

**BY CONNIEHANSEN**  
E m p o w e r e d t o g o o n



# **PETRA STORM RUNNER CROSS RUNNER X STRONG**

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# TABLE OF CONTENTS

Pages			
3	CONGRATULATIONS ON YOUR NEW RACER...	18	MOUNTING WHEELS, FRAME & PARTS
4	QUICK GUIDES	18	FORK OF PETRA
4	MECHANICS	18	FRONT WHEEL
4	ADJUSTMENTS	18	FRONT BRAKE & HANDLE
4	FUNCTION & USE	19	RACING BRAKE FOR SIZE 2, 3 & 5
4	TRANSPORT & TRANSFER	19	V-BRAKE FOR SIZE 0, 1 & 4
5	PRODUCT TERMINOLOGY	19	FRAME CROSS RUNNER
6	GETTING ON/OFF YOUR RACERUNNER	19	QUICK RELEASE REAR WHEEL
7	STABILITY & BASIC SETTING	20	REAR WHEEL WITH BOLT-ON AXLES
8	FINE TUNING & HABITUATION	20	PARKING BRAKES
8	SADDLES & PELVIC POSITION	21	STEERING ASSIST SPRING
9	CHEST SUPPORT & HANDLEBARS	21	OPEN SPRING SYSTEM
9	EXTRA SUPPORT	21	SADDLE & SADDLE POST
10	CLOTHING	21	CHEST PLATE & PINDE
10	FOOTWEAR	22	HANDLEBAR & HANDLEBAR STEM
12	MAINTENANCE	22	LEG SEPARATION PLATE
12	WARRANTY	23	DROP-LINK
14	MAX LIMITS & CE MARKING	23	FURTHER INFORMATION
15	SPECIFICATIONS & TECHNICAL DATA	23	REPORT INCIDENT
16	X-STRONG SPECIFICATIONS	24	MANUFACTURER & DEALER INFORMATION
17	STORMRUNNER SPECIFICATIONS	24	DECLARATION OF CONFORMITY
18	TECHNICAL AND SERVICE		

## CONGRATULATIONS ON YOUR NEW RACERUNNER

The PETRA project started back in 1989 with a quick idea put down on a napkin at a Danish Athletic Section meeting. Dane Mansoor Siddiqi needed a new chair for road races. My idea was to create a light and stable running frame with large wheels suited for both track and road races, combining the best of the racing wheelchair with the best posture for running.

CP athletes until then, propelled the chair backwards by feet – twisting neck to see where they were going – would now face forward and run safe and efficiently, with a clear view, towards the finish line.

This started a grassroot movement in CP-sport for a paradigm where the athlete no longer would fight so much against their handicap – rather have potential released by the right fitted equipment.

Soon it was the preferred choice among children and youth in Para athletics in Denmark, and later in North European countries.

It has been a 25 years+ journey towards inclusion on the Paralympic sports program. In 2018 – 2022 RaceRunning is on the program at Para Athletics World Cups and regional/world championships. Aim is to prove quality and quantity of athletes to be on program at PL 2024.

As an occupational therapist and former Paralympian athlete, I am proud of being part of a movement where there is focus on recognition and voicing of even the smallest steps made towards a personal goal.

I am deeply grateful to contribute to more people having a chance to exercise, participate in the socio-cultural life of sport and nature contact. I also admire how people

regardless of age and ability grow mentally and engage themselves in projects and development as their energy increase from running.

Our racerunner program consists of:

- PETRA produced in 7 sizes from size -1 to size 5.
- CROSSRUNNER with a detachable frame and quick release axels for all wheels in size 4 and 5.
- X-STRONG size 4 & 5 for users over 90 kg and up to 125 max.
- STORMRUNNER with an individual built frame, lighter/stronger chrome steel size 4½ and 5½ for each size there are flex zones for ex. height, length, and width.

The program now stands stronger than ever as a more durable, versatile, and highly individual adaptable equipment for mobility, recreation, and sport.

I hope even more people find the chance to explore recreational running in nature, trails, and mainstream running communities. We wish you good luck and lots of pleasure with your new racerunner.



Connie Hansen  
CEO BY CONNIEHANSEN 2015 ApS

## QUICK GUIDES

### MECHANICS

Check that wheel axles are tightened and that the tires have the correct air pressure.

Control function of front brake, included grip on the rim, cable attachment and the handle.

Make sure that all nuts and bolts on the saddle and chest plate are tightened.

Check for rust and signs of stress or damage.

### ADJUSTMENS

Adjust saddle, handlebar, front brake handle and chest plate etc. comfortably so you can use the brakes, turn, and create momentum.

### FUNCTIONS & USE

Become familiar with stability and weight distribution as well as steering and braking in low speed and in various terrain. Speed up gradually.

Be aware of all types of unevenness in a hilly terrain.

Never run on icy or slippery hills.

The racerunner is suitable for passing on-ly small curbs.

Approach inclining or low curb stones at a 90 degrees angle and at slow walking speed.

When riding on public road be considerate and ride accordingly to the law. Use relevant hand signals.

