



**NIS**  
BIKES

**FUZZ 650**

FUZZ TECH MANUAL







**SAM PILGRIM  
2013 FMB TOUR  
WINNER**

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## **WARNINGS AND IMPORTANT INFORMATION**

**ATTENTION:** Please read this manual carefully. It contains important safety information!

**WARNING:** Extreme riding is a very dangerous sport; it requires an amazing amount of skill. By engaging in this type of activity, you are accepting the risk of possible injury or even death. Even the best bike will not help you land a clean trick if you lack the skills. Even the best protective gear will not guarantee complete safety. Remember that in this kind of riding, you can only trust your own abilities and you must accept the inherent risk. While riding you can reach significant speeds and therefore face significant hazards and risks. Inspect your bicycle and equipment carefully and be sure that it is in perfect condition before each ride. If possible consult with area site personnel, expert riders and race officials on conditions and equipment advisable. Always wear appropriate safety gear, including an approved full face helmet, full finger gloves, body armour, bright, visible clothing that is not so loose that it can be tangled in the bicycle or objects at the side of the road or trail, shoes that will stay on your feet and will grip the pedals (make sure that shoe laces cannot get into moving parts, and never ride barefoot or in sandals). Always use protective eyewear, to protect against dirt, dust and bugs.

**WARNING:** Some of the service procedures require specialist tools and good mechanical skills. Therefore, to minimize the risk of serious or even fatal accidents, maintenance and assembly work on your bike should be carried out by an authorized bicycle workshop.

**IMPORTANT NOTICE:** This manual is not intended as a comprehensive use, service, repair or maintenance manual. Please consult your dealer for advice and your dealer may also be able to refer you to classes, clinics or books on bicycle use, service, repair or maintenance.

**WARNING:** The frame box contains instructions for components made by third parties. You must study these carefully and follow the directions before riding your bike. Make sure you read and follow the suspension set up and service instruction manual provided by the manufacturer. If the instruction manual has not been provided, please contact your dealer or the manufacturer.

**WARNING:** Failure to maintain, check and properly adjust the suspension system may cause suspension malfunction, in result of which you may lose control and fall.

**WARNING:** Introducing changes in the suspension adjustment can alter the handling and braking characteristics of your bicycle. It is forbidden to change the suspension adjustment unless you are thoroughly familiar with the suspension system manufacturer's instructions and recommendations; you should always check for changes in the handling and braking characteristics of the bicycle after the suspension has been adjusted by taking a careful test ride in a safe area.

**WARNING:** As with all mechanical components, the frame is subjected to wear and high stresses. Different materials and components may react to wear or stress fatigue in different ways. If the design life of a component has been exceeded, it may suddenly fail possibly causing injuries to rider. Any form of crack, scratches or change of colour in highly stressed areas indicate that the life of the component has been reached and it should be replaced.



## **GENERAL RIDING INFORMATION**

*Riding a bicycle can be dangerous. You must keep this in mind and be cautious at all times.*

*See and be seen. Use lights and reflective clothing in low light conditions.*

*Always wear a helmet when riding. It can save your life.*

*Always conduct a pre-ride check (detailed information can be found further in this manual).*

*Never ride the bicycle if you observe any technical problems or have any doubts about the proper functioning of any elements in the bicycle.*

*Keep the bike clean and well maintained.*

*Carry a pump, spare inner tube, patch kit, and a basic tool kit - you may need this in the case of a flat tire or other common mechanical problem that is usually easy to fix if you have the right tools. Ask your dealer for advice on this issue.*

*If your bicycle is equipped with gears, you can choose a gear combination that is most comfortable for the riding conditions. Gears will allow you to maintain a constant rate of pedaling. Use lower gears for going uphill and higher gears for going downhill. Ease up on your pedaling pressure when you shift gears. Ask your dealer to give you more advice on this issue.*

*Be careful with the brakes - they can be powerful and if activated too aggressively, may cause a crash. You should spend some time to get a better feel of the brakes on a side road or empty parking lot before the first ride. Avoid riding too fast, especially downhill. It is easy to lose control of the bicycle and crash at high speeds, and also you will find it very difficult to slow down especially if the hill is steep.*

*If your bike has been equipped with suspension, the increased speed you may develop will also increase the risk of injury. For example, front of the bike may dive on the suspension fork while hard braking. You can easily lose control and fall if you are not prepared for this. Please, learn how to operate your suspension system safely.*

*Thanks to the suspension the wheels can follow the terrain better, which improves control and comfort. This improved capacity may provide opportunity for riding faster, but you should be careful not to mistake the enhanced capabilities of the bicycle for your own riding skills. Improving skills takes time and practice.*

*Protect your bike from theft. Purchase a lock and never leave your bike unlocked while unattended, even if you are planning to be away from it for just a few minutes.*

**MACIEK KUCBORA**  
**NS PRODUCT DEVELOPER**  
**PLANAI, AUSTRIA**

## INTRODUCTION

Thank you for choosing NS Bikes. We are passing into your hands a frame that has been a milestone in the development of our company. We have worked on it passionately for well over 2 years, gone through countless prototypes, tested each one by our team riders and re-worked it until everything got dialled.

