

US Special Edition Models: Gekko 26 and Gekko fx 26 with Hands-On-Cycle – Assembly Manual



Content of the equipment box (article code EBGE26HC)



Danger

Assembly of a Gekko US Special Edition model must be done by a qualified bicycle mechanic. Improper assembly may result in crash, injury, or even death. This manual is written for qualified and experienced bicycle mechanics only. Not all assembly steps are described or shown in detail.



Danger

Improperly tightened screws may become loose or break and lead to component failure, resulting in a fall or serious injury.

Observe the tightening torques given in the table on the last page of this manual.

Secure the screws with a medium-strength threadlocker.

About Gekko US Special Edition

The hand drive “Hands-On-Cycle” is available for the models

Gekko 26 (GEN)

Gekko fx 26 (GEL)

This manual describes the assembly of a Gekko 26 or a Gekko fx 26 equipped with the hand drive “Hands-On-Cycle”.

The trike comes in 2 boxes: A frame box including the frame and basic parts and an equipment box with the hand drive and equipment parts.

Use the manual in the frame box only to check whether all parts of the frame box are included.

Use the manual of the Hands-On-Cycle equipment box for assembling.

1. Check the content

Check the box content of the frame box. Compare it with the content picture in the manual of the frame box.

Check the box content of the equipment box (see front page).

If the hand drive lower cover comes mounted you may dismount it for the duration of assembly in order to protect it from scratches.

2. Unfold the frame

The Gekko fx 26 frame needs to be unfolded before starting assembly. See the trike’s operating manual for further instructions.

3. Assemble the seat frame

Insert the spacer bushing (OD 8 mm, ID 6 mm, length 12 mm) into one seat frame hinge. If necessary, use a 8 mm drill to drill out both hinge holes of the seat frame. Use some grease on the bushing’s outer surface.

Insert the M6x20 socket head screw and the washer (M6) from the outside. Use the plastic washer (OD 28 mm, ID 8 mm, thickness 2 mm) between seat frame hinge part and main frame hinge part. Screw the socket head screw into the main frame hinge.

Proceed as described on the other hinge.

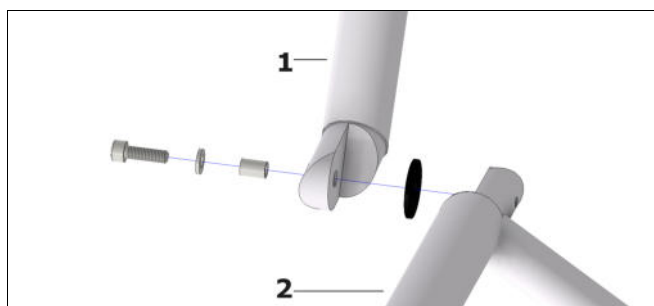


Fig. 1: Seat frame hinge

1 - seat frame

2 Put the trike into the work stand

4. Put the trike into the workstand

Use HP VELOTECHNIK’s assembly mount (art. code MHHPGEF) to secure the trike frame into a work stand.



Fig. 2: Mount the HP VELOTECHNIK assembly mount between frame and seat frame.

5. Align stem and handlebars

Align the stem upper part with the stem underpart. Tighten the screws (4–6 Nm).

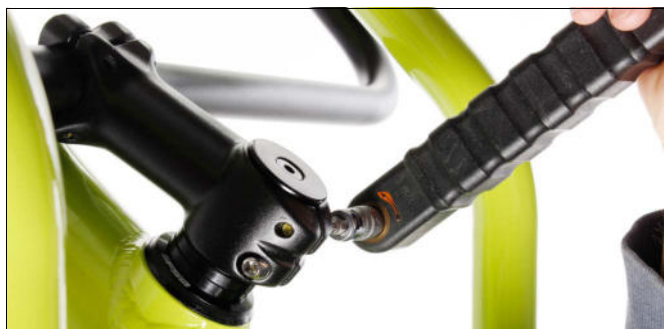


Fig. 3: Tighten the screws with a torque wrench.

Align the handlebars parallel to the frame's seat tube as shown in fig. 4). Tighten the screws.



Fig. 4: Align the handlebars.

Protect the frame with protection stickers where the handlebars may touch the frame.

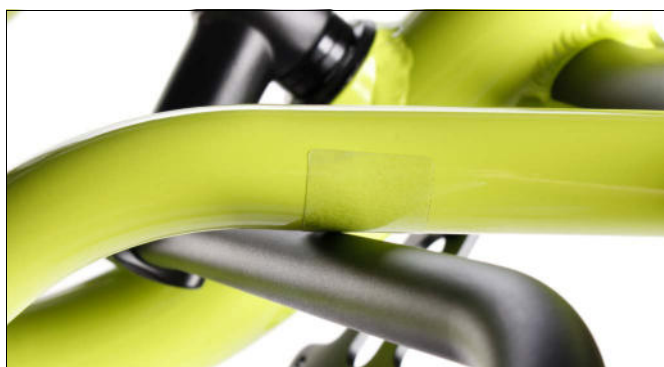


Fig. 5: Protection stickers where the handlebars touch the frame

6. Mount the support clamp

Disassemble the quick release from the support clamp.

The support clamp consists of a left and a right part. In the left part there are 2 spot-faced holes.