### TRANSPORT & TRANSFER

Never sit on the racerunner when it is being transported in another vehicle.

A racerunner should be transported in the boot or in a trailer securely fastened.

A racerunner is only intended for one person who supports their body on saddle and chest plate.

No part of the racerunner is designed to be stood on.

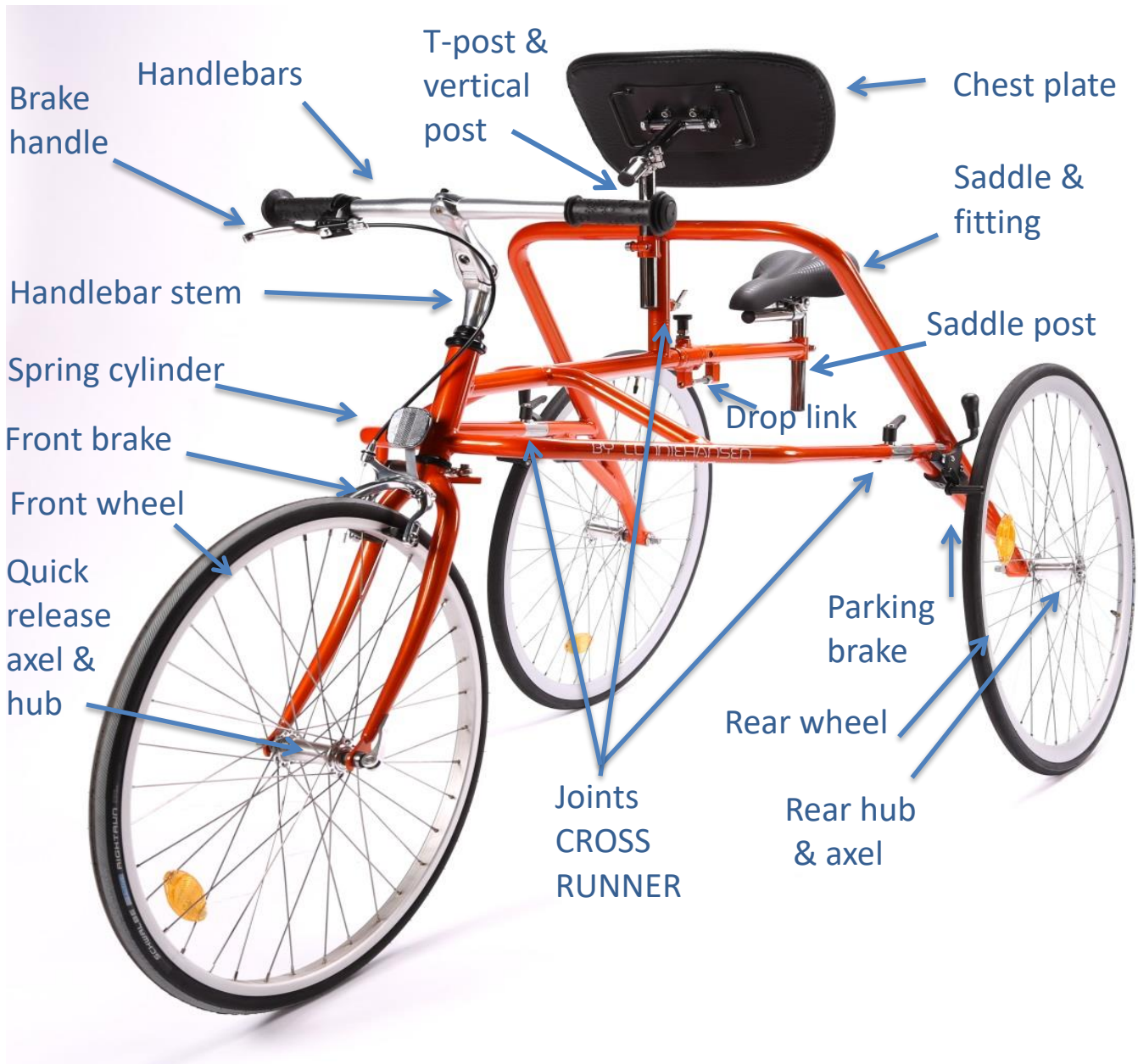
Getting on/off the racerunner should only take place on a flat, even surfaces with necessary assistance.

Always engage parking brakes of both the RaceRunner and wheelchair or walker. Minimize the transfer distance to the saddle.

Before beginning the transfer, review the handling of the drop-down link and transfer approach, and make sure to have necessary assistance.

Do not lean on the handlebar if you stand beside the RaceRunner. The handles may be outside the triangle of ground support and therefor unstable.

# PRODUCT TERMINOLOGY



## GETTING ON/OFF YOUR RACERUNNER

The user and a possible companion/assistant must make sure that getting on/off the racerunner happens appropriately and safely (and assess if another assistant is needed). Agree on how you do before you start getting on/off the racerunner.