Seeing satisfied customers is the biggest reward that we can get for this working hard. So we did everything in our power to make this happen, but even then, a product that is not properly set up or maintained will be a disappointment. That is why it's so important that you acquaint yourself with this manual before your first ride.

We hope that you will be just as happy riding your new FUZZ as we are!

## FRAME CONCEPT & INFORMATION

The Fuzz is a true DH machine built to compete with the best in the pits, yet it is a modern do-it-all rig for any gravity assisted riding. The bike has been thrashed by Sam Pilgrim at events like Rampage and proved itself in the real racing environment too, taking podiums at major UCI events, piloted by the Polish DH star Slawek Lukasik. The frame has truly modern DH geometry - it's low, slack, and has a very short rear end with a roomy front triangle. The 4-bar Horst link suspension has a significant amount of rearward axle movement which helps to absorb square faced bumps. Unlike most other designs on the market (including virtual pivot designs) it is immune to brake jack. There is also a fair amount of anti-squat built into the design to counter pedal-induced bob. The shock, which is the most heavy part of the frame is tucked away near the BB to keep the centre of gravity as low as possible.

**Geometry:** The frame has truly modern DH geometry - it's low, slack, and has a very short rear end with a roomy front triangle. Thanks to the adjustable dropouts you can set up the bike with a super tight rear end or you can fit the wheel in a more standard position to suit the characteristics for any track and riding style. The short position results in one of the tightest rear ends on the market. Thanks to this we could really open up the front end and benefit from massive stability and confidence improvements, yet still keep the wheelbase (hence manoeuvrability) under control.

**Suspension & kinematics:** the Fuzz has a clearly progressive leverage ratio curve. The first stage of the travel is very supple and absorbs small and medium impacts. Towards the end of the travel, the frame becomes stiffer, and gives the rider a feeling of support, which results in predictable launches off jump lips and other obstacles that require getting air to clear. It's important to note that the characteristics are different on the short and long setting with a noticeably softer and less progressive feel in the long setting. The 4-bar Horst link suspension has a significant amount of rearward axle movement which helps to absorb square faced bumps. The system, unlike most other designs on the market (including virtual pivot designs) it is immune to brake jack (i.e. the torque generated by the brakes will not cause the suspension to stiffen). There is also a fair amount of anti-squat built into the design to counter pedal induced bob. The shock, which is the most heavy part of the frame is tucked away near the BB to keep the centre of gravity as low as possible.

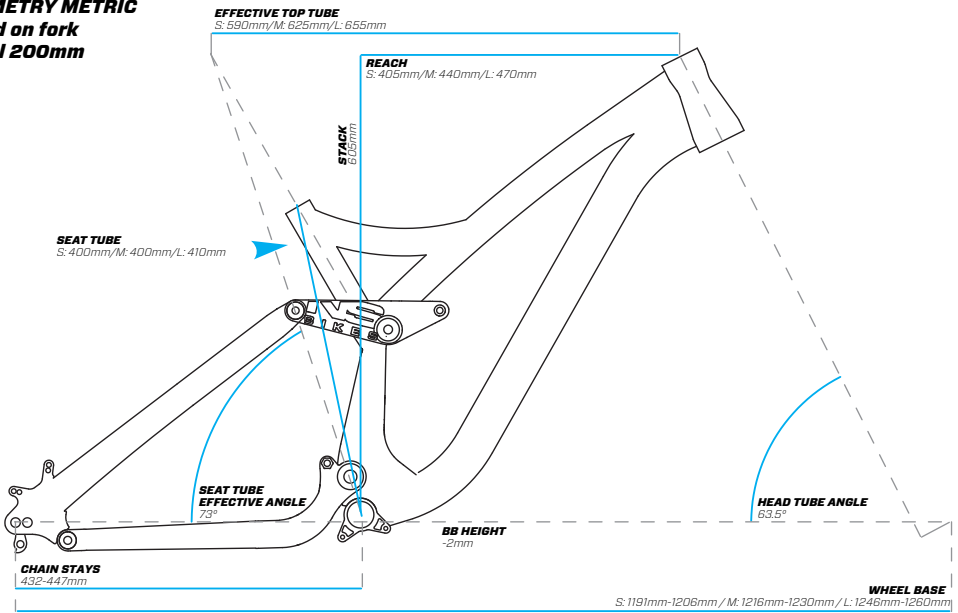
## TECHNICAL SHEET / SPECS

rear wheel travel: short CS: 202mm (7.9") / long CS: 206mm (8.1")  
AL6061-T6 + AL6066-T6 custom formed and butted tubes  
smooth 'double pass' welding in all critical areas  
rear shock: 240x76mm (9.5x3.0"),  
mounting hardware: front 30 x 8 mm, rear 22.2 x 8mm  
internal or external cable guide option  
head tube: semi-integrated tapered ZS44/ZS56, headtube length 115mm (4.5")  
fits forks with standard 1-1/8" or tapered 1.5 - 1-1/8" steerer tubes  
rear hub 157x12mm, rear axle included  
IS-2000 disc brake mount  
BB: threaded 83mm with ISCG-05 mounts  
biggest chainring: up to -38t  
rear derailleur: removable hanger included  
front derailleur: not compatible  
seat post/clamp: 30.9mm / seatclamp included  
max tire: 27.5" x 2.6"  
weight (w/o shock): ~3.65kg