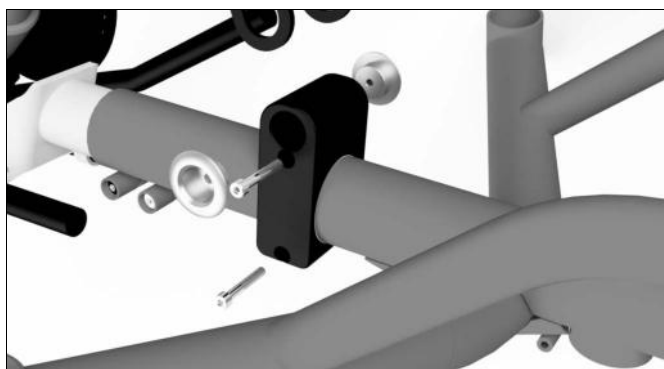


Fig. 6: Support clamp. The screws are inserted from the left side.
Also in the picture: quick release seat (left) and quick release nut (right)

With two M6 screws the two parts are connected and clamped on the frame. For the mounting process the support clamp's position should be on the frame in front as far as possible.

First tighten the upper screw, the parts must lie flush against each other. Then tighten the lower screw (both: 7–9 Nm).

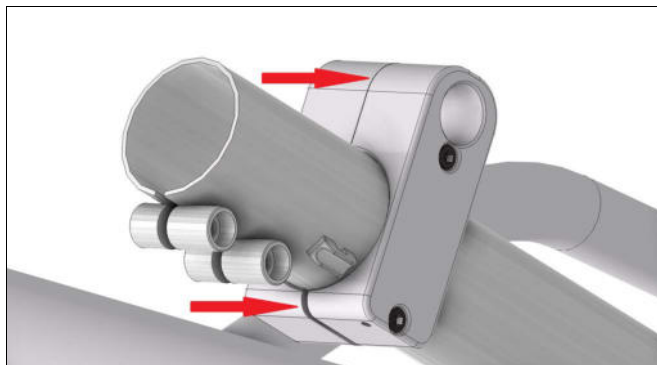


Fig. 7: First tighten the upper screw, then the lower screw. Above the frame, the 2 parts must lie flush against each other.

The quick release will be added later.

7. Install the front boom

We recommend to install the front boom with 2 persons. Place the support clamp quick release within easy reach.

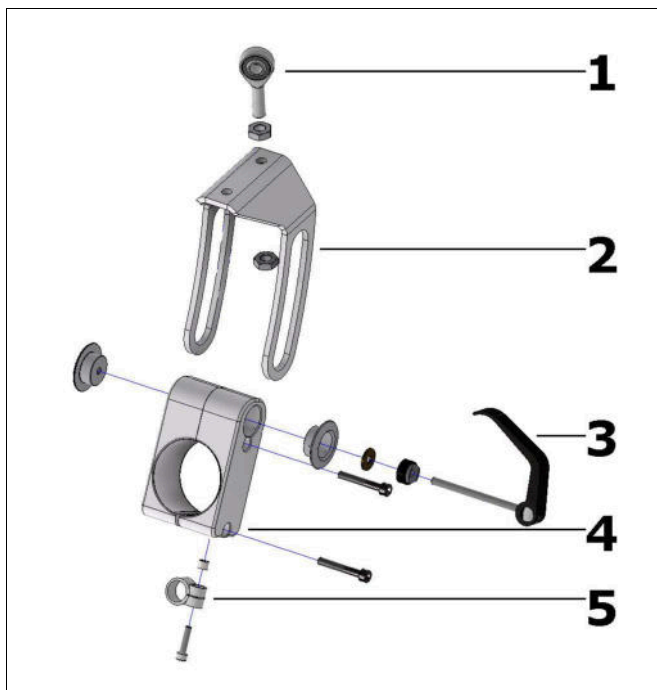


Fig. 8: Support parts
1 - rod end
2 - support bracket
3 - quick-release lever
4 - support clamp
5 - cable clamp

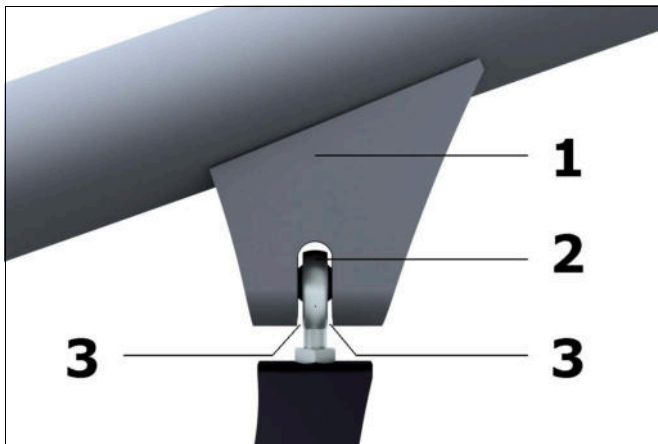


Fig. 9: The rod end (2) must not touch the rod end bracket (1)

1 - Rod end bracket

2 - Rod end

3 - Clearance between rod end and rod end bracket

Slide the front boom into the frame until the support bracket fits onto the support clamp. Note fig. 9. Do not use any lubricant.

Mount the quick release and close it.

Tighten the front boom clamping screws hand-tight. At the final check tighten it with 11–12 Nm.



Fig. 10: Frame and mounted front boom

8. Mount the Cantilever sockets



Fig. 11: Mounting of the Cantilever sockets.

9. Complete the rear wheel

Assemble the cassette:

Follow the included Sturmey Archer CS-RK3 3-Speed Gear Hub instructions. Position the thin washer with external tab

on the left side, the thicker on the right side in driving direction.

10. Install the rear wheel

Put the rear wheel into the rear dropouts and fasten the rear wheel nuts.