Assisting persons must stand close to the racerunner, the user and his/her wheelchair. It is often not required to lift the user. Let the user do as much as possible himself/herself. Seek advice from a physiotherapist if you are unsure on how to assist.

The racerunner can slip forward even though the parking brake is used because of its low weight. Park it against a wall if necessary. Park the wheelchair between the rear wheels. Footrests can be folded out/up, and legs separated. Move forward on the seat and stand up with knee separated. The user should hold on to the handlebar and the frame. Do not hold on to the chest plate because it can be moved.

All sizes (except size 0) have a built-in drop-down link to lower the saddle section. Begin by lifting the saddle a bit so there is no pressure on the stop bolts. Lift up the indexing plunger on top of the tube and turn it halfway around. Lower the saddle section gently.

The user must stand upright with a gap between their knees so that the saddle can move freely during the lifting process. When transferring from a power wheel-

chair you can sometimes lift the seat and move directly to the saddle.

When the saddle needs to be repositioned again, the user's knees and buttocks must be in front of the saddle. Lift the saddle a bit over horizontal. Turn the cylinder so that the indexing plunger can go into the hole and head of the bolts underneath press tightly against each other. The user must stand up and perhaps lift their heels from the ground while the drop-down link is being operated.



**Remember:** Make sure that clothes or skin do not get stuck between the stop bolts in the drop link.

**Remember:** Check that the indexing plunger has securely dropped into the hole. Otherwise the cylinder may move around, and the saddle drops down without warning!

## STABILITY & BASIC SETTING

The saddle and chest plate should be adjusted so that, the user can move as freely and easily as possible. Some people put a lot of weight on the chest plate and/or saddle while others stand up on their legs carrying most of their own weight.

Aim for an open and relaxed position in which it is easy to run, breathe and steer. The weight can be spread 30-60 % on the legs, 20-40 % on the saddle and 20-30 % on chest plate and handlebars. Elbows should be in front of shoulders with half-stretched to almost fully stretched arms. Spasticity and contractures may require the handlebar to be moved closer to the body if needed.

With children and beginners, you should aim for a position where the upper body is tilted 20-30 degrees forwards. Most children and very spastic persons use a mountain bike handlebar because the wide handlebar makes it easier to turn the front wheel and stabilize the body.

Some experienced runners put most of the weight on the chest plate and only a little on the saddle. The upper body is at an angle of about 40-60 degrees over the chest plate. People who run in this way often have better control over their shoulders and arms than their legs and hips. They swing the legs forward and work a lot with the lower back while they pull the handlebar. They have the chest support so low that the upper part of the hip almost touches the support.

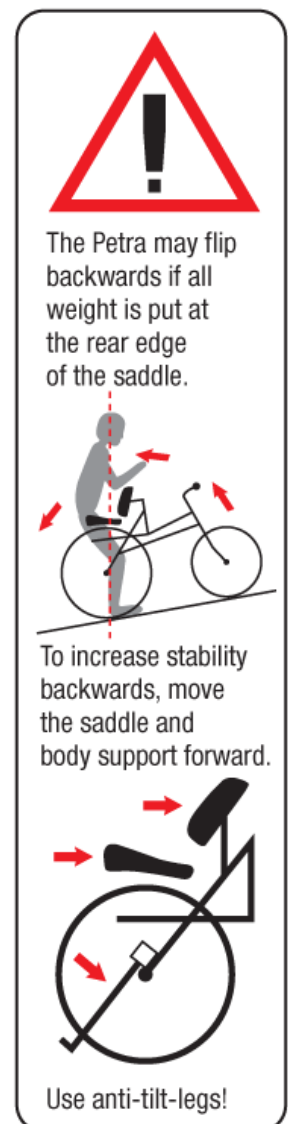
The three wheels form a triangle and the greatest stability is obtained when the body is pulled back towards the rear wheels. Therefore, the chest plate and saddle should be adjusted so the body's center of gravity is placed 15-20 cm in front of the rear axle.

Especially in the beginning, spastic motions and reflexes may cause the racerunner to lift the rear wheels and swing the front wheel.

You should be extra focused on the stability if the user has a big upper body and is standing upright.

If the weight is centered too far forward it can cause the racerunner to tip forwards/sideways when turning/stopping.

Likewise, stability backwards should also be considered (especially when rolling backwards and if the user let go of the handlebars).



## FINE TUNING & HABITUATION

### SADDLES & PELVIC POSITION

Even for short test rides it is important to choose the right type and fit of saddle and chest support. Otherwise it may hurt in the crotch and the movement feel awkward. The saddle shall support the seat bones proper and chest support provide stability.

Activity and training shall start as very short time and intensity. First time 10-20 minutes light activity may be enough. Over weeks frequency, duration intensity may increase slowly.

Users with weak back muscles and abs may need extra chest support. Also, if the user is rocking from side to side, he/she might need more chest support or a wider saddle.

Wheelchair users often have weak muscles, sensitive skin and sit heavy on the saddle which needs to be very soft or have a gel cover.

Conversely a person with strong thighs can easily get marks on the inside of their thighs when their leg is kicked backwards and hits the edge of the saddle. In this case search for a narrower saddle with more rounding under the seat cushions.