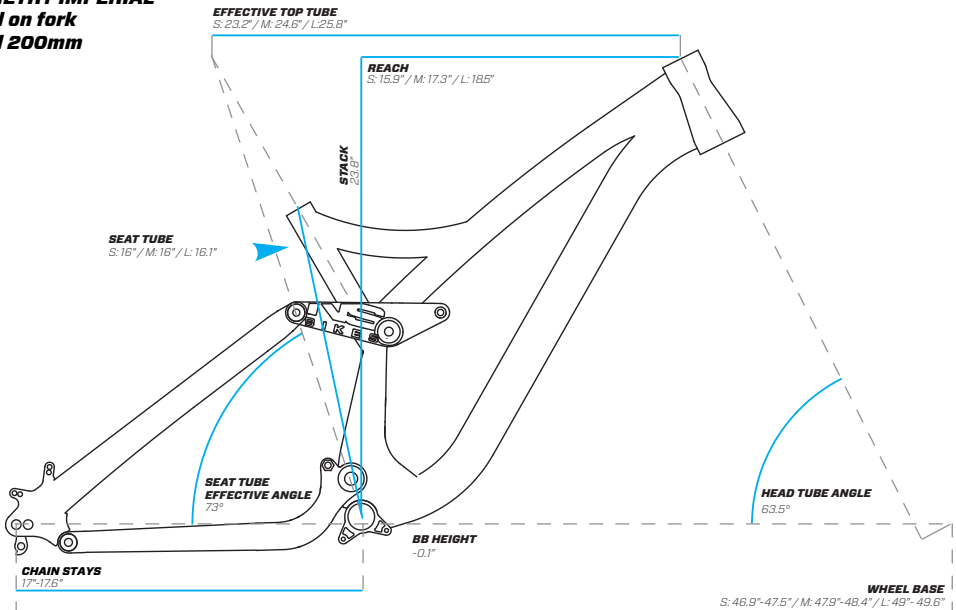
## FRAME SIZE RECOMMENDATIONS

S size up to 172cm  
M size 170cm - 184cm  
L size 180cm and taller

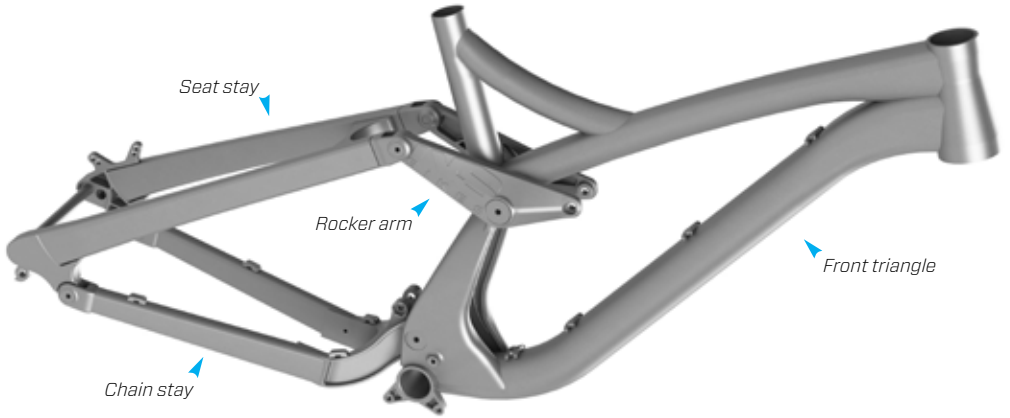
**GEOMETRY METRIC**  
based on fork  
travel 200mm