Fig. 12: Rear wheel ready to get mounted

11. Mount the cable clamp on the support clamp.



Fig. 13: Guide the cable harness to the support clamp and fasten it with the cable clamp.

12. Cable Routing

Prepare the shifter cable as shown in fig. 14 and attach it with screw-on guides to the frame.



Fig. 14: Shifter cable routing

Route the shift cables parallel to each other.

On the first mounting point: remove the mounted screw and mount the cables with a screw of length 20 mm. Arrange the cables as shown in fig. 14.



Fig. 15: Shifter cable routing

At the second mounting point: use a screw of length 30 mm.

13. Mount the rear derailleur

Mount the rear derailleur and attach the shifter cable. Position the rear derailleur on the smallest sprocket.

Gekko fx 26 only:

Mount the rear derailleur protection.



Fig. 16: Rear derailleur protection (only for Gekko fx 26, picture shows a different equipment)

14. Mount the parking brake

Mount the parking brake on the Cantilever sockets. Position the actuation lever on the handlebar on the left side behind the bending.



Fig. 17: Mount the parking brake actuation lever on the handlebar on the left side behind the bending.

Install cable and housing of the parking brake. If necessary, shorten them. Fixate them on the frame with zip ties. Tighten the screws loosely for now, so you can adjust the cables at the final check.



Fig. 18: Parking brake

15. Mount the disc brakes

Part of the cable harness are 2 brake cables with brake calipers: Guide the shorter one to the left knuckle and the longer one to the right knuckle.

In case there is a4 postmount adapter, disassemble it from the brake caliper. Twist the calipers in order to create a proper routing. Fasten the hoses to the track rods using zip ties. Do not yet tighten the zip ties.

Use the enclosed screws M6 x 18 and suiting washers to mount the brake calipers to the knuckles.

You can improve brake hose routing by opening the hose-caliper-connection using an 8 mm open-end wrench just a little bit, turning the brake hose, and closing the hose-caliper connection again.



Fig. 19: Disc brake mounting

16. Mount the stem adapter

The equipment box contains two adapters in different sizes. Choose the one that fits in the mounted lower stem.



Fig. 20: Choose the correct adapter for the lower stem.

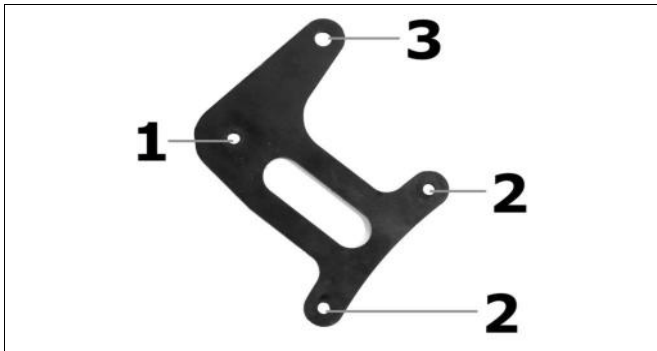


Fig. 21: Stem adapter: positions of mounting parts:

- 1 - stem adapter / lower stem
- 2 - stem adapter / track rods
- 3 - stem adapter / steering rod

Mount the stem adapter, note position and part order according to the model (fig. 22 or fig. 23). Guide the cable harness between stem and stem adapter as shown in fig. 24.

Tighten the screws hand tight for now.

Gekko 26:

Mount the stem adapter to the lower stem, note position and part order in fig. 22.

Part order lower stem / stem adapter, seen from top to bottom:

- 1 - wedge (2 parts)
- 2 - large washer M6
- 3 - spacer roller OD 18 x ID 6,4 x 25 mm length
- 4 - large washer M6
- 5 - stem adapter
- 6 - washer M6
- 7 - socket head screw M6x80

Part order lower stem / track rod / stem adapter, seen from top to bottom:

- A - round head screw M6x60
- B - lower stem
- C - spacer roller OD 18 x ID 6,5 x 30 mm length
- D - washer M6
- E - track rod
- F - washer M6
- G - stem adapter
- H - washer M6
- I - self-locking nut M6

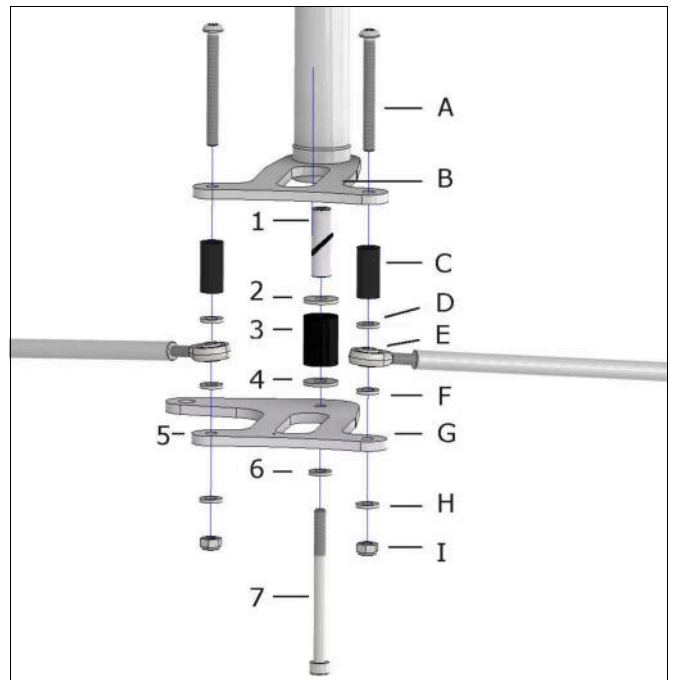


Fig. 22: Gekko 26: Part order for mounting the stem adapter to the lower stem.

