



# **FORCE CARBON**

Owner's Manual Supplement

 **WARNING**

**READ THIS SUPPLEMENT AND YOUR  
GT BICYCLE OWNER'S MANUAL.**

Both contain important safety information.  
Keep both for future reference.

## Safety Messages

In this supplement, particularly important information is presented in the following ways:



### **WARNING**

Indicates a hazardous situation which, if not avoided, may result in death or serious injury.

### **NOTICE**

Indicates special precautions that must be taken to avoid damage.

## The following symbols are used in this manual:

Symbol	Name	Description
	NGLI-2 synthetic grease	Apply NLGI #2 synthetic grease.
	Medium-strength removable thread lock	Apply Loctite® 242 (blue) or equivalent.
N·m	Newton meter	Indicates the specified tightening torque for the fastener. Use a correctly sized and calibrated torque wrench.

**GT Supplements**

This manual is a “supplement” to your [GT Bicycle Owner’s Manual](#).

This supplement provides additional and important model specific safety, maintenance, and technical information. It may be one of several important manuals/supplements for your bike; obtain and read all of them.

Please contact your Authorized GT Dealer immediately if you need a manual or supplement, or have a question about your bike. You may also contact us using the appropriate country/region/location information.

You can download Adobe Acrobat PDF versions of any manual/supplement from our website: <http://www.gt bicycles.com>.

**Contacting GT**

**GT USA**

Cycling Sports Group, Inc.  
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 Wilton CT, 06897, USA  
 1-800-726-BIKE (2453)

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 Cycling Sports Group Europe B.V.  
 Geeresteinselaan 57  
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 The Netherlands  
 PH: 00.31.541.200374

**International Distributors**

Consult our website to identify the appropriate GT Dealer for your region.

**Contents**

Safety Information..... 4-9  
 Technical Information..... 10-24  
 Replacement Parts ..... 25-27  
 Maintenance .....28

**Your GT Dealer**

To make sure your bike is serviced and maintained correctly, and that you protect applicable warranties, please coordinate all service and maintenance through your Authorized GT Dealer.

**NOTICE**

Unauthorized service, maintenance, or repair parts can result in serious damage and void your warranty.

## SAFETY INFORMATION

### Important Composites Message

#### WARNING

**Your bike (frame and components) is made from composite materials also known as “carbon fiber.”**

All riders must understand a fundamental reality of composites. Composite materials constructed of carbon fibers are strong and light, but when crashed or overloaded, carbon fibers do not bend, they break.

For your safety, as you own and use the bike, you must follow proper service, maintenance, and inspection of all the composites (frame, stem, fork, handlebar, seat post, etc.) Ask your GT Dealer for help.

We urge you to read PART II, Section D. “Inspect For Safety” in your [GT Bicycle Owner's Manual](#) BEFORE you ride.

**You can be severely injured, paralyzed or killed in an accident if you ignore this warning.**

### Inspection & Crash Damage Of Carbon Frames/Forks

#### WARNING

#### **After A Crash Or Impact:**

Inspect frame carefully for damage (See PART II, Section D. Inspect For Safety in your [GT Bicycle Owner's Manual](#). )

Do not ride your bike if you see any sign of damage, such as broken, splintered, or delaminated carbon fiber.

#### **Any of the following may indicate a delamination or damage:**

- An unusual or strange feel to the frame
- Carbon which has a soft feel or altered shape
- Creaking or other unexplained noises,
- Visible cracks, a white or milky color present in carbon fiber section

**Continuing to ride a damaged frame increases the chances of frame failure, with the possibility of injury or death of the rider.**

## Intended Use



The intended use of all models is ASTM CONDITION 4, All-Mountain.

### WARNING

**Understand your bike and its intended use. Using your bike the wrong way is dangerous.**

Please read your [GT Bicycle Owner's Manual](#) for more information about Intended Use and Conditions 1-5.

## Servicing

### WARNING

This supplement may include procedures beyond the scope of general mechanical aptitude.

Special tools, skills, and knowledge may be required. Improper mechanical work increases the risk of an accident. Any bicycle accident has risk of serious injury, paralysis or death.

To minimize risk we strongly recommend that owners always have mechanical work done by an Authorized GT Dealer.

## Tightening Torques

Correct tightening torque for the fasteners (bolts, screws, nuts) on your bicycle is very important to your safety. Correct tightening torque for the fasteners is also important for the durability and performance of your bicycle. We urge you to have your dealer correctly torque all fasteners using a torque wrench. If you decide to torque fasteners yourself always use a torque wrench.

### Find Tightening Torque Information :

The wide range of bicycle models and components used means that a listing of tightening torque would be out of date by the time it was published. Many fasteners should be installed with a thread locking adhesive such as Loctite®.

To determine correct tightening torque and any adhesive application for a fastener we ask you to check:

Many components are marked. On-product marking is becoming common.

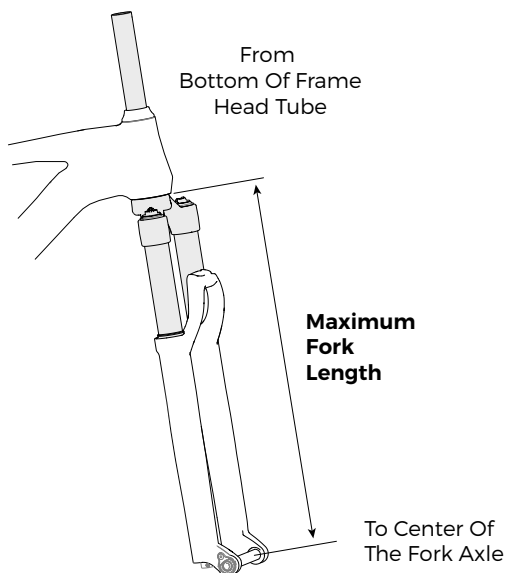
·Torque specs in the component manufacturers instructions shipped with your bicycle.

Torque specs listed on the websites of component manufacturers.

With your dealer. Dealers have access to current data and have experience with correct torque for most fasteners.

## Maximum Fork Length

Maximum Fork Length is an important frame safety testing specification for front suspension mountain bikes. You must observe the measurement when installing headset parts, headset adapters, installing and adjusting a fork, and selecting replacement forks.



### **WARNING**

**You must select a replacement fork not only based on head tube diameter but the critical factor of frame maximum fork length.**

Do not exceed maximum fork length. Exceeding the MAXIMUM FORK LENGTH limit can overload the frame causing it to break while riding.

Your retailer MUST follow and observe this specification for your bike. For Maximum Fork Length specifications for GT bicycles, see [www.gt bikes.com](http://www.gt bikes.com).

**You can be severely injured, paralyzed or killed in an accident if you ignore this warning.**

## Tire Size x Maximum Width

 **WARNING**

**Observe the Tire Size x Maximum Width for your bike found in the “Specifications” page of this manual.**

Mounting the wrong size tires can result in the tires hitting the fork or frame when riding. If this happens, you can lose control of your bike and you can be thrown off, a moving tire can be stopped because it touches the fork or frame.

Do not mount oversized tires, ones that rub or hit the fork or frame, ones that result in too little clearance, or ones that can hit the fork or frame, saddles, seat post, or seat post clamps seat post when the suspension is fully compressed or when riding.

Take care that the tires you select are compatible with your bike's fork or frame design. Also, be sure to follow the manufacturer's recommendations of your front fork and rear shocks.

When you are considering tires for your bike consider...