Note that narrow saddles allow good leg movement but are often hard and can benefit from a gel cover.

Banana saddles come in multiple types and give more stability in the pelvis. Find out exactly where the biggest problem is and if it is pressure or movement, which causes pain.

Aim for about 50% weight bearing on the legs and lean against chest support and handlebar for stability.

The angle of the saddle, the distance to and height of the chest plate affect the pelvic position and running style. Aim for a slight lumbar curve, almost as if you are standing up, but leaning a little more forward as if running normally.

If the saddle size and type seem OK but position is disconformable there are many things to try also in relation to the chest support:

- Push the saddle a little forward
- Tilt the saddle's nose down slightly
- Lower the saddle a little
- Or adjust the distance to the chest support or the height of the chest support
- If the saddle is rubbing too hard on the inside of the thigh or the back of the thigh, then try:
  - Pushing the saddle, a little back
  - Adjusting the saddle's nose down
  - Try a saddle that is narrower at the rear or more round in the bottom.





## CHEST SUPPORT & HANDLEBARS

The chest support and handlebar must be seen in conjunction. Generally, aim for the support being in line with the body from just above the hip up to the middle of the chest. It is important level it to follow the body and avoid that top/bottom edge digs into the stomach or upper chest.

The head can be stabilized by also activating the back and shoulder blade muscles. Generally, you should aim for the elbow being 10-15 cm in front of the shoulder and arms more stretched than bended.

Most people - also those who use support straps in their wheelchairs, can get comfort and good function with proper adjustments. Sometimes a belt or grip mittens provide stability.

Some people must stretch their arms completely to stabilize their upper body and head because their arms position can affect the muscle tone in the upper body. Some runners use both arm cuffs and grip mittens for stability. Others need to have their arms bent and the handlebars in a higher position to minimize the muscle tone and spasticity. Try for yourself and test what gives you best function and comfortable position.

If the chest support feels wrong, try to:

- Adjust the height up or down so that contact is distributed evenly across the chest support
- Increase or shorten the distance to the saddle
- Raise the handlebar
- Tighten the brackets behind the chest plate

- Tilt the handlebar forwards
- Other types of handlebars
- Arm cuffs/ tri handlebar
- Another type of chest support or more padding

## EXTRA SUPPORT

For extra support and safety, a belt can be mounted on the brackets of the chest plate's mounting plate.

Available in two widths and two heights.



A post with two clamp collars can hold an extra support plate.



For more stability to the side, try a PUR chest support that supports the sides also. Two PUR chest supports, give even more stability of the body. Check our webpage for more options.

*Small support mounted behind the saddle.*



## CLOTHING

When running on a RaceRunner the skin at the pelvis floor and inner thighs can be irritated by movements and sweat. Incontinence pads and elastics in underwear can also chafe.

To prevent irritation of the skin, make sure skin is clean, dry, and moisturized. Use cyclist chamois crème to protect the skin.



The best clothing is cycling shorts, short or long. Tights or leggings can be turned inside out to avoid irritating from the seams. Try different underwear or maybe omit them under the cycling shorts.

Leg warmers and ski underwear is suitable when it is cold.



On the upper body the clothes should be tight but flexible for movement. A wind-breaker can be good if it is raining or if it is windy. You will easily get sweaty, so it is good to wear multiple layers of clothes. The innermost layer should be able to transport sweat away and protect against the wind. You can look in sports magazines about cycling to get inspiration for clothing.

## FOOTWEAR

Contorted feet and soft skin can easily get blisters and wounds. Once again it is about building up gradually as well as using shoes that fit the shape of the feet and socks that do not wrinkle.

Most runners use normal running shoes for basic training and running on roads. Spiked shoes are used for intense training and competitive races on tracks. If the ankles are unstable, booties with more ankle support are good. Lightweight boots with good grip of the soles are good for training and can be used both on a track and on other surfaces.

If you have a hard time lifting the legs, then expect extra wear on the toecaps! Toecaps can be strengthened with rubber or a shoe sole. Use shoe adhesives or double-sided tape and duct tape around the edges.

If you have strong spasticity in the calf muscles with lifted heels and inward rotation of the foot, then support tape and elastic compression socks can lessen spasticity in the legs. An ankle brace can be used to protect the ankles from stress but is general not first choice.

*Dane, Andrea Overgaard pimped and ready to race her STORM RUNNER!*



## MAINTENANCE

The user or his/her legal guardian/ support person is responsible for adjusting the racerunner to the user's needs and keeping it in good and safe condition.

We recommend that all parts are checked cleaned and lubricated at least once a year and that worn parts are replaced. This is also an occasion to evaluate if size and basic settings are still suitable. The examination should be done by manufacturer or supplier. A bicycle mechanic can also do many general service tasks.

Storing should be in a dry and frost-free room. A scooter rain cover is useful against dust and dirt. Prolonged storage outside and in moisture is not advisable.