Gekko fx 26

Mount the stem adapter to the lower stem, note position and part order fig. 23.

Part order lower stem / stem adapter, seen from top to bottom:

- 1 - wedge (2 parts)
- 2 - adapter
- 3 - 2 large washers M6
- 4 - stem adapter
- 5 - washer M6
- 6 - socket head screw M6x45

Part order lower stem / track rod / stem adapter, seen from top to bottom:

- A - round head screw M6x30
- B - lower stem
- C - washer M6
- D - track rod
- E - washer M6
- F - stem adapter
- G - washer M6
- H - self-locking nut M6

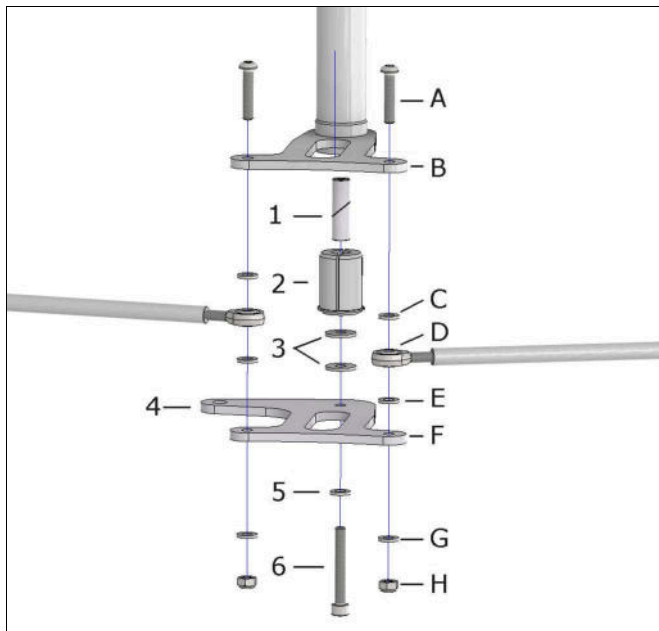


Fig. 23: Gekko fx 26: Part order for mounting the stem adapter to the lower stem.



Fig. 24: Guide the cable harness between lower stem and stem adapter. If necessary, move the protective tube so it protects the cable harness from the stem adapter's edges. Fixate it with a zip tie (in the picture: Gekko 26).

17. Mount the steering rod

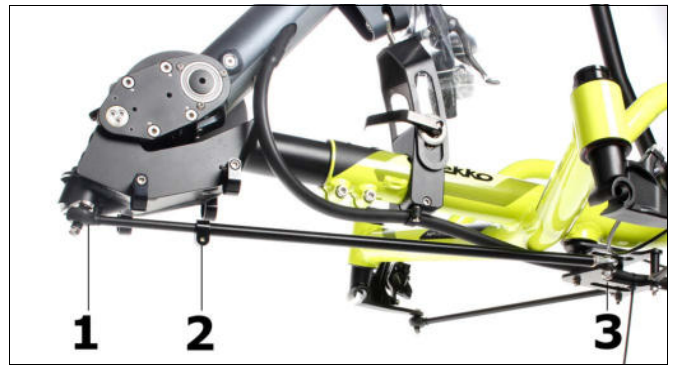


Fig. 25: mounted steering rod:

- 1 - steering lever connection
- 2 - length adjustment
- 3 - stem adapter connection

Loosen the screw for length adjustment on the steering rod.

Mount the steering rod to the stem adapter as shown in the following figures.

Gekko 26:

Part order seen from top to bottom:

- round head screw M8x25
- steering rod
- washer M8
- stem adapter
- washer M8
- self-locking nut



Fig. 26: Gekko 26 part order when mounting the steering rod to the stem adapter

Gekko fx 26

Part order seen from top to bottom:

round head screw M8x25
stem adapter
washer M8
steering rod
washer M8
self-locking nut

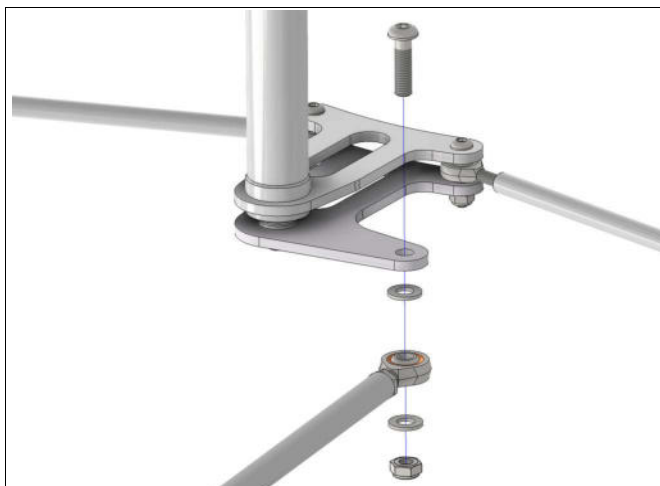


Fig. 27: Gekko fx 26: part order when mounting the steering rod to the stem adapter

Gekko 26 and Gekko fx 26

Mount the steering rod to the inner hole of the steering lever.
Part order seen from top to bottom:

round head screw M6x30
steering lever
washer M6
bushing OD 8 x ID 1 x 6mm length
steering rod
bushing OD 8 x ID 1 x 6mm length
washer M6
self-locking nut