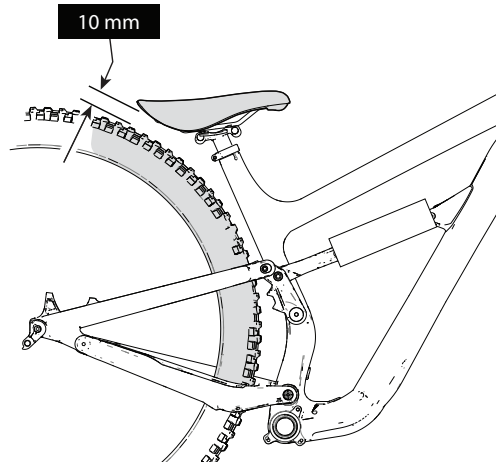
The actual measured size of a tire may be different than its sidewall marking. Each time you mount a new tire, take the time to inspect the actual clearance between the rotating tire and all parts of the frame. The U.S. Consumer Product Safety Commission (CPSC) requires at least 1/16" (1.6 mm) tire clearance from any part of the bike. Allowing for lateral rim flex and a wheel or rim that is out-of-true will likely mean choosing a rear tire that provides even more clearance than the CPSC recommends.

**Ask your authorized brand retailer for the right tires for your bike and its particular components! You can be severely injured, paralyzed or killed in an accident if you ignore this warning.**

## Rear Tire Clearance : Full Suspension

### Applies to:

- saddles
- seat posts
- rear racks
- Dropper posts
- any accessory with possible collision with the moving tire.



### To check clearance:

1. Release all the air from the rear shock. Remove the coil spring from coil shocks. spring coil (removal should only be done by a professional bike mechanic). Do not disconnect or remove the shock.
2. Compress the suspension fully with the tire inflated to its maximum inflation pressure.
3. At various points across the tire, measure the distance between the tire and the component or accessory.
4. If there is less than 10 mm of clearance available, the component or accessory must be adjusted or changed until there is at least 10 mm of clearance.



### WARNING

**Maintain 10 mm of clearance between rear tire, any rear rack, saddle, seat post, frame seat tube, or any mounted accessory.**

Check following saddle or seat post adjustments.

If you have questions maintaining tire clearances for parts of your bike consult with an Authorized Dealer or a professional cycling mechanic.

You can be severely injured, paralyzed or killed in an accident if you ignore this warning.



## Rear Shocks

### WARNING

**Select only compatible shocks and forks for your bike. Do not modify your bike in any way to mount one.**

Have your shock or fork installed by a professional bike mechanic

Riding with the wrong rear shock can damage the frame. You could have a serious accident. Make sure the total travel, eye-to-eye length, and stroke length of the rear shock you select meet the "Specifications" listed in this manual.

When selecting different shocks or forks for your bike, make sure that the shock or fork you select is compatible with your bike's design and how you will use your bike.

**Any adjustments on the shock itself should be performed when the bike is stopped.**

**You can be severely injured, paralyzed or killed in an accident if you ignore this warning.**

## Minimum Seat Post Insert

### WARNING

Make sure at least 100 mm of the seat post is inserted into the frame at all times.

Failure to insert the seat post at least 100 mm can place a very high stress on the seat tube top tube junction causing the frame to fail while riding.

Remove the seat post. Measure 100 mm from the bottom of the seat post. Use a permanent marker to mark the post at 100 mm.

When adjusting the seat post height in the seat tube, never adjust the seat post so that the line you mark is above the top edge of the seat tube.

You must also be aware that bicycle seat posts are permanently marked by the manufacturer with a "minimum insert" line on the seat post itself. You must not rely on this marking as an indication of the proper minimum seat post insertion depth.

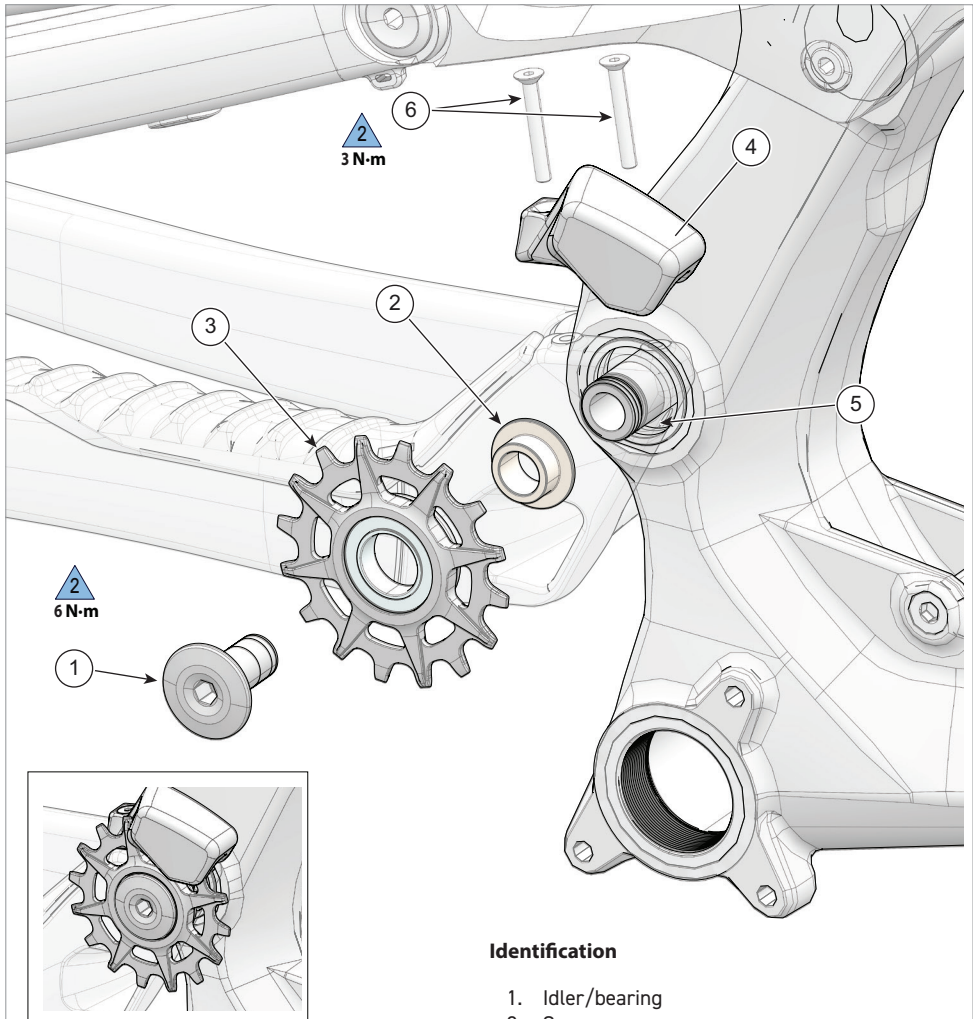
**You can be severely injured, paralyzed or killed in an accident if you ignore this warning.**

## TECHNICAL INFORMATION

### Specifications

Item	Specification
Rear Travel	160mm
Head Tube	UPR: 1-1/8" LWR: 1-1/2"
Headset	Semi-Integrated, 1-1/8" - 1-1/2"
Bottom Bracket: Type/Width	BSA/73mm
Front Derailleur	N/A
Seat Post: Dia./Binder	31.6mm / 34.9mm
Max. Seat Post Insert	SM: 250mm MD-LG: 275mm XL: 297mm
▲ Min Seat Post Insertion	100mm
▲ Tire Size x Max. Tire Width	29"x2.5 in
Max. Fork Length	588mm
Rear Shock: Eye-to-Eye / Stroke / Bushing Width	230mm / 65mm / (50x10mm UPR, 30x8mm LWR)
SAG	25%, 15 mm
Max Chainring	34t
Chain Guide	ISCG 05
Rear Brake: Mount Type / Min./Max. Rotor Dia.	Post Mount / 180mm / 203mm
Rear Axle: Type/Length	Maxle TA / 148x12mm / 188mm Overall Length
▲ Intended Use	ASTM CONDITION 4, All-Mountain
Max. Weight Limit: Total (Rider+All Equipment)	305 lbs / 138 kg

## Idler & Chain Guide



### Identification

1. Idler/bearing
2. Spacer
3. Idler bolt
4. Chain guide
5. Pivot axle end
6. Chain guide bolts

### WARNING

Idler Chain guide (4) required. Do not remove. Replace if worn or damaged.

