



VHP X USER INFORMATION & TECHNICAL DATA

The KAVENZ VHP X was developed to make you faster and you will experience a completely new level of riding. The kinematics are designed in such a way that you will exceed your own performance or at least be safer on the trails.

But before you get started, we would like to thank you for the trust you have placed in our up-and-coming brand and ask you to read these instructions carefully.

Please do not hesitate to contact us if you have any questions.

Yours sincerely,

Giacomo Grossehagenbrock & Luca Magnin (KAVENZ)

P.S. We are always happy to receive feedback on how we can improve our products.

▼ 1. GENERAL INFO

This user manual is the most important element to prevent any damages and risks during the use and servicing of your frame. It is provided to give you the most important information on your bike frame and to give you helpful tips over the entire life of your frame. If you have any doubts or uncertainties regarding the work on your frame, you should always consult a qualified bicycle mechanic or the Kavenz service.

Please read this manual carefully before taking the first ride with your new frame and make sure you understand everything. Ensure that third-party users are also informed about the contents of these instructions and that they understand and observe the contents. Keep this manual for future reference. If you sell or give away your frame, please also include this user manual.

This user manual is also available as a PDF below :

[DOWNLOAD THE PDF](#)

1. EXPLANATION OF SYMBOLS USED



DANGER

...indicates a hazard with a high degree of risk that will result in death or serious injury if not avoided.

2. TARGET GROUP

This manual is intended for you, the owner of the KAVENZ VHP X frame.

Basic knowledge of bicycle technology is a prerequisite for the assembly and maintenance of the bicycle. If in doubt, consult a qualified bicycle mechanic. Incorrect assembly or incorrect maintenance of your bike can lead to serious accidents with fatal consequences!

3. TOOLS

Work on the frame may only be carried out with suitable tools. Screw connections must be tightened to a defined torque using a torque wrench.

Correct assembly and disassembly of the components can only be guaranteed if the tools are in perfect working order and undamaged.

4. SELECTION OF COMPONENTS

The components must be selected taking into account the interfaces (see „4. Frame interfaces“), the intended use (see "3. Intended use") and the maximum system weight (see "1.6. Maximum system weight").

No child seats, child trailers or rear racks may be mounted on the frame.

5. WARRANTY AND GUARANTEE

For all information on warranty and guarantee see www.kavenz.com.

6. MAXIMUM SYSTEM WEIGHT

The KAVENZ VHP frame is designed for a maximum system weight of 130 kg. The system weight is the sum of rider, bike, equipment (helmet, backpack, shoes, clothes) and luggage.

If components with a lower maximum system weight are mounted, the maximum system weight of the entire system is reduced to the value of the component with the lowest value.

7. WEAR PARTS

The bearings of the rear triangle, idler pulley and shock are wearing parts and should be checked regularly and replaced or serviced as required.

8. DISCLAIMER

The activities listed in this manual must be carried out by persons with sufficient specialist knowledge.

The user is liable for damage caused by:

- Misuse or any other use beyond the range of the intended use (see „3. Intended use“)
- Non-compliance with safety regulations
- Improper installation, repair and maintenance
- Use of unauthorized spare parts and accessories

If you are unsure or if problems occur, always consult the KAVENZ Service or a trained bicycle mechanic !

▼ 2. SAFETY

DANGER

RISK OF ACCIDENT DUE TO IMPROPERLY INSTALLED COMPONENTS OR INCOMPATIBLE COMPONENTS!



Improperly installed or incompatible components can become loose or break during the ride!

- Installation must be carried out in accordance with these instructions or the component manufacturer's specifications.
- The components must be selected taking into account the interfaces, the intended use and the maximum system weight.

DANGER

RISK OF ACCIDENT DUE TO SUDDEN FAILURE OF PRE-DAMAGED COMPONENTS!



A crash or unplanned riding manoeuvres can pre-damage your frame or components of your bike unnoticed. Pre-damaged components can be deformed or break while riding.

