Essential Requirements, Annex 1 of Medical Devices Directive 93/42/EEC. The product is signed with the CE-mark according the above Directive.

Date: 01-02-2012

Name: B. Kamp, Managing Director Huka B.V.

Signature:



## Guarantee


Huka BV gives two years of guarantee on the tandem.  
Your supplier will carry out this guarantee.

The guarantee does not apply to damage or faults of the tandem caused by wrong or improper use. The evaluation of it is the privilege of Huka or a representative to be appointed by Huka.

N.B. This guarantee does not apply to components susceptible to wear.

Type/Type/Typ	:	
Datum/Date/Datum	:	2004-06
SN	:	406012
Max gewicht/Max weight/Max Gewicht:		KG

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 • lees de gebruiksaanwijzing/read the manual/Bedienungsanleitung lesen

## Huka BV

Huka is a Dutch company that manufactures appliances for the handicapped.  
If you have any queries about our products or their applications please contact your dealer.

## Modifications

Huka reserves the right to make modifications to the product described in this users manual without incurring liability.

# 1. INTRODUCTION

Cycling should be a pleasant activity. That is clear. Every day millions of Dutchmen mount their bicycles with pleasure. The bicycle is more than just a means of transport. Cycling radiates freedom and adventure. By means of cycling we save our environment, we obtain somewhat more of the green feeling.

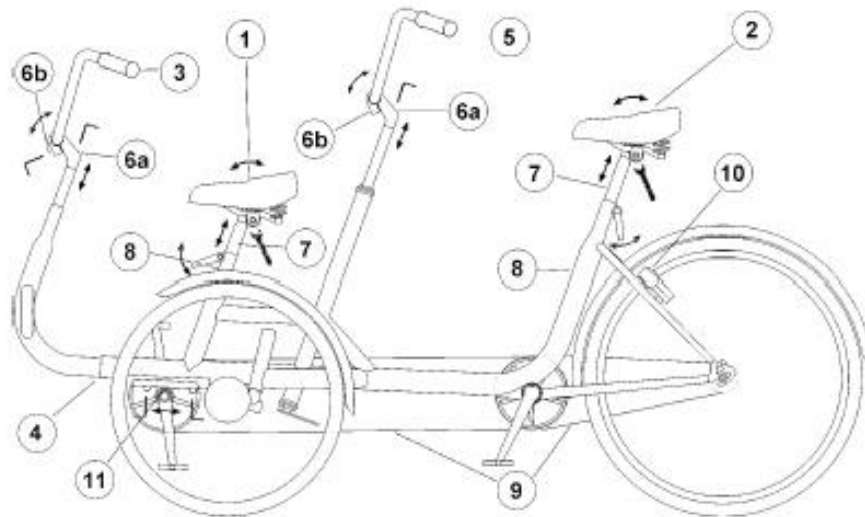
But not everybody can make use of the ordinary bicycle. Huka has developed a series of tandems in order that everybody can enjoy all pleasant aspects of cycling. Aspects like ergonomics, sizes, quality and styling have all played an important role in the design.

## **In general**

Your Huka tandem is a quality product. Every component of your Huka tandem has been tested and checked extensively. The finishing of the frame and the mounted components are of high quality. There for you are assured of an excellent product a carefree cycle pleasure. When supplying your new Huka tandem, in principle all described components are adjusted well and / or are turned to your wishes. But no matter how modern, even a Huka tandem is not completely free of maintenance. There are some things that require attention from time to time. This small manual provides instructions for maintenance that you possibly can do yourself and provides information about activities of your (Huka) dealer. To do a little maintenance can be quite fun, because it contributes to a greater cycle pleasure.



***Please pay particular attention to texts printed fat and in italics.***



## Survey

1. saddle of "copilot"
2. saddle of "captain"
3. front handlebar
4. tube for front handlebar fixing
5. rear handlebar
6. front and rear handlebar assemblies
  - a adjustment screw for handlebar
  - b adjustment screw for handlebar stem
7. seat post
8. seat tube with quick release
9. chain
10. hydraulic brake
11. chain tensioner

Please take notice of the attached manuals for the gear system, braking system, optional motor units and accessories!