## Rear Shock

### Setting Sag

1. Follow the shock manufacturer's instruction for setting the shock according to rider weight.
2. In case of an air spring shock, slide the O-ring against the shock wiper seal. In case of a coil spring shock, measure the shock length without the rider seated.
3. Sit on the bike in a normal riding position with your hands on the handlebar and feet on the pedals so that your weight compresses the rear shock.
4. Measure the SAG.
5. Dismount and adjust the air pressure or coil spring preload of the shock. Repeat steps 2 through 4 to achieve the correct SAG measurement.

### Removal

1. Secure bike in a work stand.
2. Remove the rear wheel, otherwise place a support under the wheel to prevent it from moving downward or falling during next steps.
3. Place a thick towel between the seat tube and link to prevent the linkage from striking the seat tube.

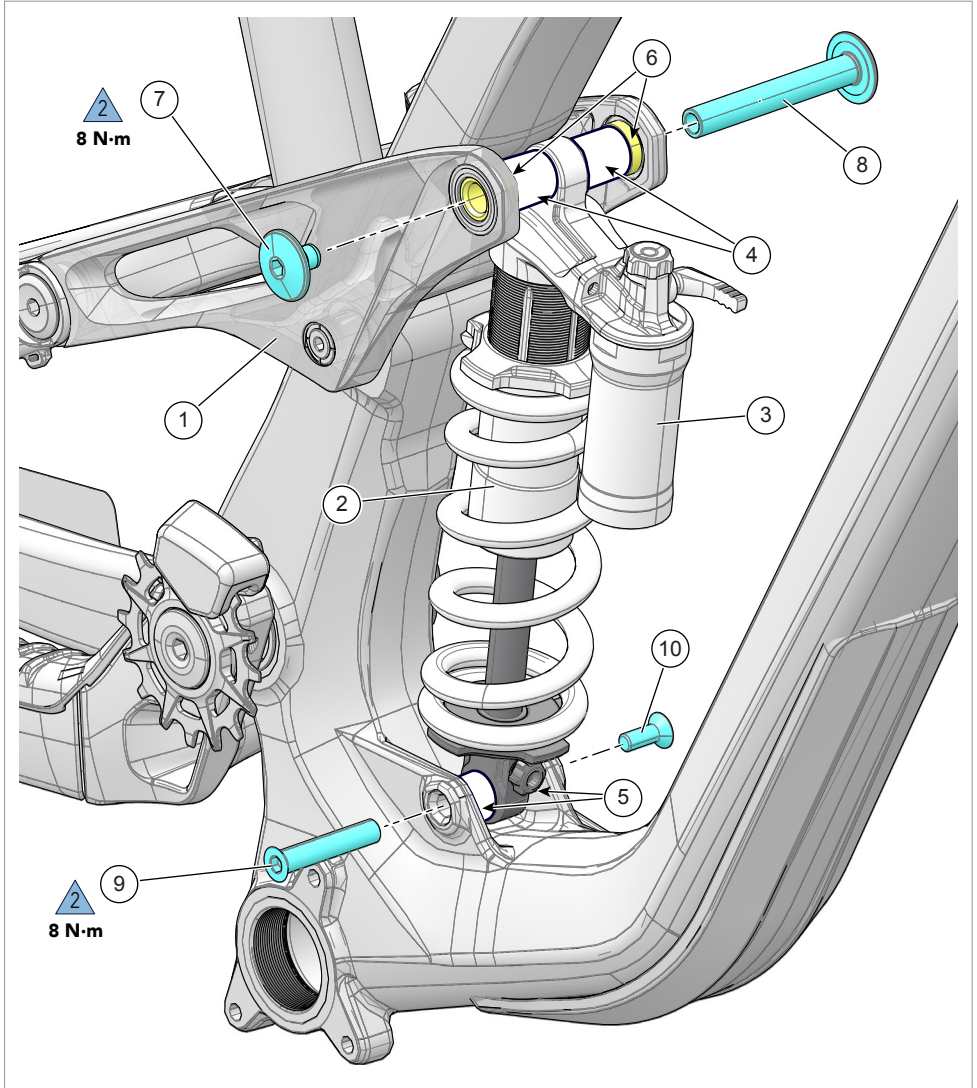
4. Remove the upper and lower shock mounting bolts and remove the shock.
5. Remove the upper spacers.

### Installation

1. Secure bike in a work stand.
2. Remove the rear wheel, otherwise place a support under the wheel to prevent it from moving downward or falling during next steps.
3. Install the small ends of the spacers into the upper link bearings.
4. Install the shock into the frame.
5. Install the lower shock bolts.
6. Install the upper shock bolts.
7. Tighten the shock bolts to the specified torque.

#### NOTICE

Install shock with adjusters/reservoirs positioned to the front of the bike.



### Identification

- |                          |                             |                               |
|--------------------------|-----------------------------|-------------------------------|
| 1. Link                  | 5. Shock bushings, lower    | 9. Shock bolt, lower, long    |
| 2. Shock                 | 6. Bearing spacers          | 10. Shock bolts, lower, short |
| 3. Shock reservoir       | 7. Shock bolt, upper, small |                               |
| 4. Shock bushings, upper | 8. Shock bolt, upper, long  |                               |

## LockR Axle

Be sure to support the bike or swingarm to prevent personal injury or bike damage when removing/disconnecting linkages of an axle.

### To remove the LockR :

1. Loosen the screw 4-6 turns using a T25 Torx key.
2. Tap head of screw with a rubber mallet to un-seat the wedge bolt located on the opposite side.
3. Remove the screw and wedge bolt from the still installed axle.
4. If it did not come out with the screw, insert a 5 mm hex key and turn to free and remove it. If wedge still sticks insert a wooden or plastic dowel into the drive side and drive it out.
5. To remove the axle itself, on non-drive side, insert a 6 mm hex key into the axle on the non-drive side and turn counter-clockwise until it can be removed.

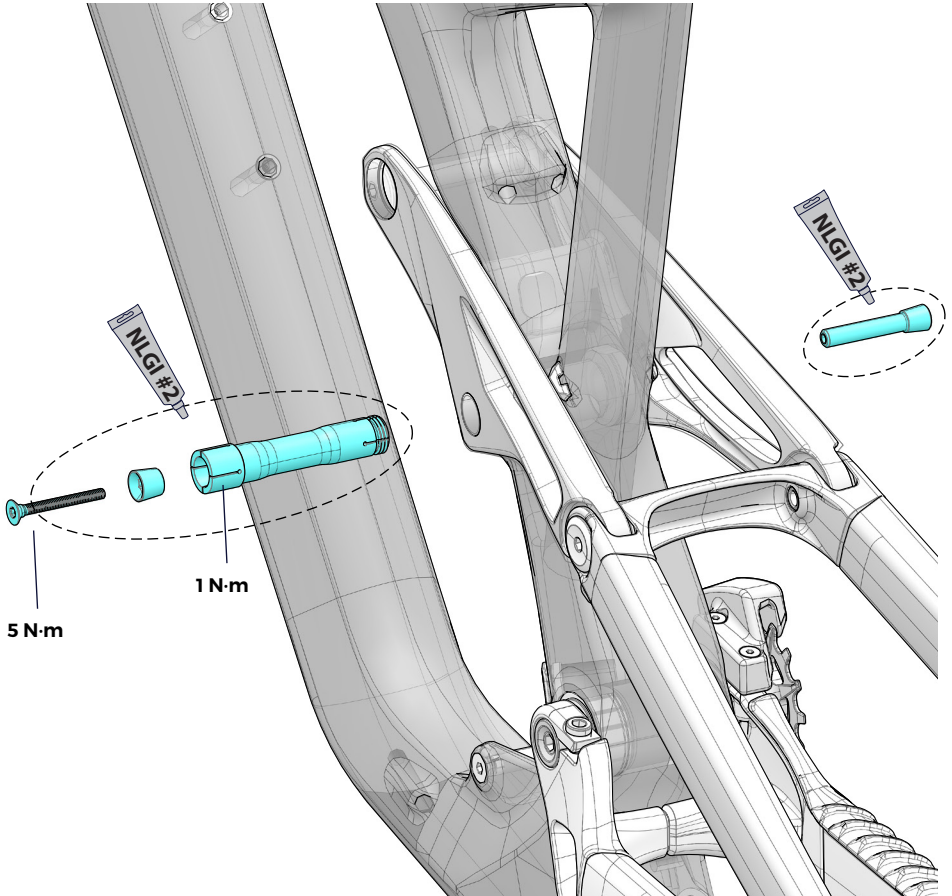
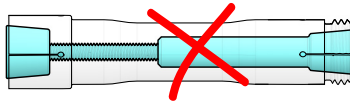
### To install the LockR::