- Check your components regularly and after a crash or accident for damage and malfunctions.
- Components that are subject to high stress must be regularly replaced and checked by a qualified bicycle mechanic.
- Damaged components must be replaced immediately.

DANGER

DANGER OF ACCIDENT DUE TO IMPROPER HANDLING!



If the bicycle or components are handled improperly, parts of the bicycle may suddenly fail.

- All maintenance intervals and activities must be observed and adhered to - including those of the assembled components.
- The max. system weight of your bike and its components must not be exceeded 130kg (see "1.6 Maximum system weight").
- The bicycle and its components may only be used within the scope of the respective intended use.
- The regulations of the component manufacturers must be observed in addition to the regulations listed here.

Following the instructions specified in this manual does not absolve the riders from their duty of care to ensure that their bike is always in good condition. If there are any questions consult a qualified bicycle mechanic or the KAVENZ Service. As it is impossible to foresee all situations or circumstances that may occur during riding, this user information does not guarantee the safe use of the bike under all conditions. There are risks associated with the use of bikes that cannot be predicted or avoided and are the sole responsibility of the rider.

If you are unsure or if problems occur, always consult the KAVENZ service or a trained bicycle mechanic!

▼ 3. INTENDED USE

The intended use of Bikes is divided into five different categories – ranging from the use on paved roads through to downhill or freeride use. The bicycles are to be used exclusively in accordance with their intended use. Otherwise, the user assumes responsibility.

The KAVENZ VHP X frame is designed for CATEGORY 5.
If the bike is to be used in accordance with the regulations of category 5, all components must also be approved for this category !

CATEGORY 1: USE ONLY ON PAVED ROADS

Category 1 includes all bikes and components that should only be used on paved roads. The wheels are always in contact with the ground.

CATEGORY 2: FOR USE ON AND OFF THE ROAD AND FOR DROPS OF UP TO 15 CM

Category 2 includes all bikes and components that can be used in conditions described under category 1, as well as on gravel roads and moderate trails. The wheels may not always be in contact with the ground. Drops are intended to be limited to 15 cm or less.

CATEGORY 3: FOR USE IN ROUGH TERRAIN AND FOR JUMPS OF UP TO 61 CM

Category 3 includes all bikes and components that can be used in conditions described under category 1 and 2, as well as on rough trails and rough and unpaved roads that require good cycling skills. Jumps and drops should not be higher than 61 cm.

CATEGORY 4: FOR USE IN ROUGH TERRAIN AND FOR JUMPS OF UP TO 122 CM

Category 4 includes all bikes and components that can be used in conditions described under categories 1, 2 and 3 as well as in very rough and partially blocked terrain with steep gradients and the associated higher speeds. Regular, moderate jumps by experienced riders are no problem for these bikes. However, regular and permanent use of the bikes on North Shore trails and in bike parks should be ruled out. These bikes should be checked for possible damage after every ride due to the heavier loads. Full-suspension bikes with medium suspension travel are typical for this category.

CATEGORY 5: EXTREME BIKING (DOWNHILL, FREERIDE, DIRT)

Category 5 includes all bikes and components that can be used in conditions described under categories 1, 2, 3 and 4 as well as in demanding, heavily blocked and extremely steep terrain, which can only be mastered by technically experienced and very well trained riders. In this category, big jumps are to be expected as well as intensive use in bike parks or on downhill tracks. With these bikes, it is essential that an intensive check for possible damage is carried out after every ride. Pre-damage can lead to failure at significantly lower further stresses. A regular replacement of safety-relevant components should also be considered. Wearing special protectors is strongly recommended.