**GEOMETRY IMPERIAL**  
based on fork  
travel 200mm



**EXPLODED VIEW**

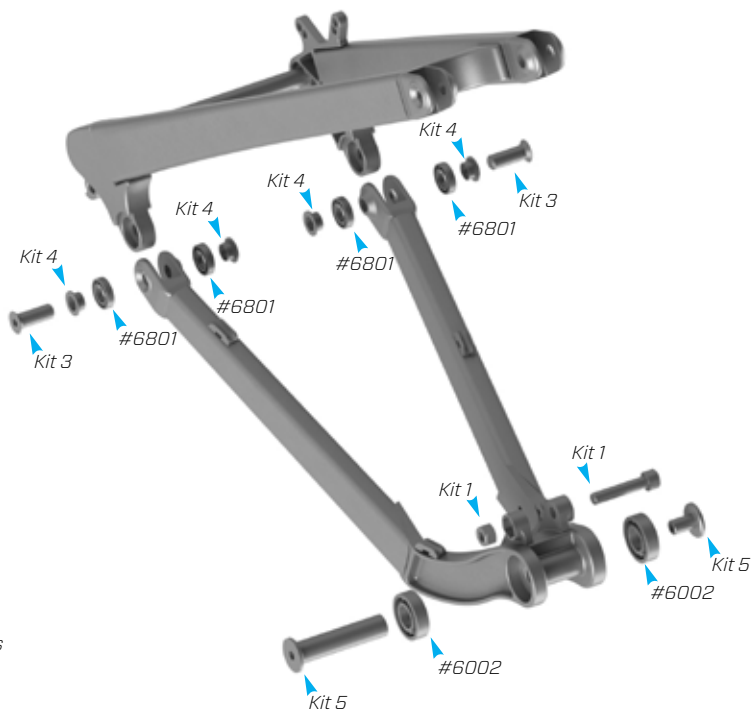


*Frame main parts*

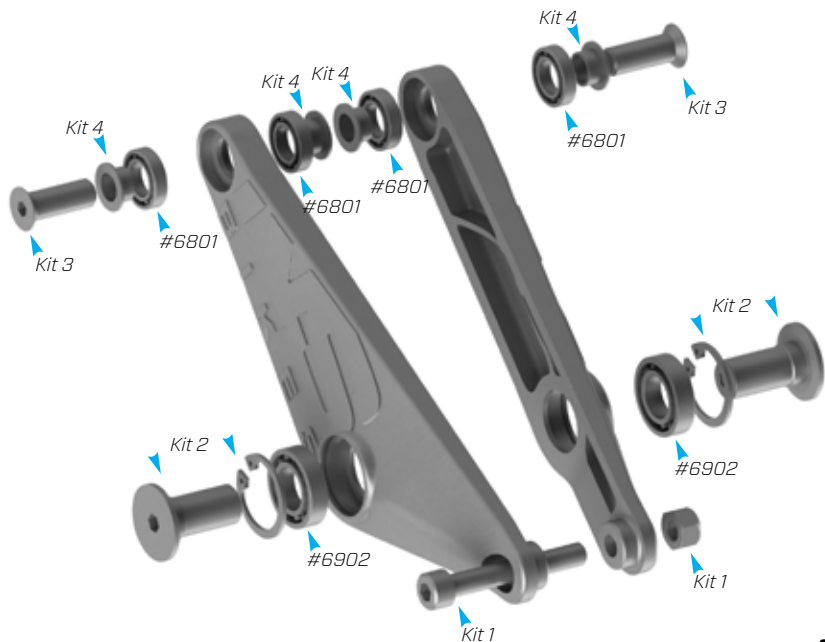


*Dropouts parts*





#6801-12x21x5  
#6002-15x32x9  
Rear triangle parts



#6801-12x21x5  
#6902-15x28x7  
Rocker arm parts

## REPLACEMENTS

### PARTS:

- Fuzz Kit1: Shock bolts & nuts (2 sets)
- Fuzz Kit2: Rocker bolts & C-clips (2 sets)
- Fuzz Kit3: Clevis bolts (2pcs - set for 1 link)
- Fuzz Kit4: Bearing hardware (4pcs - set for 1 link)
- Fuzz Kit5: Main pivot axle & bolt
- Fuzz Kit6: NS 157mm axle + dropout insert
- Fuzz Kit7: Derailleur hanger (w/bolt)

### ACCESSORIES:

- Shock fender
- Neoprene CS protector
- Protective self-adhesive foil
- Seatpost clamp
- Removable cableguides

## INSTRUCTION: GENERAL INFO

*Fork:* The frame is designed to work with double and single crown DH/FR forks with 180-220mm of travel. Use of different style of forks or forks with longer travel may result in frame failure, possible injury or even death.

*Rear shock:* The frame is designed to work with 240x76mm (9.5x3.0") DH/FR shocks. Use of different style of shocks or shocks with different length may result in frame failure, possible injury or even death.

*Headset:* The FUZZ frame comes with a tapered head tube with 1.5 ZS (bottom: 56mm ID\* / top: 44mm ID) and 115mm stack height. It fits forks with standard 1-1/8" steerer tubes. Don't cut your steer-tube too low! The process of mounting headset in the frame should be done by a qualified mechanic.

\*Please note that headsets with OD55 mm bottom cups or other internal headsets won't fit. Only headsets with a bottom cup with 56mm OD will work with the FUZZ frame. The use of a wrong type of headset can be dangerous & can damage the frame

*BB:* The frame is designed to work with 83mm bottom bracket size only and will accept conventional threaded, external BB standards such as SRAM GXP, Shimano BB80 or FSA MegaExo. Before installation make sure that the BB is clean, lightly greased, free of dirt and paint. The installation process should be carried out according to the BB manufacturers instructions.

*Chainring sizes:* The frame is designed to work with chainrings up to 38t. Max chainring size is only an approximate reference. It can vary depending on the manufacturer, model, cranks & BB used.

*Biggest tire:* The frame will fit tires of maximum 27.5" x 2.6". Note that these numbers are for reference only as the size and shape of the tire can vary depending on the manufacturer and rim width.