Fig. 28: Steering rod mounted at the steering lever
1 - steering lever
2 - steering rod

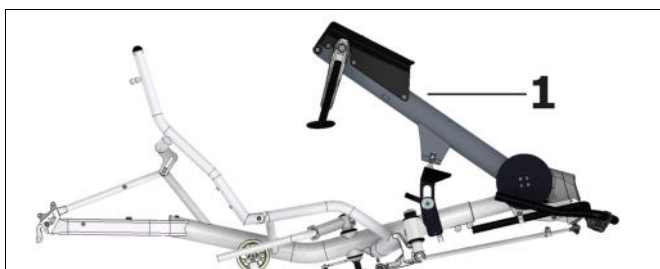


Fig. 29: Part designation: mast

Align the mast and the handlebar straight, then tighten the screw (fig. 25 - 2) with 9–10 Nm.



Danger

All rod ends of the track rods and of the steering rod must be screwed at least 8 mm into the track rod/steering rod. If the rod end is not screwed in deep enough the thread will tear out and the tricycle could become unsteerable.

18. Mount the brake lever and gear shifter grip



Fig. 30: Brake lever and gear shifter mounted on the hand pedal

19. Mount the chain roller

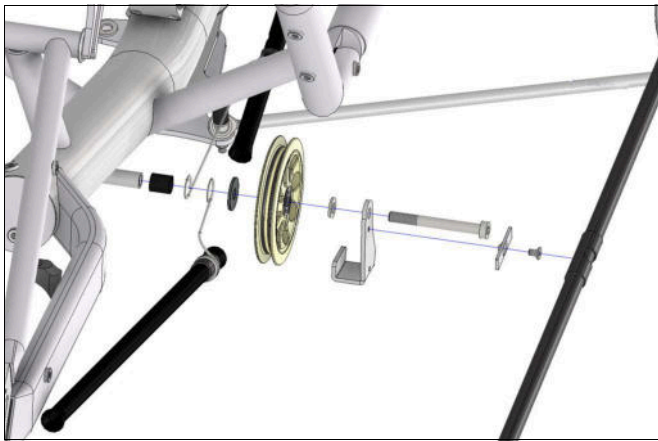


Fig. 31: Part order for mounting the chain roller

Enlarged image details:

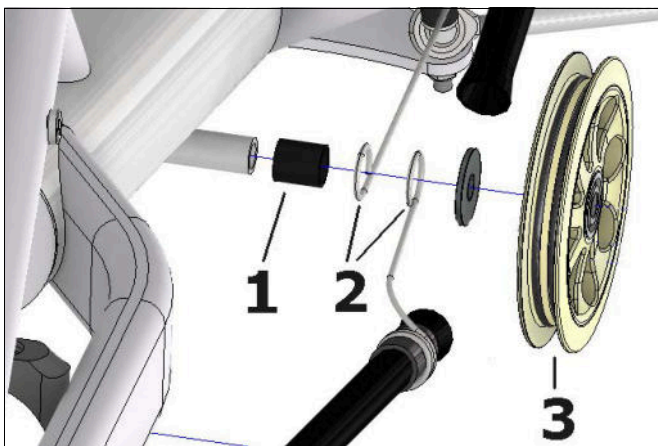


Fig. 32: Part designation (mounting of the chain roller)

- 1 - short piece of chain protection tube
- 2 - retention springs of the upper chain protection tubes
- 3 - chain roller

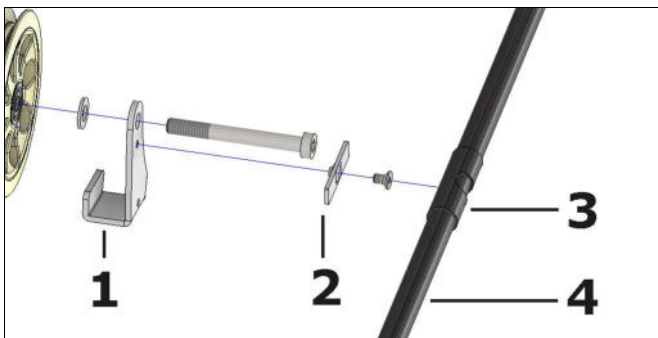


Fig. 33: part designation (mount the lower chain protection tube)

- 1 - chain catching hook
- 2 - chain tube holder metal
- 3 - rubber sleeve
- 4 - lower chain protection tube

Mount the chain tube holder metal to the chain catching hook with a countersunk screw M5x8, note the part order and position in fig. 31/fig. 33.

There's a short piece of chain protection tube included in the box. Put this tube on the chain roller mounting tube of the frame. Then put the upper rear chain protection tube's retention spring on it. Do the same with the upper front chain protection tube's retention spring.

Go on with:

Large washer OD 25 x ID 8,4 x 2 mm

chain roller

washer OD 8,4

Chain catching hook with chain tube holder metal
socket head screw M8x70

Assemble the lower chain protection tube by sliding its rubber sleeve onto the chain tube holder that is screwed onto the chain protection hook (fig. 33): Put the rubber sleeve onto the front edge of the chain tube holder metal and pull it rearwards. (fig. 34). Then, put the rubber sleeve onto the rear edge of the chain tube holder metal and push it forward (fig. 35).



Fig. 34: Put the rubber sleeve onto the front edge of the chain tube holder metal and pull it rearwards.



Fig. 35: the chain protection tube is mounted to the chain tube holder metal

The chain protection tubes need a distance of 2" (5 cm) to the chainring as well as to the rear derailleur in its most forward position.