4. FRAME INTERFACES

SUSPENSION SETUP

Configuration	Fork	Shock	Rear Travel	Mounting hardware
Trail	160-170mm travel	185 x 55 mm	154 mm	Included with the shock extender
Enduro	180mm travel	205 x 65 mm	177 mm	Included with the shock extender
Downhill	200mm travel	225 x 75 mm	200 mm	30 x 8 mm

Rear Shock Compatibility (MX Position)



Some rear shocks may not be fully compatible when the bike is configured in **MX mode**. Always verify clearance throughout the **full suspension travel** during installation. If any contact occurs between the shock, frame, or other components, do not use that shock in this configuration. Contact KAVENZ if you are unsure about compatibility.

Fork / Steering Clearance



Some fork and cockpit combinations may not allow full steering rotation due to crown, stanchion, or control interference. Always verify clearance during installation. If necessary, adjust stem spacer height, cable routing, or install steering stops to prevent contact with the frame.

HEADTUBE

ZS 56/56 with the following height :

Size	S	M	M-L	L	XL
Head Tube height (mm)	110	115	120	125	130

HEADSET

ZS56/28.6 · ZS56/40 (for tapered steerer tube)

▼ REAR BRAKE

IS 2000

▼ REAR WHEEL AXLE

148 mm (BOOST)

▼ BOTTOM BRACKET

73mm BSA or Pinion Interface

▼ CHAIN GUIDE

Guide for idler pulley enclosed

ISCG 05 adapter available separately

▼ CHAIN LINE

50-53.5 mm (Factory setting 53.5 mm)

▼ WHEEL SIZE

29" front wheel and 29" or 27.5" rear wheel

Running a 29" rear wheel is not possible in the following configuration :



- 225 x 75 mm shock with +0 dropouts
- Gearbox setup with +0 dropouts

▼ TYRE WIDTH

Up to 29 x 2.6"



Please always make a tyre clearance check through all the travel before you ride

▼ SEAT TUBE

Inner diameter : Ø31.6 mm with internal cable guiding

Outer diameter : Ø35 mm

Minimum insertion depth : 100 mm

Maximum insertion depth :

Size	S	M	ML	L	XL
Seat Tube length (mm)	395	395	410	425	440
Maximal insertion depth (mm)	320	320	335	350	365

▼ WATER BOTTLE

Up to 750 ml (Fidlock Ready)

▼ IDLER PULLEY

16T N/W

▼ BALL BEARING

Ø15 / 28 x 7 mm (S6902 LLU MAX)

▼ 5. SETUP

▼ SAG SETTING

The SAG is the amount by which the suspension deflects due to the rider's own weight. Below you will find the SAG values we recommend according to your setup :

▼ TRAIL - 185 x 55 MM SHOCK

▼ MX LOW

Shock setup	Rear travel	SAG rear wheel (mm)	SAG shock (mm)	SAG Shock (%)
185 x 47.5	132	39.6	13.135	28%
185 x 50	137	41.1	13.66	27%
185 x 52.5	141	42.3	14.01	27%
185 x 55	149	44.7	15.06	27%

▼ MX HIGH

Shock setup	Rear travel	SAG rear wheel (mm)	SAG shock (mm)	SAG Shock (%)
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185 x 47.5	137	41.1	12.8	27%
185 x 50	142	42.6	13.295	27%
185 x 52.5	147	44.1	13.79	26%
185 x 55	154	46.2	14.45	26%

▼ 29 LOW

Shock setup	Rear travel	SAG rear wheel (mm)	SAG shock (mm)	SAG Shock (%)
185 x 47.5	133	39.9	13.14	28%
185 x 50	138	41.4	13.48	27%
185 x 52.5	143	42.9	14.17	27%
185 x 55	150	45	14.87	27%

▼ 29 HIGH

Shock setup	Rear travel	SAG rear wheel (mm)	SAG shock (mm)	SAG Shock (%)
185 x 47.5	137	41.1	12.9	27%
185 x 50	141	42.3	13.2	26%
185 x 52.5	146	43.8	13.9	26%
185 x 55	153	45.9	14.5	26%