Saddles and chest support should be dried thoroughly if they have become wet. Fabric can be cleaned with textile soap,

but any liquid should be squeezed out carefully and dried at around 25 degrees.

The racerunner must be cleaned and checked after riding in gravel, sand or salt and at least once a quarter.

Check the tire pressures at every training, pump if needed. Advised pressure is written on the tire in bar or PSI. Check for wear of and stones sitting in the tire. Check that the rims, spokes and hubs are cleaned and well-functioning.

The brake's function should be checked before every training and adjusted if needed.

Worn parts must be changed before further use.

Chromed parts must be cleaned with a damp cloth to remove dirt and wiped over with rust inhibitor. Bolts may need a little grease.

## WARRANTY

The product is covered by Danish consumer law or equivalent in the dealer's homeland, hereunder:

The user has the right to return in unused product in original packing within 14 days of sale or receipt.

It is the user's responsibility that the product is kept in safe and good conditions and is only used in compliance of maximum limits and in a responsible manner.

If this guidance is followed, then the following applies:

- 5 years warranty on frame breakage.
- 2 years warranty on mechanical parts such as spring cylinder, Wheels, and steering fittings.
- 2 months warranty for parts such as tires, handles, and cables.

Contact the supplier for advice if technical problems or damage occurs. The buyer is responsible for paying the shipping cost for the return of items to dealer.

**This warranty is VOID if product:**  
**Is wrongly assembled or serviced.**  
**Serial number removed or altered.**  
**Used in competitive or stunt event.**  
**Used in a manner contrary to instructions in this manual.**

Use relevant strapping gear for transport the Racerunner in open car trunk. Make sure other items cannot collide into the Racerunner.

- Use wrapping foam when transporting the RaceRunner in a box. Unat-

tached and small parts should be in bags and large parts wrapped. Reduce pressure in tires when flying and if risk of high heat. Make sure it is packed so it does not slide in the box and that the box is strong.

#### When traveling – PACK SAFELY!

Transportation forces on the road, in airports and on the plane can be very rough on the equipment. We recommend that you dismount the spring cylinder, handle bar and front fork, and all posts both if the RaceRunner in a soft bag or in a hard box.

Use tennis balls or similar protection on legs and “corners”. Use foam or cart board material on tubes and parts.



## MAX LIMITS & CE MARKING

A racerunner is used by many different people in various environments and for various purposes. Depending on the primary and secondary purpose a racerunner can serve as a mobility aid or as an accessory for education, sport, or rehabilitation. Users' disabilities are often very different. If the user cannot handle speed, traffic, and other risks he/she should be accompanied and guided by a competent person. A racerunner can accelerate much faster than a walker or rollator. Therefore, it is important to pay attention to stability forwards, sideways and backwards for every user.

Your racerunner is produced and marketed in accordance with the CE directive for medical equipment group 1. EU's medical directive requires disability aids to be CE marked and to comply with standards including for ex. Stability & durability. We have prioritized low and compact weight, low rolling resistance and flexible steering on the racerunner.

Our running bikes have been tested by the Danish "Hjælpemiddelinstittet", in accordance with relevant standards. The manual and/or a sticker on the product inform where the product differs from the requirements.

1. Every size has a maximum user weight specified on the frame number for the sake of stability and load on frame and wheels.

2. The saddles back edge must be a maximum of 2-4 cm behind the vertical line through the rear axle. Stability and the user's responsiveness must be considered when using a high set saddle and/or an extra-long seat post.
3. Do not use the handlebar as the support point if there is no weight on saddle/chest plate and the handlebar is facing forwards.
4. When getting on/off you naturally must be careful not to catch skin/clothes in the drop-down link, behind the chest plate or in the drop-down link for the saddle section.
5. Be careful not to roll backwards downhill and always hold on to the handlebar when reversing.

MAX LIMITS SIZE	MAX height cm	MAX weight kg
P(-1): Baby	95	30
P0: Mini	110	30
P1: X-Small	130	45
P2: Small	145	55
P3: Medium	160	65
P4: Large	177	80
P5: X-Large	190	90

## SPECIFICATIONS & TECHNICAL DATA

The basic design is similar for all sizes. Wheel sizes vary. All frames are made of 37/52 steel with link parts in stainless steel with two layers of powder coating.

Front wheel + quick release axle, (size 0 and 1 is mounted with nuts).

Rear wheel; aluminum hub, 6001 bearings, special stainless-steel axle or quick release axle, steel spoke, tire, and tubes with racer- or bicycle valve.

Aluminum mountain bike handlebar (straight or slightly curved), rubber grips, brake lever either to the right or left, adjustable handlebar stem 90-135°.

Brake on front wheel depends on size of fork and wheel. The rear wheels got aluminum park brake as wheelchairs.

Steering of front wheel; bi-directional spring cylinder (type CC: light, C: medium or B: strong).

Size (-1), 0 and 1 have an open spring.

Yellow reflectors in all wheels, white at front and red at rear. Bag with manual and tools: 5- and 6-mm Allen key and 13/17 mm fork key.