1. Disassemble and clean all parts of the LockR axle. Do not install it assembled.  
  
Inspect the parts for damage (burrs, scratches, deformity, wear). Replace the entire LockR assembly if any damage is found.
2. Apply a light coating of a high-quality bicycle bearing grease to all parts.
3. Align the linkage and bearing and insert the threaded end of the pivot axle (1) into the non-drive side.
4. Tighten the inserted pivot axle to 1 Nm using a 6 mm hex key fitted torque wrench from the non-drive side.

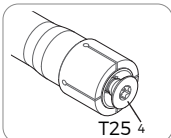
### NOTICE

Use a calibrated torque wrench.  
Exceeding 1 N·m will result in permanent damage to the LockR pivot system.

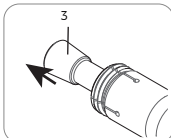
**DO NOT  
INSTALL  
ASSEMBLED**



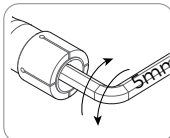
Unthread &  
tap mallet



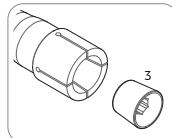
dislodge &  
remove



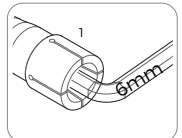
Insert 5mm &  
turn to free



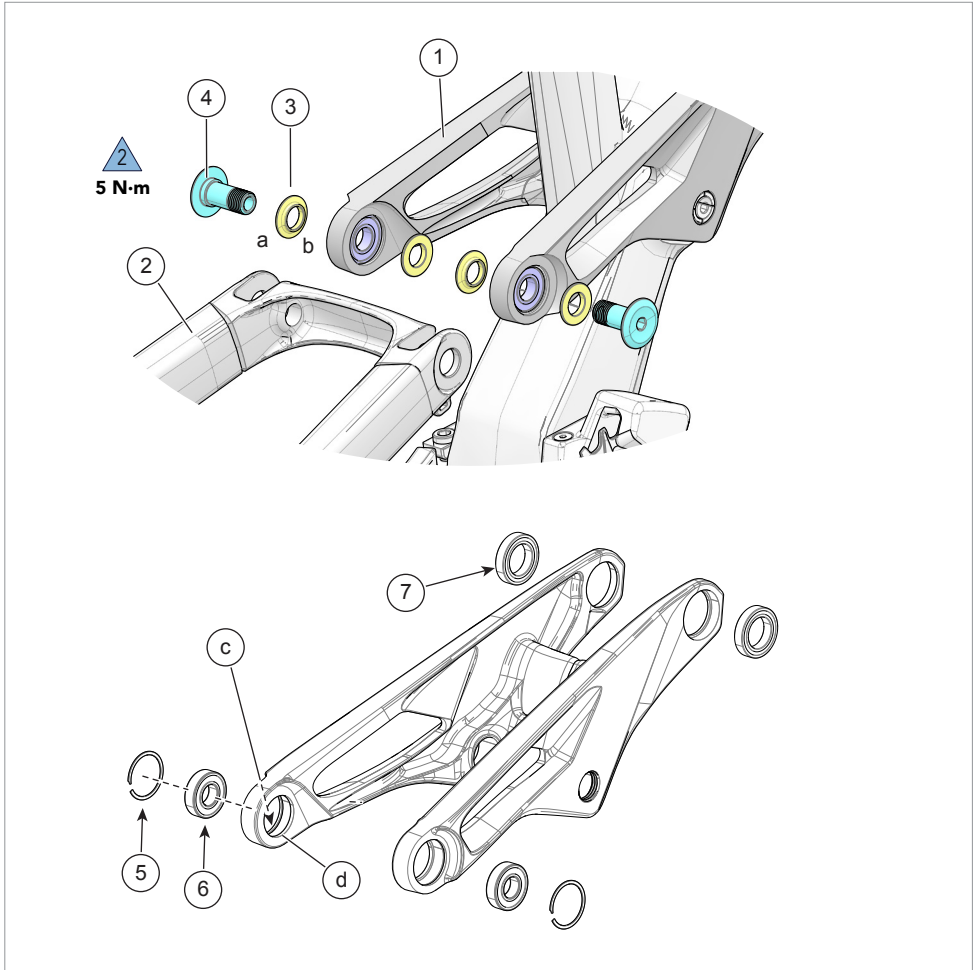