▼ ENDURO - 205 x 65 MM SHOCK

▼ MX LOW

Shock setup	Rear travel	SAG rear wheel (mm)	SAG shock (mm)	SAG Shock (%)
205 x 57.5	156	46.8	15.76	27%
205 x 60	161	48.3	16.12	27%
205 x 62.5	165	49.5	16.65	27%
205 x 65	173	51.9	17.54	27%

▼ MX HIGH

Shock setup	Rear travel	SAG rear wheel (mm)	SAG shock (mm)	SAG Shock (%)
205 x 57.5	161	48.3	15.12	26%
205 x 60	167	50.1	15.79	26%
205 x 62.5	171	51.3	16.13	26%
205 x 65	178	53.4	16.81	26%

▼ 29 LOW

Shock setup	Rear travel	SAG rear wheel (mm)	SAG shock (mm)	SAG Shock (%)
205 x 57.5	157	47.1	15.57	27%
205 x 60	161	48.3	15.92	27%
205 x 62.5	166	49.8	16.62	27%
205 x 65	171	51.3	16.97	26%

▼ 29 HIGH

Shock setup	Rear travel	SAG rear wheel (mm)	SAG shock (mm)	SAG Shock (%)
205 x 57.5	161	48.3	15.2	26%
205 x 60	165	49.5	15.7	26%
205 x 62.5	170	51	16.2	26%
205 x 65	176	52.8	16.9	26%

▼ DOWNHILL - 225 x 75 MM SHOCK

▼ MX LOW

Shock setup	Rear travel	SAG rear wheel (mm)	SAG shock (mm)	SAG Shock (%)
225 x 67.5	179	53.7	18.075	27%
225 x 70	184	55.2	18.61	27%
225 x 72.5	188	56.4	18.97	26%
225 x 225	195	58.5	19.87	26%

▼ MX HIGH

Shock setup	Rear travel	SAG rear wheel (mm)	SAG shock (mm)	SAG Shock (%)
225 x 67.5	185	55.5	17.49	26%
225 x 70	189	56.7	18.17	26%
225 x 72.5	194	58.2	18.52	26%
225 x 75	201	60.3	19.21	26%

▼ 29 LOW

Shock setup	Rear travel	SAG rear wheel (mm)	SAG shock (mm)	SAG Shock (%)
225 x 67.5	180	54	18.03	27%
225 x 70	184	55.2	18.39	26%
225 x 72.5	189	56.7	19.1	26%
225 x 75	193	57.9	19.46	26%

▼ 29 HIGH

Shock setup	Rear travel	SAG rear wheel (mm)	SAG shock (mm)	SAG Shock (%)
225 x 67.5	184	55.2	17.6	26%
225 x 70	188	56.4	17.9	26%
225 x 72.5	193	57.9	18.6	26%
225 x 75	199	59.7	19.3	26%

▼ SPRING RATE



Coming soon ...

▼ TRAIL - 185 x 55 MM SHOCK

Rider weight (kg)	Spring rate Trail configuration (lbs/inch)
65	
70	
75	
80	
85	
90	
95	
100	
105	
110	
105	

▼ ENDURO - 205 x 65 MM SHOCK

Rider weight (kg)	Spring rate Enduro configuration (lbs/inch)
65	
70	
75	
80	
85	
90	
95	
100	
105	
110	
105	

▼ DOWNHILL - 225 x 75 MM SHOCK

Rider weight (kg)	Spring rate Downhill configuration (lbs/inch)
65	
70	
75	
80	
85	
90	
95	
100	

105	
110	
105	

▼ CHAIN LENGTHS

When using a SRAM Transmission drivetrain, the required chain length can be determined via the SRAM AXS app or at <https://axs.sram.com/guides/chain/calculator>. Our lower chain guide is required for use with the SRAM Transmission shift system on all models.