## 2. PRODUCT DESCRIPTION

### 2.1 Purpose of use

The Huka-tandem is a cycle for handicapped children and adults.

The range of sizes of the Huka-tandems includes a great overlapping area of successive sizes (see figure 1). In this way it is easier to choose a cycle with the right size for the user, which can be used for a maximum length of time in the case of growing children.



## 2.2 Safety and driving behaviour

Before you take delivery of your new ready-to-drive tandem your dealer will have checked all components himself and, if necessary, will have adjusted these in order that you can cycle. If it is the first time that you are sitting on a tandem this will be somewhat uneasy.



***No matter how sporty your tandem is, never get tempted into too much enthusiastic behaviour on the roadway or riding on and off pavements. Your tandem can sustain visible or invisible damage, which involves additional risks.***

In order to use your tandem safely we advise you to (let) replace worn components like inner tubes, outer tubes, and brake block immediately. These components are obtained from every cycle shop or from your dealer.

1. The "captain" must be at least 16 years old.
2. The COPILOT 3 has to be checked for roadworthy condition before use. Particularly, check the front handle bar for stiffness.
3. The road traffic act and all traffic laws are to be obeyed on all journeys on public roads. Every road user must act in such a way that no other person can be endangered, damaged or hindered.
4. Seats and steering bars have to be adjusted correctly.
5. Always wear ANSI or BSI or GS approved safety helmets - both riders!
6. Take care on wet, slanting, uneven and slippery road surfaces or on tram rails.
7. For journeys in darkness a lighting system has to be mounted on the COPILOT. At night switch on the lights. Be visible; wear brightly colored clothing.
8. Warning: Do not ride downhill too fast. The tandem may skip to the front.

## 2.3 Prevention of theft

A safety lock is mounted on most versions of the tandem. If you want additional measures against theft than an additional cable lock is convenient to anchor you tandem rock-solid. These locks are available in many cycle shops.



***Always lock your tandem, also when you leave it just for a short moment.***



## **2.4 Drive**

### **2.4.1 Tandem Standard**

Parallel cranks, "copilot" has to pedal

### **2.4.2 Freewheel system in the front**

"Copilot" can freewheel (like regular bike)

### **2.4.3 Idle motion in the front, shiftable**

"Captain" determines via a shifter whether the "copilot" pedals or not.

**Warning: Do not switch under load!**

### **2.4.4 'e-bike' (power assisted)**

Motor 24 V hub motor, 250 W

Battery 24 V lead-gel 22 Ah

Motor is control automatically by measurement of the pedaling force. The engine adds 50% to total power.

Vehicles driven as such (EPAC, Electric Power Assisted Cycles) are legally treated as bicycles.

Please wear helmets!



## 2.5 Requirements of Operation

- The COPILOT 3 is a three wheel tandem with steering control from the rear seat that is designed for the common use of a disabled and able-bodied person.
- The maximum overall load is 180 kg, with a maximum of 80 kg in the front and 100 kg in the rear. The carrier may be loaded with max.20 kg.
- Every operation not described in this manual is forbidden.
- COPILOT 3 may not be ridden from the front seat alone. From the rear seat it may be operated by one person. In this case be aware of different driving conditions due to less weight!
- Structural changes must not be detrimental to traffic safety.

## 2.6 Technical

- Steel frame, welded, double powder coating, alloy-rims, composite mudguards, stainless steel spokes
- 7-gearbox with back pedal brake
- Front chain ring with 48 teeth
- Rear sprocket with 22 teeth
- 2 hydraulic hub brakes in the front
- 1 hydraulic rim brake in the rear
- Lighting system with generator
- 2 bells, luggage carrier, pump, lock, tool kit

## 2.7 Dimensions and Weight:

Length	188 cm
Width	88 cm
Height	74-80 cm
Tyres front	20x1.75"
Tyres rear	24x1,75"
Gearbox	SRAM Spectro S7
Weight	30 kg



## 2.8 Accessories

A series of accessories can be supplied for the range of the Huka-tandems. The possibilities are listed in the overview.

Almost all accessories can be provided for each type of tandem.