Remove



Unthread to  
remove



## Link / Seatstay

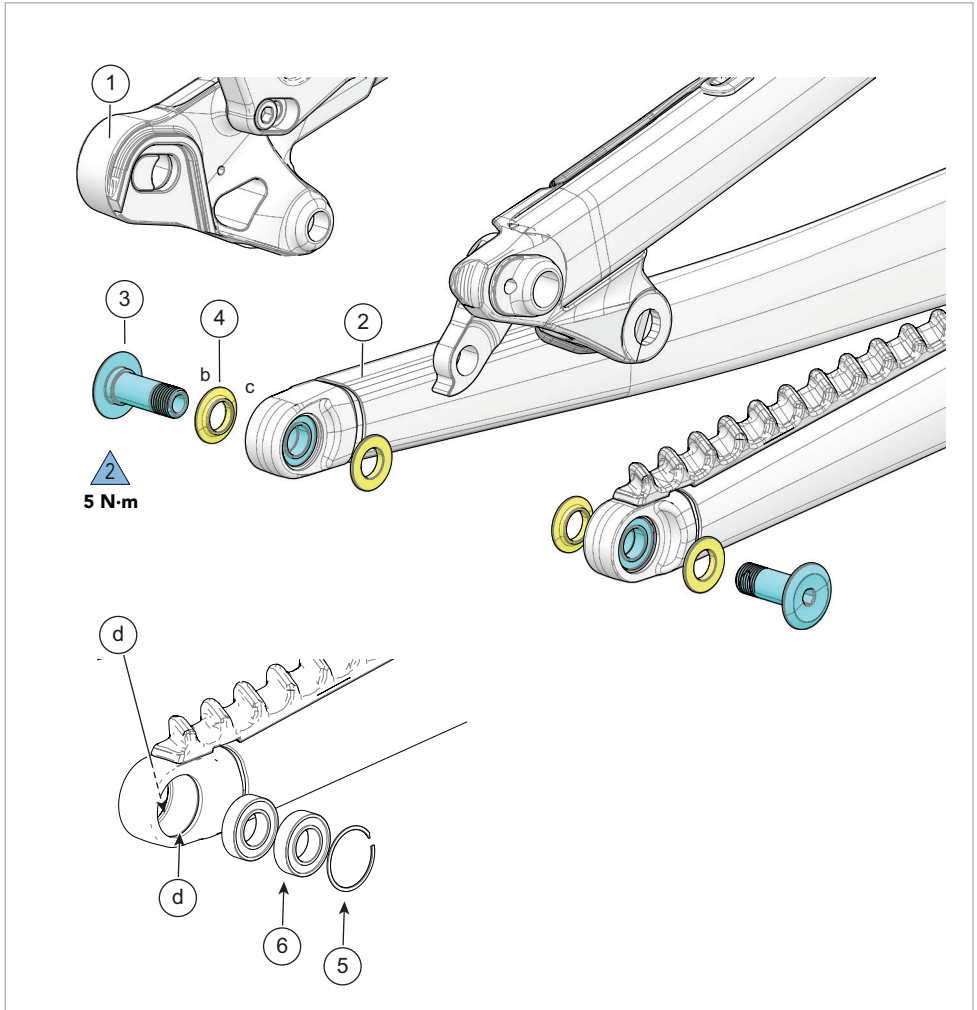


### Identification

- |             |                        |                        |                 |
|-------------|------------------------|------------------------|-----------------|
| 1. Link     | 5. Shock bolt, long    | 9. Link bearing, mid   | a. Large side   |
| 2. Seatstay | 6. Spacer              | 10. Link bearing, rear | b. Small side   |
| 3. Bolt     | 7. Shock bolt, short   | 11. Ring clip          | c. Groove       |
| 4. Spacer   | 8. Link bearing, front |                        | d. Bearing land |



## Seatstay / Chainstay



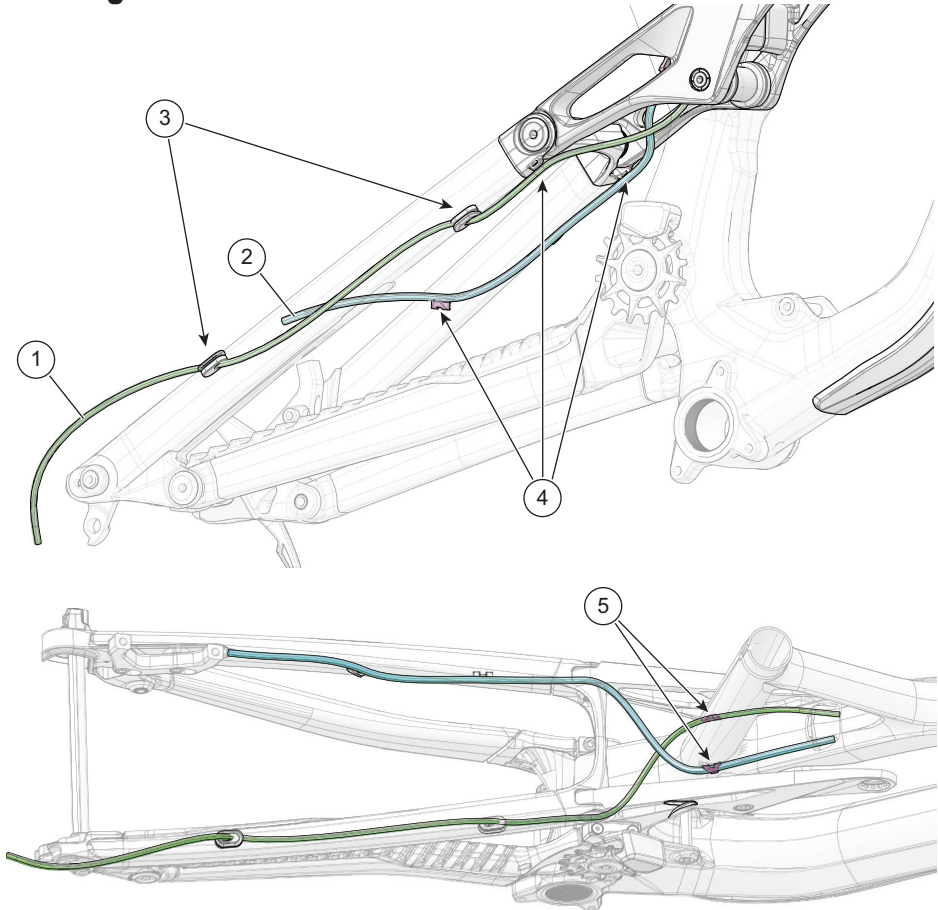
### Identification

1. Seatstay
2. Chainstay
3. Axle Bolt
4. Bearing spacer

5. Ring clip
6. Bearing

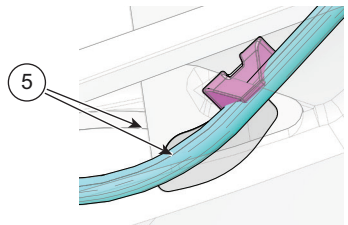
- a. Groove
- b. Large side
- c. Small side
- d. Bearing land

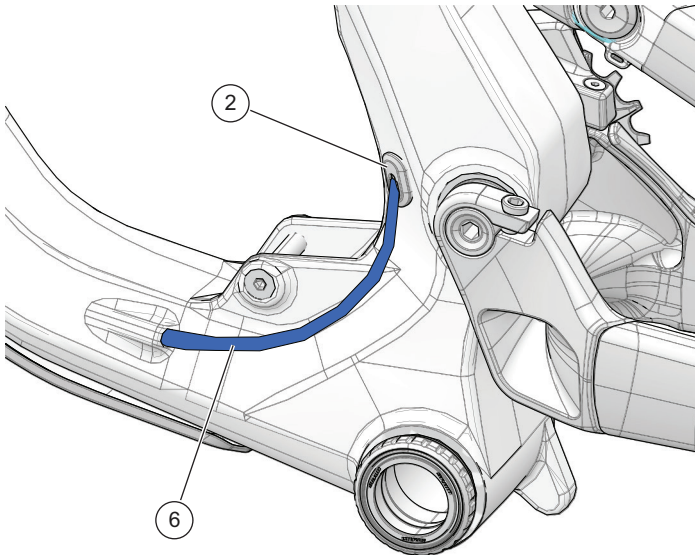
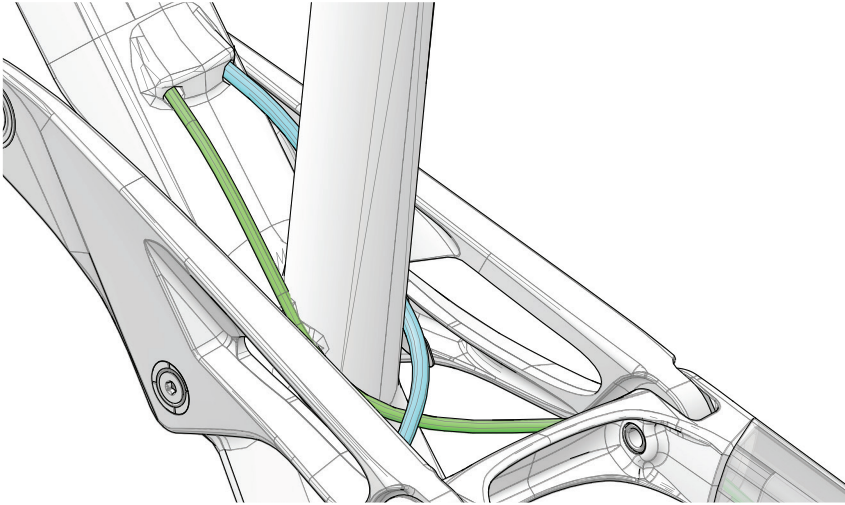
## Cabling