For all gearbox frames, we recommend using an 11-speed chain with the following length:

▼ PINION

Dropout	Chain length (number of chain links)
+0	104
+10	106
+20	108
+30	110

▼ EFFIGEAR

Dropout	Chain length (number of chain links)
+0	106
+10	108
+20	110
+30	112

▼ 6. MAINTENANCE

DANGER

RISK OF ACCIDENT DUE TO OVERDUE MAINTENANCE AND SERVICE !



When neglecting inspection and servicing, worn components may cause accidents.

- The service works and intervals mentioned in this manual must be observed.
- Also note the maintenance intervals of the installed components.
- Compliance with the maintenance and inspection activities and intervals is a prerequisite for maintaining the warranty claims.
- In case of damage, do not continue to use the frame or the affected component.

Regular maintenance and care is the only way to ensure that all parts of the bike function perfectly. The required maintenance and inspection activities must be carried out by a person with the necessary qualifications.

▼ FRAME

Task	Interval
Check the torques of the screw connections. Torque values, see „7. Torques“	First time after 100km and then every 200km
Visually inspect the frame for damage such as cracks or deformation, especially in the area of the lugs intersection with the carbon tubes. If you are unsure or if problems occur, always consult the KAVENZ service or a skilled bicycle mechanic! If damage is discovered, the frame must not be used any further. Contact the KAVENZ service immediately!	After each ride and after crash

▼ PINION GEARBOX

Task	Interval
Change oil	10 000 km

Check the rollers of the chain tensioner and the chainrings for smooth running and wear	500 km
Open the switch box and clean and grease the pulley, sliding surfaces, switch box interior, planetary gears etc.	500 km
Check chain tension	500 km
Check shift cables for tension and ease of movement	500 km
Check all screw connections (except gearbox housing screws)	500 km

▼ EFFIGEAR GEARBOX

Task	Interval
Change oil	first time after 500 km subsequently annually

▼ COMPONENTS

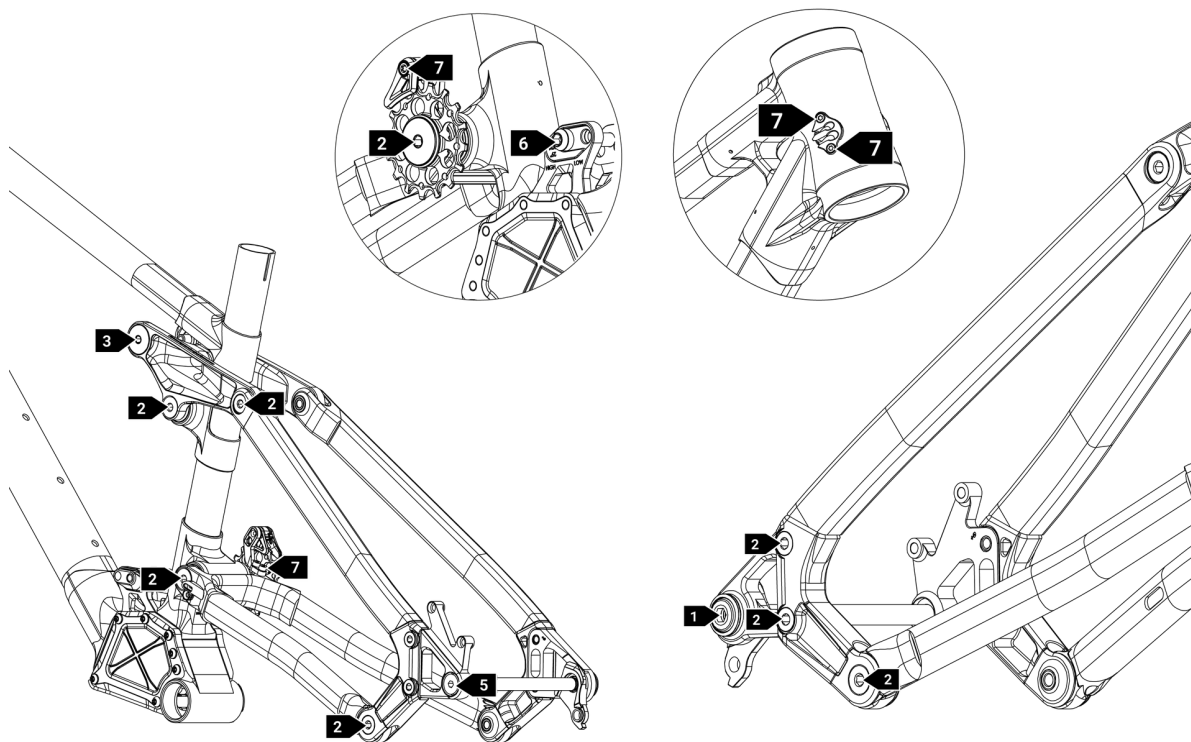
The maintenance activities and intervals of the components must also be carried out according to the specifications of the respective manufacturer!