Individual choice of mounting sticks (angled seat post, T-post, and post with clamping neck for the chest plate) fastened with 6 mm Allen bolts.

Saddle and chest support are chosen as individual accessories.

Photo: John Russ, USA



Petra sizes	(-1). Baby	0. Mini	1. X-Small	2. Small	3. Medium	4. Large	5. X-large
Saddle app. height	24-32 cm	38 - 53 cm	45 -60 cm	50-66 cm	60 - 75 cm	70 - 85 cm	80 - 95 cm
Breast support, app. height	45 – 53 cm	50 - 75 cm	56-82 cm	63- 88 cm	75 - 102 cm	85 - 111 cm	95 - 125 cm
Handlebar app. height	45 – 60 cm	50 - 60 cm	60-70 cm	65-75 cm	70 - 85 cm	80 - 95 cm	100 - 120 cm
Total length	100 cm	118 cm	128 cm	144 cm	156 cm	168 cm	184 cm
Total width	65 cm	71 cm	73 cm	75 cm	78 cm	82 cm	85 cm
Weight	10 kg	10 kg	13,5 kg	14 kg	15 kg	17 kg	18 kg
Front wheel	47-203 mm	32-357 mm	32-357 mm	28-451 mm	28-451 mm	28-451 mm	28-540 mm
Rear wheel	47-203 mm	28-451 mm	28-451 mm	23-622 mm	23-622 mm	23-622 mm	23-622 mm

## SPECIFICATIONS FOR X-STRONG RACERUNNER

The X-STRONG racerunner is designed in two adult sizes – 4 and 5 and designed for adults up to 125 kg.

The model is reinforced around the linkage and other stress areas of the frame as well as the saddle post and has additional space thanks to the wide frame design.

The X-STRONG racerunner comes with off road tires and two layers of powder coating. Front wheel-steering choose steering damper/spring cylinder type CC, C or B.



X-STRONG	4. Large	5. X-large
Saddle app. height	70 - 85 cm	80 - 95 cm
Breast support, app. height	85 - 111 cm	95 - 125 cm
Handlebar app. height	80 - 95 cm	100 - 120 cm
Total length	168 cm	184 cm
Total width	82 cm	85 cm
Weight	17 kg	18 kg
Front wheel	37-451 mm	37-540 mm
Rear wheel	40-622 mm	40-622 mm
User max weight app.	90 – 125 kg	90 – 125 kg



## STORMRUNNER SPECIFICATIONS

The STORMRUNNER is built in Chromium-alloy BTR 110 and aluminum fork. Two adult sizes; 4½ and 5½, with tailored adjusted frame dimensions. Aluminum front wheel; quick-release-axel, Rear wheels; bolt on axles. Drop-link optional.

### Carbon/alu upgrade options:

- Carbon wheels
- Carbon or alu. chest plate
- Carbon handlebar
- Light alu. Fixed off set HB stem



STORM RUNNER	Size 4½	Options	Size 5½	Options
All 3 Aluminum wheel 700 CC, clincher All 3 Carbon 700 CC, tubular		Either Or		Either Or
Fork Aluminum 700Cc, 1 1/8 angle Fixed	25°		25°	
Rear wheel camber fixed	7-8°		7-8°	
Overall width w. wheels/ tire fixed	78 - 81 cm		84 - 87 cm	
A. Height floor to above saddle clamp	65 - 75 cm		75 - 85 cm	
B. Main tube - saddle section Attention to angle of saddle!	Straight diagonal	Bend & Horizontal	Straight Diagonal	Bend & horizontal
C. Drop link	Std. no	Yes	Std. no	yes
D. Height under arch	82 - 88 cm		92 - 98 cm	
E. Clamp position for chest supp.		Front/back		Front/back
F. Distance Vertical post – saddle clamp	39 - 43 cm		44 - 48 cm	
G. Distance front - vertical post	39 - 42 cm		44 - 48 cm	
H. Overall length with wheels	176 - 183 cm		187/ 194 cm	
Color RAL std. Powder coat	White/black	Wet paint	White/black	Wheat paint
I. Handlebar & HB stem	Mountain bike	Racing	Mountain bike	Racing
J. Spring cylinder		CC / C / B		CC / C / B
K. Approx. Weight frame, fork, HB, spring	9 kg		10 kg	
L. T- post	15 cm	10, 15, 20 cm	Std. 15 cm	10, 15, 20 cm
M. Post vertical w. clamp	Std. no	10, 15, 20 cm	Std. no	10, 15, 20 cm
N. Saddle post steel	15 x 8	8 x 8 or 10 cm alu.	15 x 8	8 x 8 or 10 cm alu.

## MOUNTING OF WHEELS, FRAME & PARTS

General:

- Mount the racerunner on flat, clean surface like a solid carpet.
- Keep wheel shafts/axels free of dirt. Let the wheels stand against a wall. Do not put the axels/wheels on any dirt, rough or hard surface like asphalt, soil, sand etc.
- Check steering, brakes, and wheels after assembled and before use.
- Posts must always be inserted fully into the clamping collars on frame.