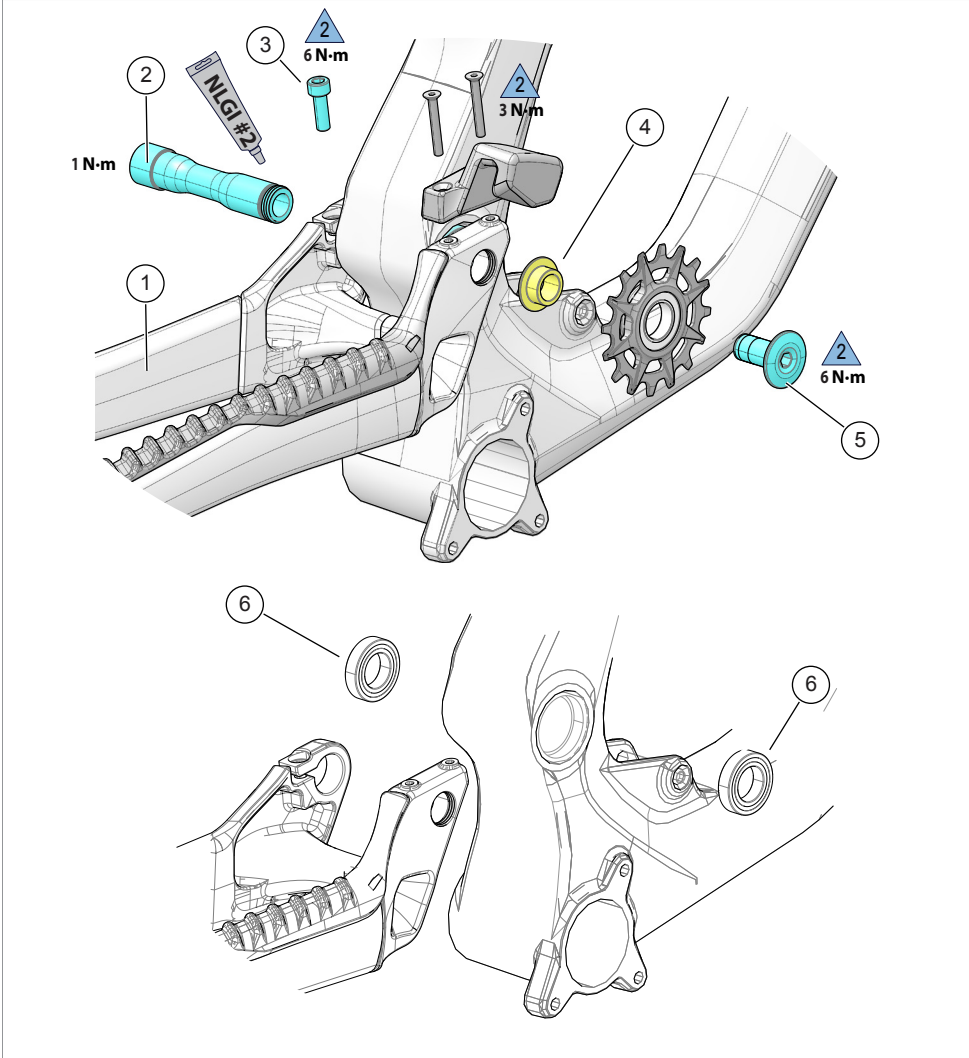
### Identification

1. Rear derailleur line
2. Rear brake line
3. Grommets
4. Cable tie locations
5. Rub guards
6. Seatpost remote





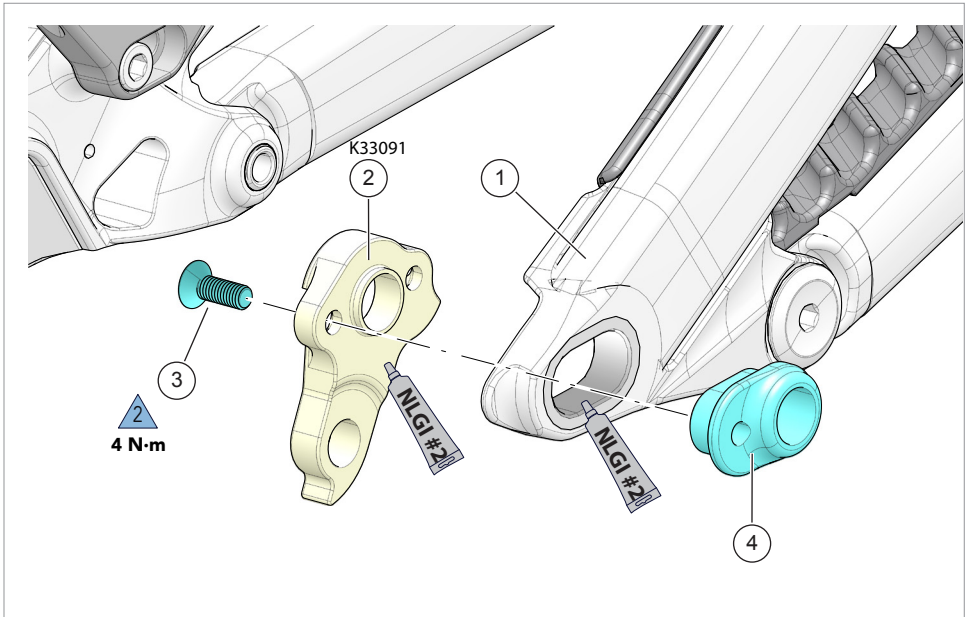
### Chainstay Pivot



#### Identification

- 1. Chainstay
- 2. Pivot axle
- 3. Bolt
- 4. Idler spacer
- 5. Idler bolt
- 6. Bearings

## Rear Derailleur Hanger



### Identification

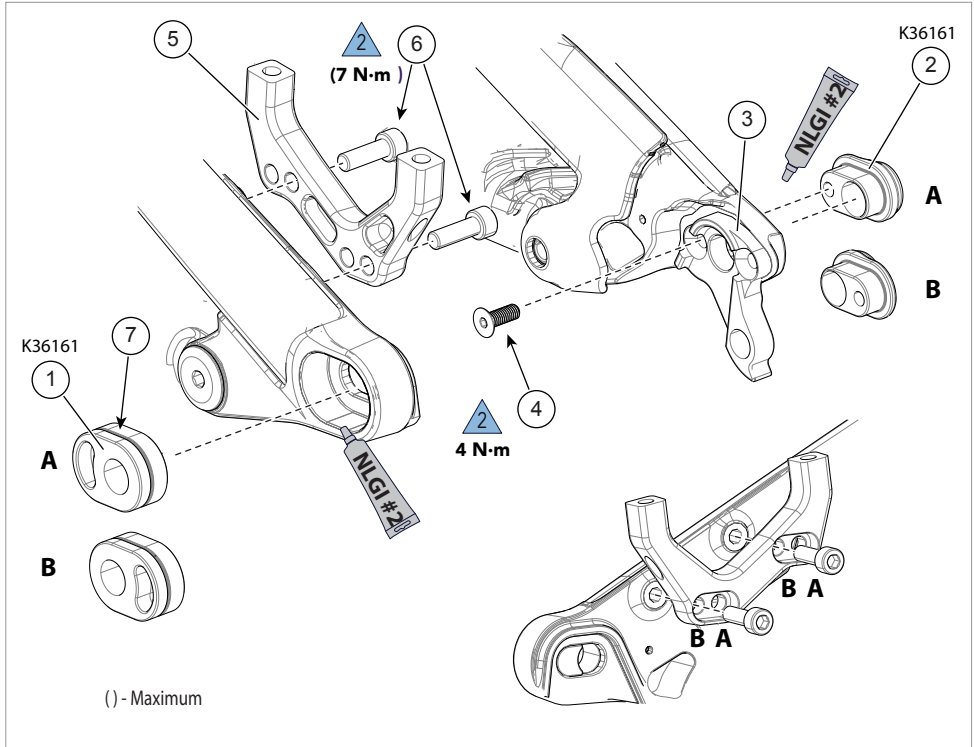
- |                           |                    |
|---------------------------|--------------------|
| 1. Right, Dropout         | 3. Hanger bolt     |
| 2. Rear derailleur hanger | 4. Right flip chip |

### Replacement

Before installing a new /replacement hanger, be sure to clean any dirt or debris on the dropout with a nylon brush (old toothbrush). Inspect the area for any damage especially after a crash or impact. Take corrective action when required. Use a good-quality torque wrench and tighten to the specified torque.