▼ 7. TORQUES

All nuts and bolts must be tightened with an appropriate torque wrench. Proper use prevents overtightening and breaking of the bolts.

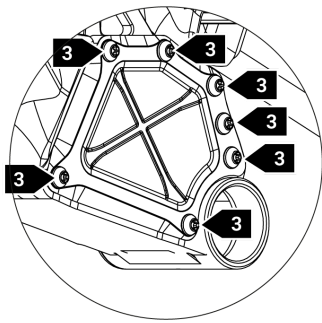
[DOWNLOAD THE BOLT CHECKLIST](#)

▼ MAIN FRAME



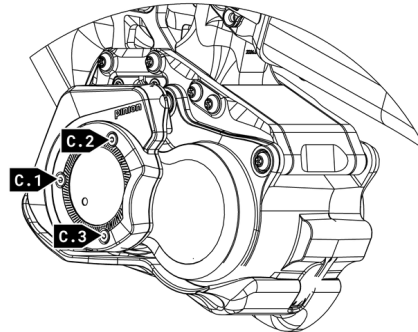
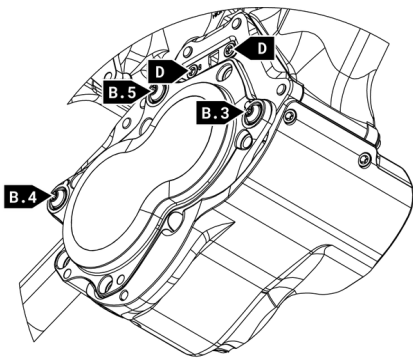
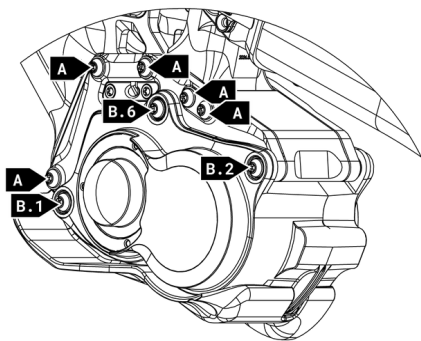
Position	Torque	Grease	Loctite 241/243
1	25Nm	✗	✗
2	24Nm	✗	✓
3	12Nm	✗	✓
5	10Nm	✓	✗
6	8Nm	✓	✗
7	2-3Nm	✗	✗

▼ BB BSA 73 MM



Position	Torque	Grease	Loctite 241/243
3	12Nm	✗	✓

▼ GEARBOX INTERFACE - Pinion Smartshift



Position	Torque	Grease	Loctite 241/243	Aditionnal info
A	12Nm	✗	✓	
B	10Nm	✗	✓	Tighten the retaining screws in the specified sequence
C	2-3Nm	✗	✗	Tighten the retaining screws in the specified sequence while rotating the shaft forwards
D	2-3	✗	✓	

▼ 8. SPARE PARTS

💡 Coming soon ...