Ask your dealer if the respective accessory can also be supplied for your type of tandem.

The accessories have colours matching the colours of the tandem; thus the accessories and the tandem form a unit.

### 2.8.1 Back- and Lumbar support

The back and lumbar support is to be mounted with the T-saddle adapter on the saddle post.

Afterwards, adjust the saddle height and the position to the handle bar and Mount the saddle. To increase the variability of the saddle height, turn the saddle clamp.

The position of the back- and lumbar support can be varied by releasing the Allen bolt (1).

The position and the angle of the support(s) can be adjusted by shifting and turning the fixation clamp (2).

After adjusting the back- and lumbar support, the pole (3) should be shortened accordingly.



### 2.8.2 Foot rests / mounting

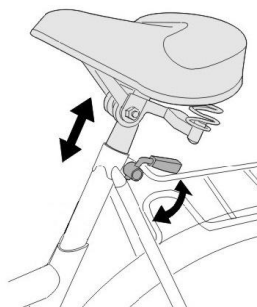
Illustrated with straps and leg support.



## 3. COMMISSIONING

### 3.1 Saddle height

The optimum saddle height depends on the body size and the eventually existing handicap. Adjust a height, where you can reach the ground with your toes while sitting on the saddle. Please note the eventually existing mark on the seat post, which should be inserted at least 7 cm in the frame tube !



#### 3.1.2 The position of the saddle

The saddle is mounted on the seat post. Place the seat post in the seat tube and adjust the height by pushing and turning. After finding the right position, fix the seat post with the quick release (1). On the T-Bike mini the seat post is fixed by a nut in the size 13mm. The saddle angle can be adjusted with the same tool.

### 3.2 Gears

For adjusting the 7-speed hub, see the SRAM Spectro manual which is enclosed separately.

### 3.3 Double steering/ Fixing of front handlebar

Release screw (6b) on front handlebar stem with Allen wrench size 5; if necessary apply a light hammer blow from above, then pull out the assembly . Change plastic hood and insert the assembly into handlebar the tube (front)/fixation tube (rear).

Then adjust the handlebar as described above and tighten all screws carefully.

The handlebar is now fixed!

### 3.4. Installation of pedals

During installation of pedals take notice of marking **L**-(left) and **R**-(right). Tighten with spanner Size 15.

### 3.5 The position of the handle bar

Adjustment in height and tilt angle is by means of Allen screws (size 5) on the handlebar assemblies (6a and 6b).

Handlebar grips should be readily accessible for both the "copilot" and the "captain", Make sure that your knees – even in narrow turns – do not touch the handlebar.

Both handlebars are to be positioned straight ahead. Hold or wedge the front wheel firmly and align the handlebar with the screws slackened.

**Tighten all screws!**



#### 3.5.1 Adjust handle bar

The position of the handle bar depends on the body size and the eventually existing handicap. The handle bar grips should have the same height as the drivers hip. To enhance the horizontal stability, the handle bar grips should be mounted as forward as possible without losing comfort by an unfavorable seating position.

The handle bar can be adjusted after loosening the adjustment screw (2) under the handle bar assembly (black). An allen bolt tool (size 6) is included in the tool set.

Don't forget to tighten the screw after adjusting.



***Before riding the T-Bike, be sure that all adjustments are correct.***

***Please make sure that all screws are tightened. Please notice that the handle bar and the saddle must no be removed after fixing.***

### 3.6 The wheels

The wheel is the most important component of the cycle, which is responsible for a light ride and a high cycle comfort. Many matters are important thereby, like well-inflated tyres, tightly tensioned spokes and a light running with absence of play.

#### 3.6.1 Pressure and valve

The correct tyre pressure is obtained for most tyres when you can still push the tyre in a little bit. When your tyres are too soft they will wear down faster. You will ride much more comfortable on quite hard tyres and your tandem listens better to the brake and movements of the handlebars. The inner tubes of the tandem are equipped with a common bicycle valve.



### **3.6.2 Spokes**

The spokes take care of the stability of the wheel and thus of the tandem. Therefore a correct pressure is important. Because new spokes always have to stabilise to some extent, the wheels of your tandem have to be checked after a couple of weeks. Then your Huka-dealer adjusts the spokes to the correct tension. In case it happens that a spoke breaks or is sitting loose then your Huka- dealer will of course put this right.