20. Gekko fx 26 : Mount protection sticker, folding buffer and the extension for the folding lock plate



Fig. 36: Mount the stainless steel protection sticker and folding buffer (only Gekko fx 26).

Dismount the folding lock plate. Mount the extension plate to the folding locker plate (fig. 37). Remount the assembly to the frame (fig. 38).

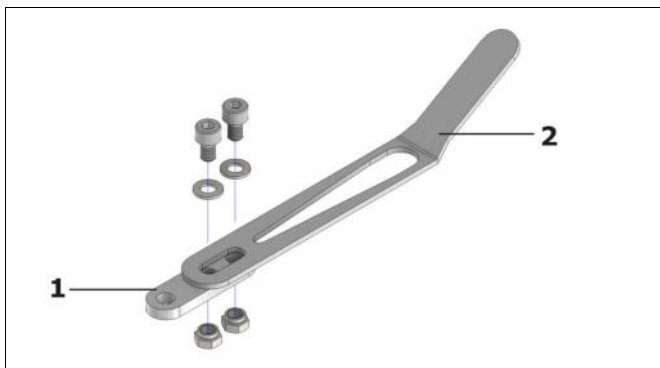


Fig. 37: Mount the extension of the folding lock plate (only Gekko fx 26)
1 - extension plate
2 - folding lock plate



Fig. 38: Mounted folding lock plate with extension plate. (only Gekko fx 26)

21. Complete the front wheels

Assemble the brake discs to the front wheel hubs. Note the rotating direction of discs and wheels. Use the locking shims under the screw heads.

Preassemble the front hub axle according to the pictures (fig. 39) for both left and right front wheel. Tighten the M8 countersunk screw using a 11 mm open-end wrench on the axle.



Fig. 39: Front hub axle set up:

Axle with sealing disc (slide in from hub side), outside cap and M8 countersunk screw

If not yet assembled, put the spring and the locking cap on the disc side of the axle and screw in the M8 socket head screw for 3 – 4 turns.

22. Install the front wheels

Slide the axle through the knuckles' axle socket slot. Put the axle into the outer knuckle socket and, by screwing in the M8 socket screw, pull the locking part into the inner socket of the knuckle. Tighten the M8 socket screw.

23. Route the brake hoses

Route the brake hoses and fasten them with zip ties.



Danger

Brake hose routing is crucial, especially at the caliper end. Make sure the brake hose will neither buckle anywhere nor touch the spokes in any extends of handlebar turning. After full assembly, check the brake hose routing again and fasten the zip ties properly! A buckled brake hose may leak, resulting in complete loss of brake force. This may lead to serious crash and injury or even death.

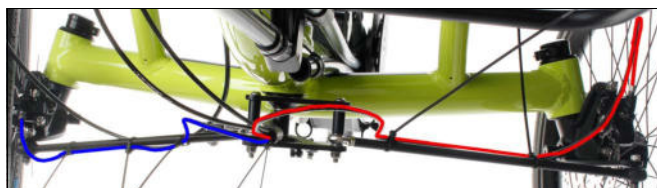


Fig. 40: Cable routing to the left (blue) and the right front wheel (red).

24. Mount the bell

25. Remove zip tie transport protection

Zip ties are attached at the beginning and end of the cable guide tube to secure it for transport. Remove them.

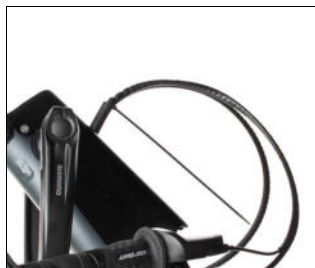
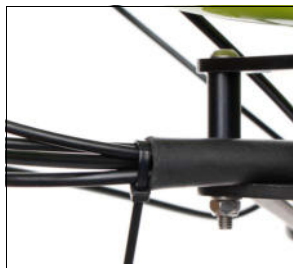


Fig. 41: Transport protection zip ties



26. Final workstand check

Check all hose and cable routings, especially when the handlebars are moved to their extends. Tighten the zip ties and cut their surplus ends.

Check the headsets for correct setup.

Check all screws for their required torque according to the torque table at the end of this manual.

27. Mount the seatmesh

Take the trike out of the workstand and put it on the ground.

Slide the seatmesh's upper end (where the zip bag is situated) over the upper ends of the seat frame. Pull the seatmesh downwards and put all straps aside.

Connect each strap with its counterpart from top to bottom. Always pull the seatmesh downwards after connecting another strap. Tighten the straps using pliers. Check the seatmesh for not being out of center. Correct by sliding it sideways over the seatframe, if necessary.

28. Adjust the toe-in

The front axle toe-in must be adjusted. HP VELOTECHNIK offers a special toe-in gauge (art. code WZSL). Refer to the trike operating manual and the toe-in gauge manual for more information.



Fig. 42: Adjust the toe-in

29. Mount leg rest and leg rest mesh

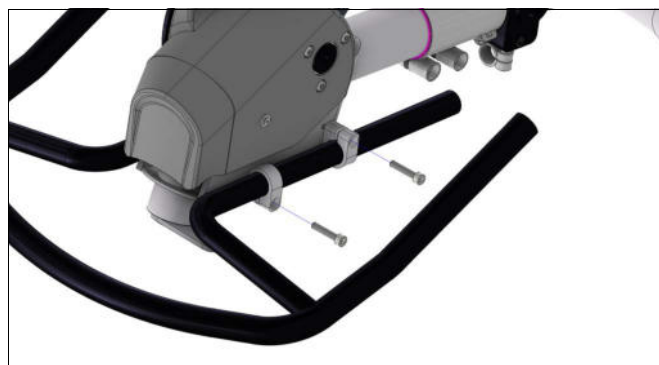


Fig. 43: Mount the leg rest

Mount the leg rest as shown in fig. 43

Mount the leg rest mesh with the Velcro fastener on the underside.