*Brake compatibility:* The FUZZ frame is disk brake compatible and it comes with an International Standard IS-2000 disc brake mount, it will fit discs up to 200mm.

*Seatpost & seatpost clamp:* The FUZZ frame works with 30.9mm seatposts and 34.9mm seatpost clamps. Do not extend the seatpost above the minimum insertion mark. Maximum seat insertion is 175mm for S and M size and 185mm for L size.

**WARNING:** It is important to make sure that the rear tire won't touch the saddle when suspension reaches it's maximum amount of travel. To check that please compress rear suspension fully without the spring installed onto the rear shock.

## SUSPENSION SETTINGS

Suspension settings are a matter of personal preference. Some riders like it plush, some like it firm. However here are some suggestions of shock settings that you can use as basic guidelines.

Typically, the Fuzz should run with about 30% to 35% sag. To measure sag, push the bottom-out bumper up the shock shaft until it meets the body of the shock. Gently stand up on the pedals with all your weight on the bike (fully kitted up with body armour, helmet, neck brace, hydration pack, etc. - it's important to make the situation as 'real world' as possible to give you the most accurate results) and note how far the bumper displaces.

Change the spring and check the correct spring rate for your weight to make sure you get it set up correctly. To achieve a medium-soft suspension with approximate 30-35% of sag we recommend the following:

**For rider weight of :**

**66-74kg a 350 lbs spring // 74-82kg a 400 lbs spring // 82-90kg a 450 lbs spring // >90 and more a 500 lbs spring**

These values are only recommendations. Play around with the spring weights and shock preload adjustment until you find a setting that suits you best.

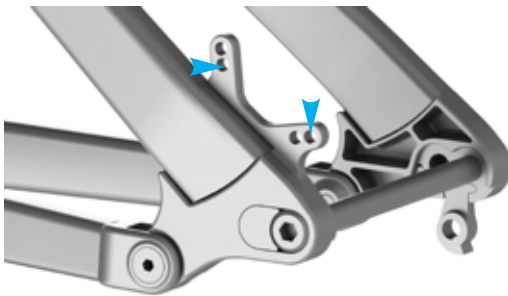
### REAR WHEEL MOUNTING AND ADJUSTING THE CS LENGHT

The FUZZ frame is compatible with 157x12 thru-axle hubs that work with adjustable chainstay length systems. For proper rear wheel installation and adjustment of the chainstay length please follow the instructions:

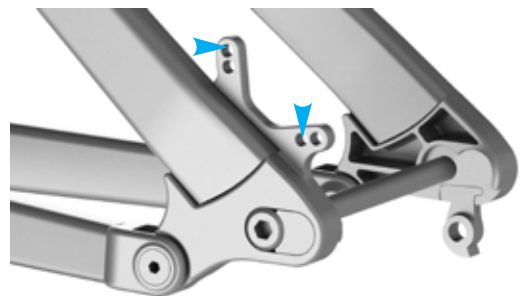
- choose the chainstay length by flipping the dropout insert over on the non drive side (it is secured by 2,5mm allen key from the bottom),
- choose the correct brake caliper position for your currently chosen chainstay length
- make sure the wheel is aligned and the disc sits properly in the brake caliper
- put the wheel into the dropouts with the chain set up correctly on a cassette,
- put the 12mm axle through and tighten properly with 8mm allen key.
- secure the axle with 2,5mm allen key bolt on the bottom of the dropout.