Apply light grease to contact surfaces and medium strength threadlock compounds to areas indicated above.

## Flip Chip

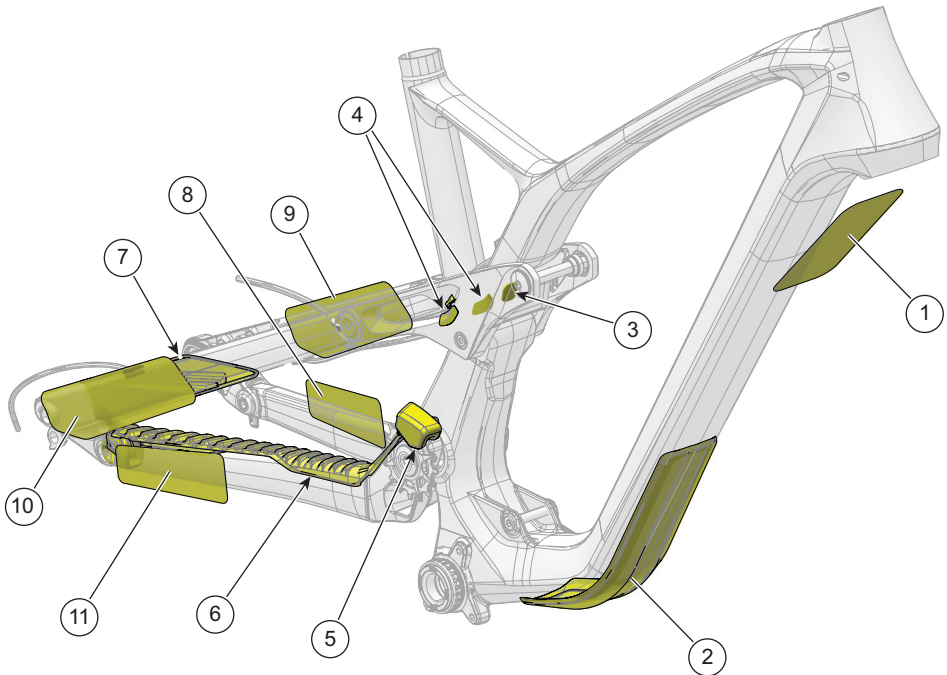


### Identification

- |                            |                         |           |
|----------------------------|-------------------------|-----------|
| 1. Left flip chip          | 4. Hanger bolt          | 7. O-ring |
| 2. Right flip chip         | 5. Rear brake mount     |           |
| 3. Rear derailleuer hanger | 6. Brake mounting bolts |           |

- Orientation of the flip chips determine the chainstay length.
- In position A, the chainstay length is 445 mm
- In position B, the chainstay length is 435 mm.
- Both the rear derailleuer hanger and rear brake mount must shift with flip chip positions.
- Whenever the orientation is changed, be sure to clean and lightly grease mating surfaces.

## Guards/Protectors - Placement



### Identification

- |                     |                           |                             |
|---------------------|---------------------------|-----------------------------|
| 1. Downtube, upper  | 5. Chain guide            | 9. Seatstay, left, outer    |
| 2. Downtube, lower  | 6. Chainstay, right top   | 10. Seatstay, right outer   |
| 3. Seatube, front   | 7. Chainstay, right inner | 11. Chainstay, right, outer |
| 4. Seatube, cabling | 8. Chainstay, left, outer |                             |

### NOTICE

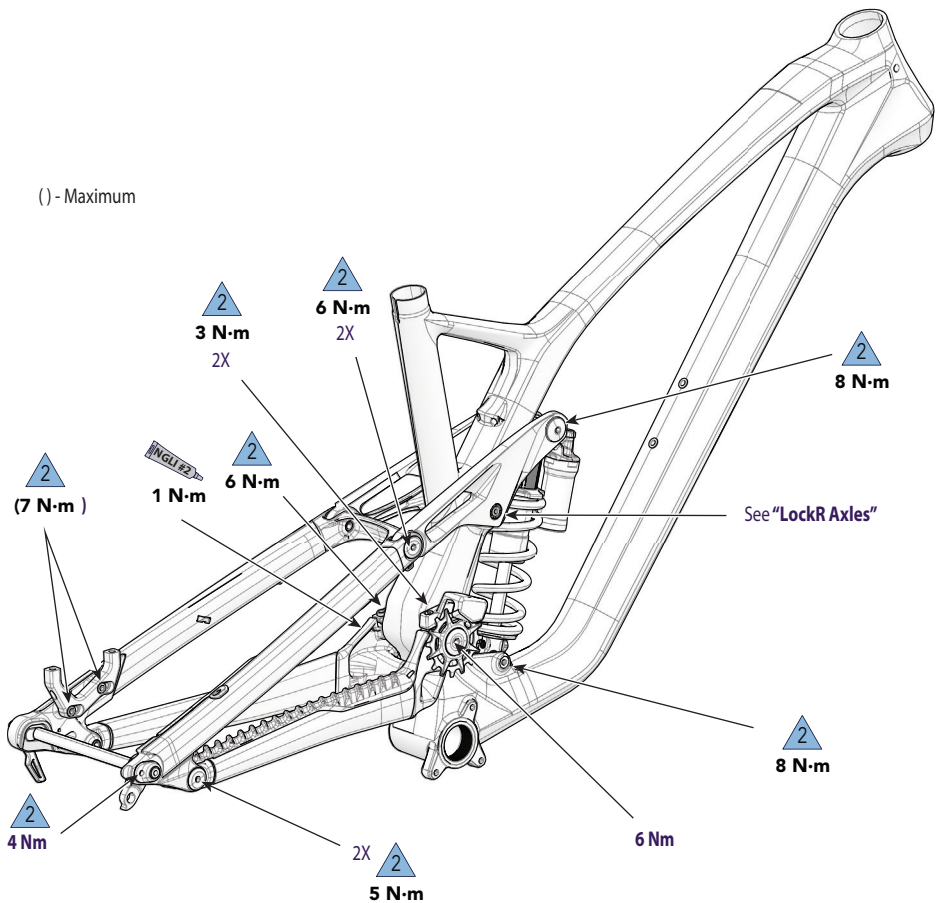
Damaged, loose, missing, or incorrectly positioned protectors can lead to frame damage. Damage of this type is not covered by the GT Limited Warranty. Make sure all frame protectors and guards are present, installed correctly, and are in good condition.

## Tightening Torques

Correct tightening torque for the fasteners (bolts, screws, nuts) on your bicycle is very important to your safety, and to the durability, and performance of your bicycle.

We urge you to have your dealer correctly torque all fasteners using a torque wrench. If you decide to tighten fasteners yourself always use a calibrated torque wrench!

Some fasteners have a pre-applied Loctite patch. Its effectiveness is reduced after repeated removal and installation of the bolt. Renew the application of Loctite as required.