Two positions are possible. Choose one and switch according to the customer's need if necessary.

1. one strap before the clamps and one between the two clamps of the leg rest.
2. one strap behind the clamps and one between the two clamps of the leg rest.

30. Adjust the trike to the customer

Follow the description in "Operating Manual for Hands-On-Cycle Hand Drive", chapter "Individual Adjustment".

31. Apply the chain

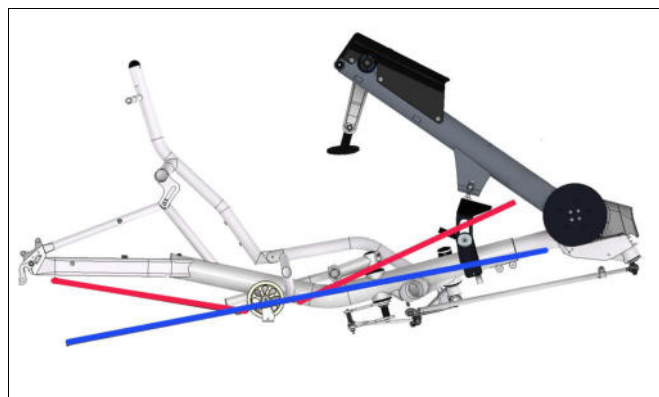


Fig. 44: Routing of chain and chain protection tubes.

Put the trike back on the workstand. We recommend it to do so with 2 persons.

It is helpful to put the trike into a more vertical position with the front facing upwards to make use of gravitation to easily guide the chain through the chain protection tubes.

Start at the chainring and guide the chain in the upper front chain protection tube, around the chain roller, through the upper rear chain protection tube, around the smallest sprocket and through the rear derailleur cage.

Proceed with the remaining chain at the chainring and guide it through the lower chain protection tube. Check the chain for

not being twisted. Shorten the chain if necessary to make sure the rear derailleur already puts a little tension on it when it is on the smallest chainring and sprocket.

Connect the chain ends. Note the chapter “Chain” in the trike’s manual for further information.

32. Adjust the gears and brakes

Adjust the gears by fastening the cable in the correct position. Refer to the derailleur, shifter and brakes manuals.

33. Assemble protection

There are two neoprene sleeves in the box. Use the smaller one as shown in fig 45.

The larger one is needed for Gekko fx 26 only. Put it around the two chain protection tubes above the cross tube.



Fig. 45: Protection for the shifter cable

34. Testride

Ride the trike in a protected area away from road traffic to check the correct and safe function of brakes, gearing system and steering.

Tightening torques

The values indicated are meant for a friction value $\mu=0,125$ (greased threads and screw heads). They only refer to the indicated parts. Please do always follow the values given in the manuals of the parts manufacturers since the following values may not be up to date due to changes in the product line!

part	Connection	Bolt	Tightening torques
brake: V-brake			
- brake lever	handlebar/grip	M6 Size 5	4 Nm
- brake arm	caliper/frame	M6 size 5	5–7 Nm
	cable clamping	M6 size 5	6–8 Nm
disc brake			
- brake lever	handlebar/brake lever clamping	M6 size 5	4 Nm
- brake caliper	caliper/frame	M6 size 5	7–9 Nm
- brake disc	disc/hub	M5 Torx T25	5–6 Nm
- brake tube	brake tube/brake lever	size 8	4 Nm
chain roller	chain roller/frame	M8 size 6	17–19 Nm
hub	cassette ring		38–42 Nm
	solid axle	size 15/17	*
derailleur	derailleur/frame	size 5	8–10 Nm
	cable clamping	size 5	4–6 Nm
frame	front boom clamping	M8 size 6	11–12 Nm
	seat frame hinge	M6 size 5	9–11 Nm
support clamp	right part/left part	M6 size 5	7–9 Nm
leg rest	leg rest/cover for output box	M6 size 5	7–9 Nm
lower leg fixation	lower leg fixation/leg rest	M6 size 5	7–9 Nm
crank	crank/input shaft	size 5	12–14 Nm
hand pedal	hand pedal/crank	M6 size 8	35–40 Nm
shifting lever	twist shifter	size 3	2–2,5 Nm
steering rod	length adjustment	M6 size 5	7–8 Nm
steering rod	steering rod/steering lever	M6 size 5	9–10 Nm
steering rod	steering rod/stem adapter	M8 size 5/13	13–15 Nm
track rods	track rod/knuckles	M6 size 4	7–9 Nm
	counter nut	size 10	4–5 Nm
stem	stem/axle	M5 size 4	4–6 Nm
headset	headset clamp	M6 size 5	4–6 Nm

*Please follow the torque specifications of the hub manufacturer in the manufacturer's original manual. You will find the part number on the hub.

Also observe the torque specifications in the original operating manual of your trike.

1. GENERAL INFORMATION

1.1 Scope of this leaflet

Congratulations on your purchase of a Sturmey-Archer internal gear hub. For the best performance, please follow instructions in this leaflet. Please contact your dealer if any problems are experienced with these products.

Riding the gear hub out of correct adjustment may cause damage to the internal parts and possible malfunction !