### ADJUSTING THE BRAKE ADAPTER

Long Chain Stay position



Short Chain Stay position



▶ Brake adapter holes for long chain stay

▶ Brake adapter holes for short chain stay



**EXTERNAL CABLE ROUTING**

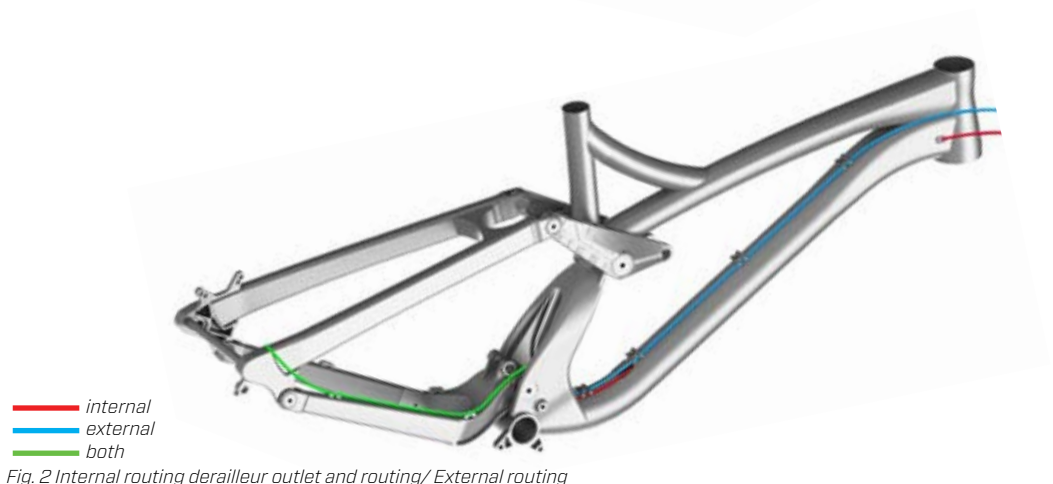
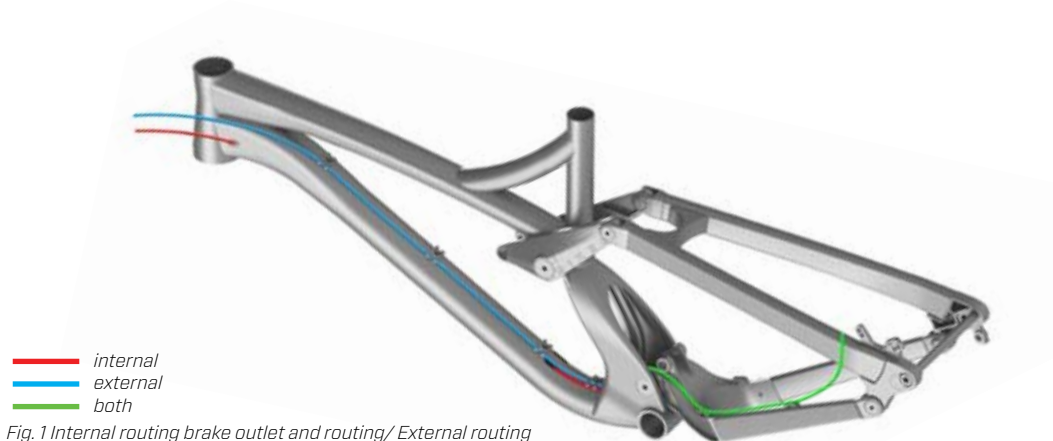
Cables should be attached on the upper side of the down tube into the shock cage (see Fig. 1, 2). From here the brake cable should go on the non-drive chainstay and up to the caliper, the rear derailleur cable should go on along the chainstay directly to the derailleur. The rear shock has to be disassembled for this operation.

**INTERNAL CABLE ROUTING**

The Fuzz frame has an option of running the cables inside the frame. In order to avoid damage of the cables we added protective tubes to the frame.

Cable installation procedure:

1. For this process you will need to disassemble the brake hose and / or derailleur cable.
  2. Insert the cable and / or hose into the down tube. The cables coming from the left side of the handlebar should enter the right hole, and the cables coming from the right side should enter the left hole.
  3. When cable will reach bottom down tube hole use bent steel wire or grasper to pull it out of the tube.
- See Fig. 1, 2 for reference





**ACCESORIES:**

The Fuzz comes with:

- neoprene chain stay protector
- self-adhesive protective foil for downtube
- shock fender

The neoprene CS protector should be placed over the rear-derailleur cable to protect it and the frame from the chain.

Self-adhesive protective foil set might be used to additionally protect the down tube.

To install the shock fender place it first inside the shock cage so it sits firmly on the ribs inside the shock cage and run zip-ties through the fender holes and over shock hardware on the CS yoke and tighten them.



Please de-grease and clean the surface of the frame before applying the protective foil on your frame.