### **3.6.3 Hubs**

The hubs of the wheels should be adjusted accurately. Actually there should not be any noticeable play. If you notice an excessive play or the wheel is running heavily then ask your Huka-dealer to put this right.

## **3.7 The drive**

The drive system takes care that your pedalling force is converted optimally into movement. The system consists of many moving components: the chain, the gear (option), the crankshaft, the crank and the pedals. Of these, many components are free of maintenance.

### **3.7.1 Crankshaft, crank and pedals**

Most crankshaft bearings mounted by Huka are completely free of maintenance and cannot be re-adjusted. If it does happen that play develops in the bearing then it is necessary to contact your Huka- dealer immediately.

If play develops between the crank and the crankshafts then you can take off the dust cap and retighten the underlying bolt with a socket spanner. Most pedals are also free of maintenance. If the play is too large you can consult your Huka-dealer.

When you are mounting the pedals yourself watch for the indications L (left) and R (right) on the pedal axes. The left pedal is screwed in anti-clockwise, the right pedal clockwise.

You can use an open-end spanner or a special (narrow) pedal spanner.

Specially adapted pedals can also be provided as an option.

See paragraph 2.5 Accessories for this purpose.



### 3.7.2 The chain

When the chain pressure is correct your tandem pedals lightly and you will not hear the chain. When your tandem is delivered the chain will be well adjusted by your Huka-dealer. Your tandem is provided with a gear and two chains.

If you notice that one or the other chain is too slack have it re-adjusted by your Huka- dealer.



***This is very specialist work that can be best left to your dealer.***

***A plastic chain cover protects both the chain and the drive system.***

### **Avoid risks!**

Both Handlebars tight ?

No narrow winding !

Be cautious while turning !

Control your speed downhill !

Drive with care !

Go around obstacles widely !

Keep children awake !

max. 180 kg total load !

Max. 20 kg on carrier !

Wear a helmet !



## 4. USAGE

### 4.1 Riding the Copilot 3

- As a three wheeled cycle the T-Bike has different performance characteristics the a two wheeler. Inexperienced drivers should practice slowly first.
- On a bicycle, you steer largely by leaning to the side. You cannot lean a three wheeler this way.
- The cyclist may improve the balance of the T-Bike on curves by leaning into the inner corner.
- Try out the different turning circle, which is larger than that of a bicycle. Be sure to stay away from any obstacles or curbstones when making a curve.
- Brakes: The front brakes stop the vehicle immediately and can on vehement use also block the front wheels, especially when the hydraulic system is mounted. The brake can be adjusted by a qualified technician.
- The mechanical parking brake is used by turning the lever on the handlebar.

### 4.2 User environment

The Huka tandems are suitable for use on roads with firm underground.

The tandem can be used into all weather, but avoid when possible contact with salt water because of the influence of the metal parts.

### 4.3 Familiar user errors

The following user errors are possible and should be avoided.

These errors can cause personal injuries or damage to the product.



***Respect the following situations:***

- ***Always provide for the correct pressure of the tires.***
- ***Avoid persons near the tandem, particularly with the wheels, dangerous situations can occur.***
- ***Check regularly the good functioning of the brakes and make sure the function perfect.***
- ***Check regularly the good functioning of the lights and make sure the function perfect.***
- ***Respect the traffic rules and regulations seriously and take caution in traffic.***



## **4.4 Brakes**

### **4.4.1 Parking brake**

All tandems are equipped with a parking brake. This brake takes care that the tandem stays firmly at its position when mounting or dismounting the tandem. The operation of the parking brake takes place by means of a lever that is present on the handlebar axle, closely underneath the handlebars themselves. You put your tandem on the parking brake by turning this lever upwards as far as possible. To unlock the parking brake you can turn the lever downwards until the stop.