This leaflet refers to the following 3-speed hubs:

- ☉ Type CS-RF3 3-speed freewheel hub, without brake
- ☉ Type CS-RK3 3-speed hub for disc brake.

1.2 Lubrication

No routine lubrication is required. During a major service, the hub greases should be replenished or replaced especially for transmission parts of internal hub. Please contact your Sturmey-Archer dealer who is equipped to carry this out.

1.3 Gear Changing

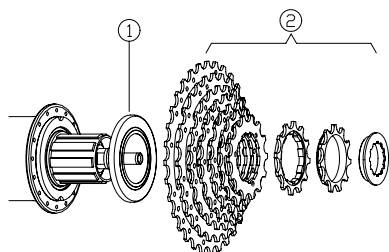
Continue pedaling, but ease pressure on the pedals and select the gear required. If the bicycle is stationary simply select gear required.

1.4 Gear Ratio

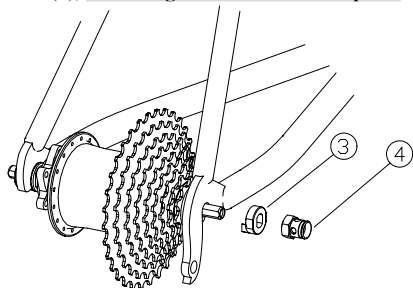
1st Gear 0.75 || 2nd Gear 1.0 || 3rd Gear 1.33

2. INSTALLATION

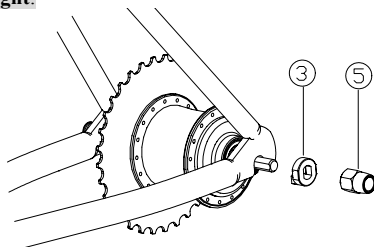
- Build hub into complete wheel set.
- Fit the dust-cup (1), cassette (2) onto the driver. **(Follow instructions from your cassette manufacturer for cassette locking tightening specifications)**



- Put the hub axle into the rear fork end and locate the right-side lock-washer (3) and guide nut (4). **Do not tighten the nut at this point.**

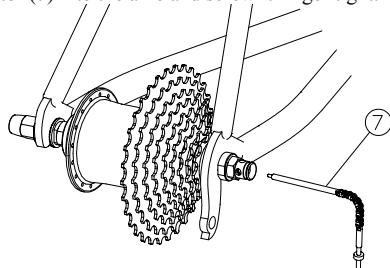


- Fit the lock-washer (3), dome nut (5) on the left side of the axle. **Screw the nut finger tight.**

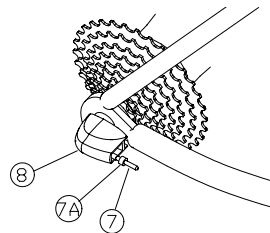


- Align the wheel. Tighten the guide nut and dome nut to **28Nm**.

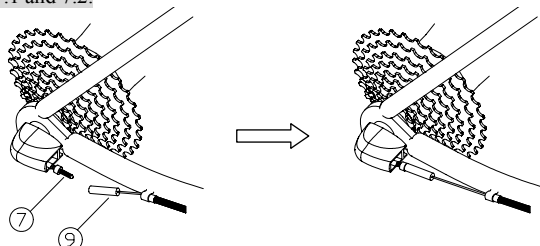
- Fit the indicator (7) into the axle and screw it finger tight.



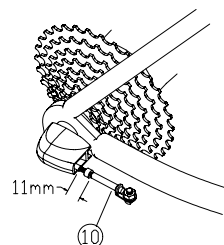
- Put the cover (8) on the guide nut and unscrew the indicator (7) by up to half a turn if necessary to ensure easy routing through the cover. Do not push on the cover at this point.



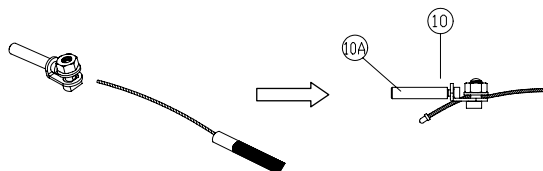
- Connect the indicator (7) to the cable connector (9). If you do not have a pre-assembled cable connector, take the cable anchorage (10) instead and see step 7.1 and 7.2.



- Connect the cable anchorage (10) to the indicator and leave about 11mm thread unscrewed.

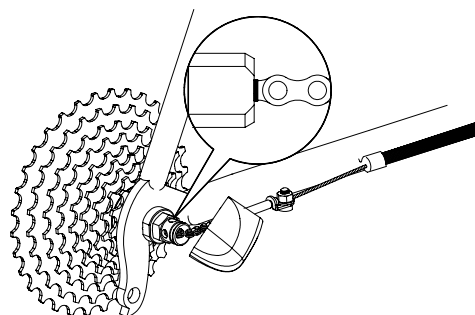


- Insert the cable into the cable anchorage and tension the indicator. Tighten the nut to 4Nm.



3. GEAR ADJUSTMENT

- Move the cover (8) for easy gear adjustment.
- Select 2nd gear and turn the pedal crank forward to ensure the gear is engaged. Turn the connection (10A)/cable connector (9) or the cable adjuster of shifter until the coloured mark on the indicator is level with the end of the axle, as show in diagram.



- Tighten the indicator locknut (7A) to lock in adjustment.
- Select 3rd gear position, rotate the pedal crank, change back to 2nd gear and check adjustment. Retry the stages description above when the gear changing is not correct.
- Fit the cover (8) firmly onto the guide nut (4).