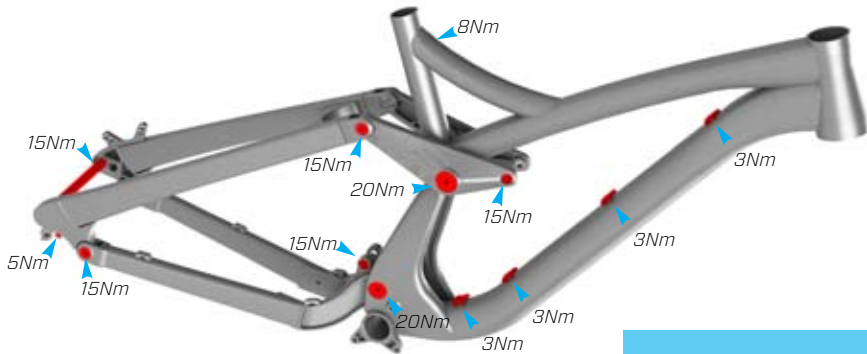




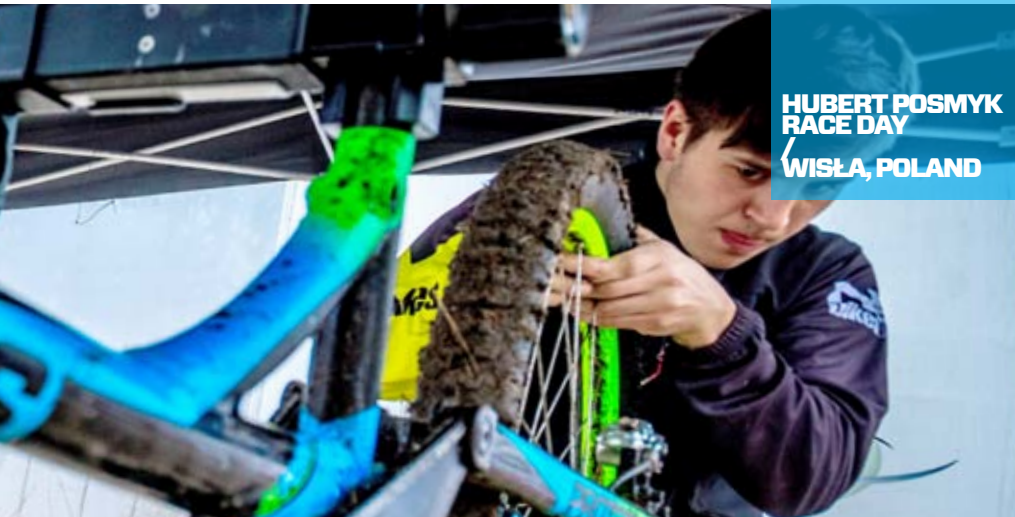
## TIGHTENING TORQUE

Correct tightening forces on fasteners, nuts, bolts, screws on your bicycle are crucial. Too little force, and the fastener may not hold securely. Too much force, and the fastener can strip threads, stretch, deform or break. Either way, incorrect tightening force can result in component failure, which can cause you to lose control and fall. If in any doubt, or if any problems are found during the pre-ride check you should immediately seek professional advice from a professional bicycle mechanic. Study the manuals of the suppliers of the suspension fork, rear shock, and other parts that come with this frame. Do not ride the bicycle until all problems have been resolved. Riding a bicycle with any defects can be a hazard to your health and life! Unless you are a very competent bicycle mechanic, do not attempt to execute any of these adjustments yourself. Seek advice at your local bicycle shop. The rear suspension bolts (rear shock and pivots) have been tightened in the factory with specific torque. In case of re-adjustment extreme care should be taken when re-tightening them.

Tightening torque for various bolts on the frame:



For other components please first refer to manufacturer instructions.



HUBERT POSMYK  
RACE DAY  
WISŁA, POLAND

## **MAINTENANCE & PERIODICAL SAFETY CHECKS**

*DO NOT RIDE THE BICYCLE IF IT YOU SEE ANY DEFECTS.*

*Take care of your frame and you will enjoy it for a longer time. Before every ride you should always make a pre-ride check. It should include the following points: clean the frame (note that high-pressure washing may cause damage to some components on the bicycle so it should be avoided if possible) and examine it CAREFULLY for any indications of potential failures including cracks, corrosion, dents, paint peeling and any other indications of potential problems, inappropriate use or abuse. If anything suspicious is found, contact your local bike dealer for a proper inspection. These are important safety checks and very important to help prevent accidents, injury and shortened product lifespan.*

*Things to check before each ride:*

- all frame bolts are correctly tightened – refer to # TIGHTENING TORQUE*
- wheel to frame & fork connections - this is critical for your safety. If you have axle bolts they should be tightened according to the manufacturer's specification. If you have a quick release make sure that it is set to the CLOSED position, and that there is a reasonable amount of resistance applied.*
- steering system. The steering system includes: handle bar, stem, headset and fork. All elements should be connected firmly for riding safety. If you wish to make any adjustments yourself, be warned that incorrect setup can be very dangerous and we always advise you to seek professional advice for this! Check headset looseness, check stem to handlebar connection and stem to steertube connection. Check the connection between the handlebars and stem. Try pushing the handlebars up and down - there should be no movement between these two elements. Check the headset for eventual free play (stand next to the bicycle, apply the front brake and push forwards and backwards. There should be no play between the frame and fork). If any play is found contact your local bike shop. Do not attempt to make any adjustments yourself. If you are confident that you can do this yourself then adjust the steering system according to the headset/stem manufacturer instructions. All parts of the stem should be regularly checked for damage or cracks. If you find anything suspicious, contact an experienced bike mechanic immediately. A defective steering system can cause serious injury or death.*
- bottom bracket connection to the frame. There should be no play between the frame and bottom bracket.*
- the connection between the cranks and bottom bracket.*
- the connection of the pedals to the cranks.*
- chain line and chain tension.*
- derailleur connection with the frame and make sure the function is proper before every ride.*
- brake clamp to frame & fork connection.*
- the general condition of rear shock and front fork (take special note of any cracks or deformations).*
- shock / fork pressure (for air shocks). Refer to the # SUSPENSION SETTINGS and manufacturers instruction. Make sure the SAG doesn't exceed the reasonable limit. Make sure the air pressure does not exceed limits provided by shock / fork manufacturer*
- clean rear shock & forks stanchion tubes.*
- brake cables and their housing for kinks, rust, broken strands or frayed ends. If you notice any damage, you should ask a bicycle shop to replace the cables immediately. Damaged cables can seriously impede braking efficiency.*

*For information about servicing the shock and other parts like the headset mounted on the bike it is necessary to follow manufacturers instructions closely. The user manual for the additional parts are supplied in the frame box.*

**BOX CONTENTS:**

- FUZZ frame
- 157mm NS thru axle
- seatpost clamp
- shock fender
- neoprene CS protector
- self-adhesive protective foil for down tube
- tech manual

A mountain biker wearing a blue and black long-sleeved jersey, blue pants, and a black helmet with green accents is riding a dirt trail in a forest. The rider is leaning forward, and the bike is kicking up a cloud of dirt. The background shows a dense forest with tall, thin trees and some green foliage.