## **4.5 The lighting**

Your tandem is provided with a safe and reliable lighting. Always check that all lights are working when you have the lighting on. It is highly dangerous when you ride in the dark, in the twilight or in the mist without lights. Check the following points if (part of) your lighting does not function:

- Check that the electric wires are connected to both lights and the dynamo and there is no formation of rust.
- Follow the electric wires and check that the insulation layer of the wires is still intact everywhere (check that there is no short circuit because of naked wires).
- Check that the lights in their fittings are free of oxidation, that contact is made and that the filaments are not broken.
- Check that the dynamo is adjusted well and is running on the middle of the tyre.
- Check that the electric wires are not broken and / or are not jammed anywhere,

## **4.6 Safety lock**

If you want to lock your tandem you should first turn the key clockwise and hold it before you can push the handle downward. If the lock is bolted the key jumps back and can be taken away.

## **4.7 Lifting**

It is because of the weight, not possible to lift your tandem alone. Lifting with two persons is possible.

Pay attention to lift the tandem only at firmest parts and not for example the accessories.



## 4.8 Safety

1. The Copilot has to be checked for roadworthy condition before use.
2. The road traffic act and all traffic laws are to be obeyed on all trips on public roads.  
Every user must act in such a way that no other person can be jeopardized, damaged or hindered.
3. Please wear a helmet every time using the copilot 3.
4. Caution on journeys on wet, slanting, uneven and slippery road surfaces or on tram rails.
5. For journeys in darkness a lighting system has to be mounted on the Copilot.  
At night switch on the lights. Be visible; wear brightly colored clothing.
6. Always ride with reasonable speed and adjust your speed when going through curves.
7. When parking the Copilot, make sure that the parking brake is locked.



## 5. MAINTENANCE

### 5.1 Cleaning

The metal parts, the plastic parts and the soft parts, like saddle, can be best cleaned with a soft, moisten cloth.

Here you can use soap. Use never aggressive or scratching cleaning agents.

The different mechanisms should regularly controlled on impurities such as grain of sand etc. and when necessary be clean-brushed.



***Cleaning regularly aids the preservation of your tandem.***

***Never use a high-pressure sprayer for cleaning your cycle. This is because the pressure of the water is so forceful that you will spray the grease from the bearings.***

It is advisable to regularly lubricate or to grease all moving parts or to have this done by somebody.

### 5.2 Control

- Deraileur and chain have to be regularly lubricated with oil.
- Check regularly if tires are stuck.
- Check brakes on activity.
- A bicycle shop must check regularly the spoke tension - the first time after approx. 300 km.

### 5.3 Tires

Tire size and maximum tire pressure are written on the tire wall.

We recommend to use the maximum tire pressure written on the tire wall. Check the tire pressure at the fuel station.

In case of emergency, use the inflator attached to the frame. The tires are available at a local bicycle dealer.

In case of pressure loss, the inner tube of the front wheels can be changed without removing the whole wheel.

The tire walls are fitted with reflector strips.

#### 5.3.1 Tire pressure

The tires have car valves. You can check the tire pressure (3.5 bar max) at every petrol station. In case of emergency use the pump attached to the frame.



## 5.4 Repair

### 5.4.1 Authorized dealers for repair

The dealer, which sold or delivered you the tandem, is authorized by Huka BV to execute necessary repairs.

If you desire another dealer, you can contact us:

Huka BV

Tel: +31 (0)541 572 472

Fax: +31 (0)541 520 415

e-mail: [sales@huka.nl](mailto:sales@huka.nl)

### 5.4.2 Spare parts

Each spare part of the Huka tandem is separately available by your authorized dealer. Huka BV can supply these parts on request of your dealer.

### 5.4.3 Self-execution of repairs

It is not allowed to execute repairs yourself. By doing so your warranty claim and the guarantee at the product will expire. Repairs must be accomplished at any time by an authorized dealer.

### 5.4.4 Disposal of the product

At the end of the life span of the product, as well as the accessories and the packing, these can be disposed of as normal waste. You should separate the product to the disposal into the different materials and hand these over to a garbage waste disposal facility.

## Safety



This product meets the requirements of the European guideline 93/42/EEG on medical products

In the interest of maximum safety the T-Bike was approved by the Rheinisch-Westfälischen TÜV, Germany.





**Your dealer:**



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