### FORK OF PETRA

Take of the counter nut, spacer ring and upper bearing of the forks threaded top.

- Mount the fork into the crown tube of the frame, tighten fittings first by hand.
- Use the headset key afterwards. Take care that the key does not slip and damage the fittings. The fork must turn smoothly without wobbling.
- Use a 5 mm insert key to mount the 5 mm bolt at the little arm on the fork. After mounting the wheels, you can check if it runs straight, by pushing it down a straight line. If not follow instructions for SPRING SYSTEM p. 20.

### FRONT WHEEL



1) turn the little lever on top of the brake arms to make space for the tire.

If axel is dismantled, make sure the small spring spacers are at each end of the axel when it is inserted in the wheel.



Set/loosen the nut of the axle of the wheel enough to slide into the fork.



3) Tighten the nut on the axle slowly until the 4) lever-handle easily can lock and fix the wheel in middle of the fork.

1) Turn the lever on top of the brake arms to engage brake cable tension.

### FRONT BRAKE & HANDLE

1) Adjust the brake lever's opening with a tiny Allen key.

2) Adjust the tension in the cable with the adjustment bolt.

For children there is a smaller handle





**Racing brake for Size 2, 3 and 5** is mounted at the top of the front fork. Adjustment of the brake arms' opening can be done by 1) Tightening the cable. 2) Adjusting the adjustment screw. 3) There is a small Allen screw on top of the brake to adjust the balance between the openings of the two claws. 4) The brake blocks must follow the rim.

**V-brake for size 0, 1 & 4** is mounted on pivots on the fork. The brake arms have small spring and a pin to adjust the tension.



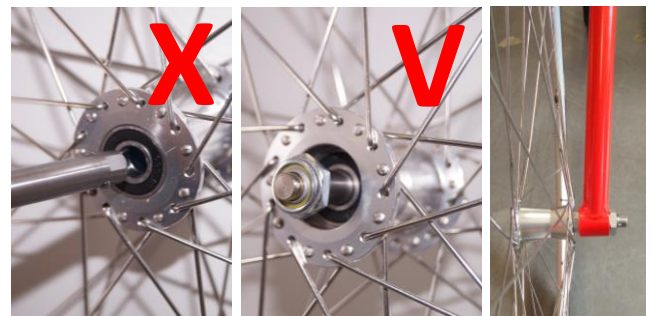
The Brake pads are positioned to follow the rim. The opening must be about 2 mm on each side. The brake's cable must be tight to work.

## FRAME OF CROSS RUNNER

- 1) Fit the fitting on the central frame tube and press the side fittings together.
- 2) Screw the bolt handles 2/3 in.
- 3) Press the middle fitting tightly.
- 4) Lock the swing index bolt.
- 5) Tighten the bolt handles on the side tube and align with frame tubes.



## Quick Release Rear wheel



Mount axle from the side where the bearings are inserted a bit. Insert axle into bushing on the frame. Check if button pops out and pin balls are out on the other side of the bushing

## Rear wheel with bolt-on axles

- 1) Mount the axles straight into the bushing. Do not align with leg of the frame.
- 2) Use a 6 mm insert key. It should feel easy to turn the insert key. Only use force at the end. If it feels hard or if it crunches, then undo the axle and clean parts before mounting.

Avoid dirt in the bushing and on the axle. Remove dirt with compressed air or with a small toothbrush. Lubricate with a little bearing grease if the axle is dry. Quick release axles must be lubricated with grease and check that the quick release ball lock pins are jumping out and are locking.

The nut on the outside of the axle is placed so the bearing can run freely. It should only be adjusted if there is resistance. Then also check if bearings are good.

Check regularly that the tire pressure is fitting for the tire type without substantial wear and that stones and glass fragments are not cutting into the deck.

**Recommended pressure level is marked on the side of the tire.**

## PARKING BRAKES



The brake arm and the clamp are mounted with a 5 mm Allen key. The cylinder on the brake arm shall stand perpendicular onto the tire. The distance should be approx. 5 mm when the brake is open, and the tires are well pumped.

Make sure that the brake arm is not worn down and sits firmly.

## STEERING ASSIST SPRING

There are 3 strengths of spring cylinder:  
CC = Soft  
C = Medium  
B = Hard.



They are mounted with 5 mm Allen bolts on the frame and on the fork bridge with has 3 positions. The further out the stronger the spring works. The end caps of the cylinder are glued and should normally not be changed. If the RaceRunner does not roll straight the length of the spring can be adjusted as follows:

- 1) Loosen 10 mm nut on the stem.
- 2) Screw the bolt in the eyebolt out.
- 3) Turn the eyebolt outwards if the RaceRunner runs too much left and inwards if it runs too much right.
- 4) Tighten the bolt in the eyebolt and the nut in again.

If the spring can move without force may be because 1) the glued end nuts have loosened, 2) the spring inside has cracked or become loose, 3) the eyebolts may be worn down. 4) Bolts not tighten. Service

should be done by a trained mechanic. The spring should be changed every 2-3 years if used normally and should be serviced once a year.