**SAM PILGRIM**  
**FMB CHAMPION**  
**NS TEAM RIDER**  
**SAALBACH**  
**AUSTRIA**



**NS BIKES WARRANTY**

1. 7ANNA sp. z o.o. sp. k. (hereinafter on referred to as 7ANNA), manufacturer of NS Bikes, warrants all new full suspension frames for a period of 3 years.

2. If any defects are noticed in the product, the Customer must stop using it immediately and should report this to the dealer that sold it within 14 days. Using a damaged product will void the warranty, lead to more extensive damage and may pose a serious hazard to the rider's health and life.

3. The warranty period starts from the day when the product is purchased. This purchase must be documented with the cash receipt for all products plus a filled in warranty card for frames (which includes the following information: date of purchase, serial number of frame, customers name and name of dealer).

4. The warranty applies only to the original owner and is not transferable.

5. Claims under this warranty should be made through the dealer where the product was purchased.

6. The warranty is valid only if the component is sold by an authorized dealer and assembled by a qualified bicycle mechanic.

7. The warranty does not cover:

- normal wear and tear
- bearings
- labour charges for replacing parts,
- paint and decals,
- problems that result from excessive loads occurring during extreme riding or from bad riding technique,
- problems that result from incorrect assembly or installation.
- cost of travel or shipment to and from an authorized dealer such cost, if any, shall be borne by the original owner

8. This warranty is void if:

- the warranty card is filled in incorrectly or incompletely,
- any modifications have been made to the product by the customer,
- damage has been caused by external parts that have been incorrectly assembled on the frame,
- the product had not been used, maintained or repaired according to the manufacturers instructions,
- the product was transferred to any third party.

9. Directions on how to deal with warranty cases shall be provided by the distributor of the product in the region where it was purchased.

10. The crash replacement warranty covers damage resulting from crashing, or excessive loads generated by things like casing jumps or throwing the bike. Such damage won't be covered by the normal warranty, however 7ANNA offers the possibility to replace the product for 50% of the original suggested retail price under the Crash Replacement policy.

The conditions for this are:

- Crash Replacement applies to NS full suspension frames for a period of 3 years from the date of purchase.
- 7ANNA reserves the right to deny Crash Replacement without further explanations,
- Crash Replacement does not apply to parts damaged in other situations than in riding (for example Crash Replacement will not cover a part that has been damaged during shipping),
- Crash Replacement only applies to components made by 7ANNA.

11. This limited warranty does provide the original owner with certain legal rights and recourse and the original owner may possess other rights or recourse, depending on the state, jurisdiction, country, or province. Please be informed that this is a final statement of the 7ANNA and all the remedies available to the original owner are stated herein. 7ANNA does not allow or authorise any entity (including authorised dealers) to extend any other express or implied warranties on its behalf. An original owner agrees that 7ANNA's liability under this warranty under no circumstances shall be greater than the original purchase price. In no event shall 7ANNA be liable for incidental or consequential damages. All other remedies, obligations, liabilities, rights, warranties, express or implied, arising from law or otherwise, including (but not limited to) any claimed implied warranty of merchantability, any claimed implied warranty arising from course of performance, course of dealing or usage of trade, and any claimed implied warranty of fitness, are disclaimed by 7ANNA and waived by the original owner. Some states, jurisdictions, countries, and provinces do not allow some or all of the limitations set forth herein, or the exclusion or limitation of incidental or consequential damages. If any provision is found unenforceable, only that provision shall be stricken and all others shall apply.

Frame model : .....

Frame serial number : .....

Shock serial number (if any) : .....

Price : .....

Date of purchase : .....

I certify that I am acquainted with the actual specification of the  
bicycle (this can be slightly different than that published by the distributor).

Buyer's signature : .....

Dealer's signature : .....

PROOF OF PURCHASE - WARRANTY CARD



Dealer's stamp

**NS**  
BIKES

manufactured by: 7anna sp. z o.o. sp. k., Raciborskiego 123, 80-215 Gdansk, POLAND  
tel +48 520 18 04 / mobile + 48 533 01 90 80

Always wear a helmet when riding. It will not make you deathproof, but will increase your chances to avoid serious injury if you crash (and you WILL crash). A broken leg can be fixed. A broken brain cannot! Even if you see some of our riders without a helmet, it's only because they are complete idiots!



**NS**  
BIKES

***FUZZ 650***

[WWW.NSBIKES.COM](http://WWW.NSBIKES.COM)  
[INFO@NSBIKES.COM](mailto:INFO@NSBIKES.COM)