## OPEN SPRING SYSTEM



An open spring system is used on our PETRA size (-1), 0 and 1 - It can also be used on the size 2 and 3.

The system consists of a mounting ring placed on the intermediate tube of the frame, a spring and a nut that is placed on the back of the front fork's top. The spring is tensioned by adjusting the ring and the adjusting screw.

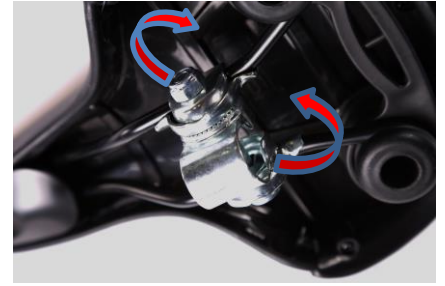
## SADDLE & SADDLE POST

Saddles shape, width, curve, padding material all serves different needs and are essential for comfort. Woman often needs wider saddles than men.



Use a 13 mm wrench to adjust the saddle fitting on Rails/hoops. Use at 17 mm wrench for the black Uni fitting on banana

saddles. The parts of the fitting can be mounted both extra high and low position. Pull the fitting back to avoid marks on the inner thighs.



The saddle's position over

the rear axles and the user's weight and position are essential for tip-point and stability. The saddle's back edge may maximum be 2 cm behind the rear axles. The saddle post must turn forwards to secure stability.



## CHEST PLATE & POSTS

The chest plate is adjusted as follows:

- 1) up/down on the clamping collar on the frame with a 6 mm Allen key.
- 2) in/out on the vertical post's clamping collar.
- 3) The angel of the chest plate is tightened with a 13 mm wrench on the bolt through the T-stick, the nut acts as counter nut.
- 4) A clamp and a small tube can secure the angling even more.



block underneath the top part. There are different lengths and types of handlebars, arm rest and grips. Remember to tighten all bolts after adjustments.



*Special Mountain bike horn & TR1 support. Look at our webpage for more options.*

The posts come in different lengths. Posts, clamping collars and bolts should be lubricated and cleaned for dirt and rust if necessary.

Belts are available in two lengths and two heights.

PUR chest supports come in 4 sizes:

Size 0 = 22 cm

Size 1 = 25 cm

Size 2 = 28 cm

Size 3 = 31 cm opening



## HANDLEBAR & HANDLEBAR STEM



1) The handlebar stem can be turned both ways and adjusted in height with a 6 mm Allen key in the bolt on top.

2) The angle on the top part of the stem is adjusted by loosening the bolt and the

## LEG SEPERATION PLATE



The plate mounted with a square-sectioned post from the seat post and a vertical square-sectioned post down to the plate.

## DROP LINK



1) The drop-link's bolts are adjusted with a 13 mm wrench. The bolts' heads should stand level against each other with horizontal saddle section. It is important that the drop link is well lubricated, without dirt and that it can move freely. 2) It is important that the pin in the index plunger inserts fully into the hole. 3) Check that the tight fit bolt sits firmly in the link heads. The drum can be lubricated by screwing the index plunger out and putting grease (resistant to saltwater and acid) into the hole. Depending on use and storage it can be necessary with yearly service.

## FURTHER INFORMATION

[www.by-conniehansen.com](http://www.by-conniehansen.com) : General and specific product information, advices and ideas for training, information about the sport RaceRunning and links to other RaceRunning active countries.

[www.racerunning.dk](http://www.racerunning.dk) : Information on clubs, national teams, rules, athletes, , events and training in Denmark.

[www.racerunning.org](http://www.racerunning.org) : International site for RaceRunning, rules, results, results, statistics, athlete profiles and classification.

## REPORT INCIDENT

Send a report to local dealer or:

[mail@by-conniehansen.com](mailto:mail@by-conniehansen.com) if an incident occurs while using your racerunner and you:

- Get injured yourself
- A third part gets injured
- The bike is damaged
- Experiences a particularly dangerous situation which is not mentioned in the manual

The reports can positively contribute to product improvements even though they are not necessarily covered by warranty or insurance. Share:

- What happened
- Any damage that occurred
- Where the incident took place
- Date for incident and the product's serial number
- (if relevant pictures)



[www.cpisra.org](http://www.cpisra.org) : International organization site for cerebral palsy sports, rules, results, classification, research, developmental work.

## MANUFACTOR

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## DISTRUBUTOR



Racerunners are produced and sold in Denmark CE marked in accordance to the medical directive. Abroad, the retailer's registration and the costumer's purpose can change this. Use of the racerunner for competitive or high-risk activities voids warranty & responsibility.

### DECLARATION OF CONFORMITY

By CONNIEHANSEN hereby confirms that product and accessories are produced in accordance to EU's Directive for medical equipment 93/42/EEC of JUNE 14. 1993, including annex 1 and annex 7 applicable for class 1 equipment and relevant parts of level 1 standard prEN12182:1998, requirements specification ISO 12 18 12, prENISO/FDID 11199-2:1997 and Risk analysis prEN 1441.