## REPLACEMENT PARTS

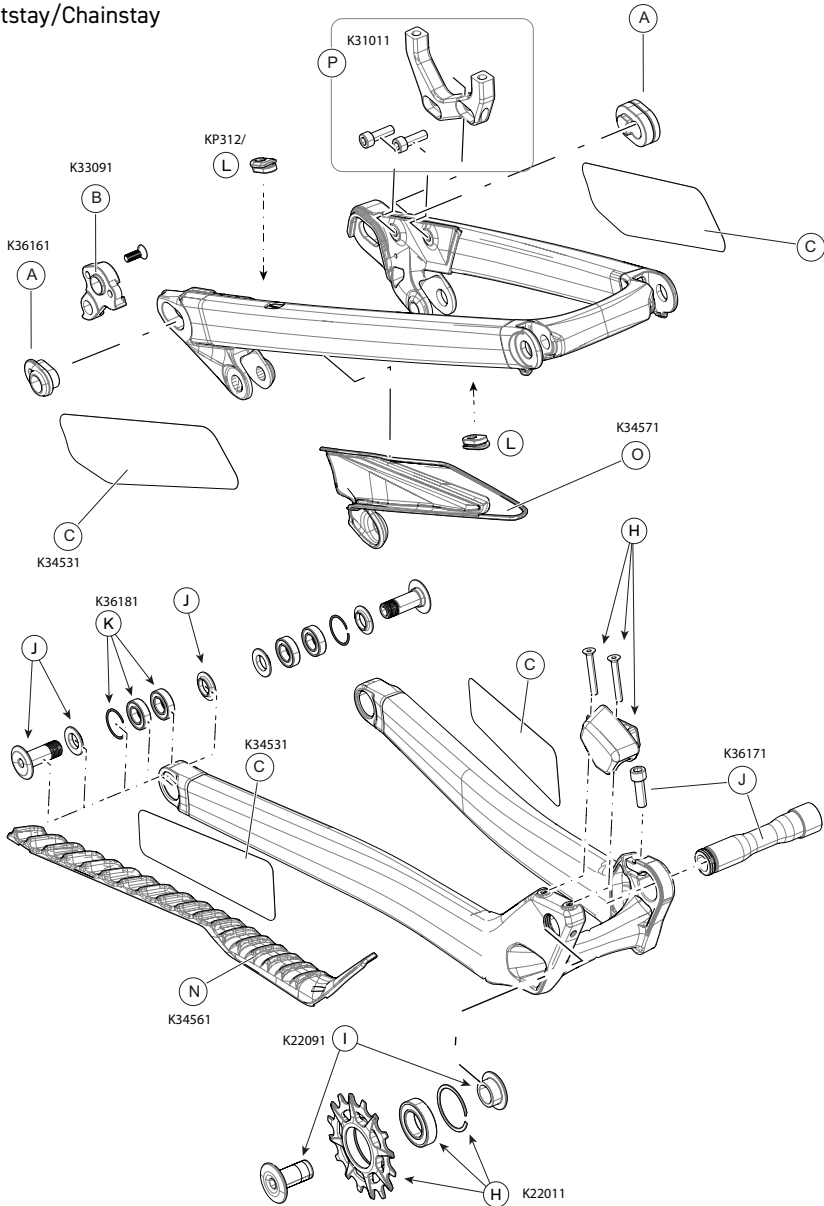
The following service and replacement parts are available through an Authorized GT Dealer:

### Force Carbon

ID	Part Number	Description	VIEW(S)
A	K36161	LTS Thru Axle Dropout Flip Chips	1
B	K33091	Derailleur Hanger TA ST SS 085	1
C	K34531	LTS SS Clear Frame Protection	1,2
D	K34541	DT Clear Frame Protection	2
E	K34551	LTS Heel Rub Guards	1,2
F	K36191	Force Crb Shock Bolts	2
G	K91101	Force Crb Suspension Link	1
H	K22011	FS Idler Pulley w/ Bearing	2
I	K22091	Force Crb Idler Bolt and Spacer	1
J	K36171	Force Crb Pivot Link CS Hardware	1
K	K36181	Force Crb Pivot Link CS Bearings	1,2
L	KP312/	Open Oval Grommet x10	1,2
M	K34009	LTS DT Protector 130/150/160	2
N	K34561	Force Crb CS Protector	1
O	K34571	Force Crb SS Protector	1
P	K31011	Force Crb Post Mount Brake Adapter	1

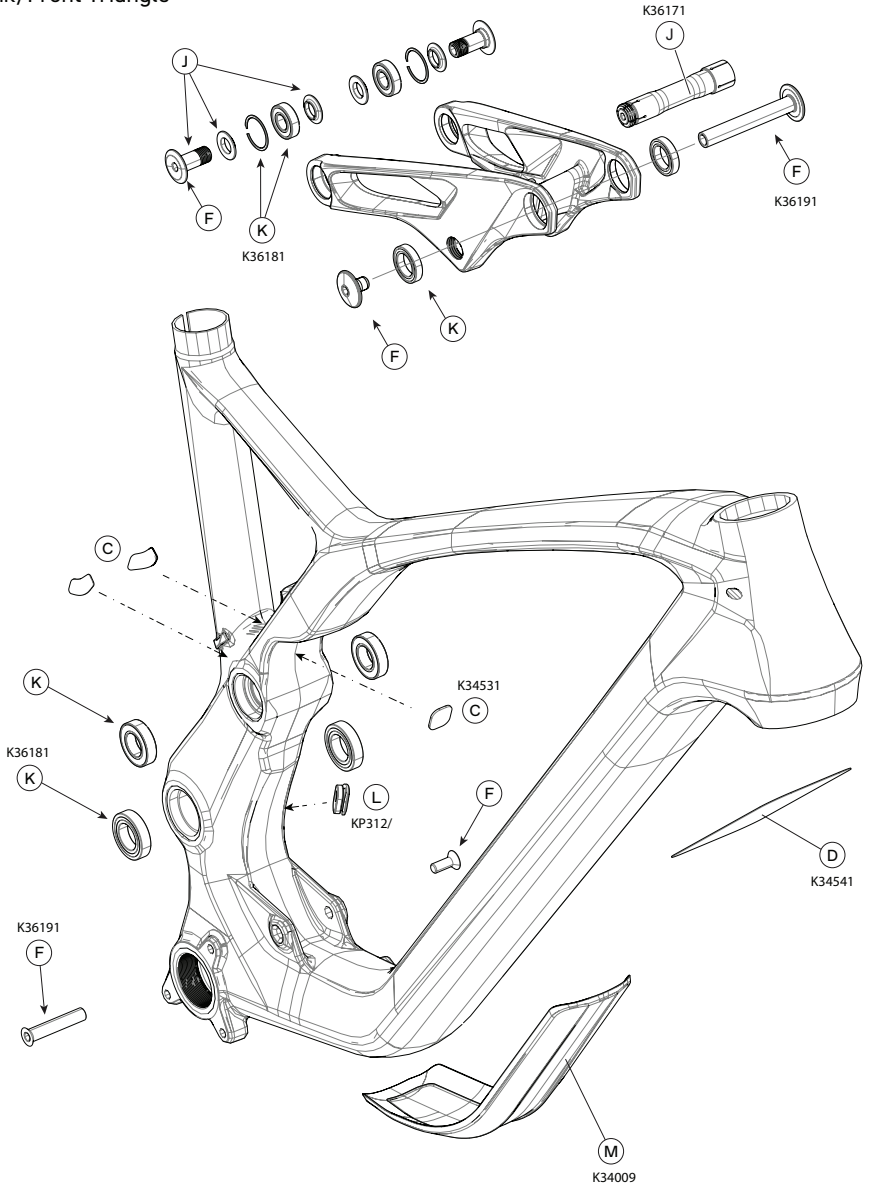
**VIEW I**

Seatstay/Chainstay



**VIEW 2**

Link/Front Triangle



## MAINTENANCE

### Scheduling

The following table lists only supplemental maintenance items. Please consult your [GT Bicycle Owner's Manual](#) for more information on basic bike maintenance.

Item	Frequency
<p><b>Cable Routing</b> - Make sure control cables are in place, undamaged and attached securely.</p> <p><b>Frame Protection</b> - Check the various frame protectors (downtube, headtube, chainstay, swingarm on your bike. Make sure they are in place and in good condition.</p>	Before first ride
<p><b>Damage Inspection</b> - Clean and visually inspect entire bike frame/swing arm/linkage assembly for cracks or damage.</p>	Before and after each ride
<p><b>Check Tightening Torques</b> - In addition to other component specific tightening torques for your bike. tighten according to the "Tightening Torques" information listed in this supplement.</p>	Every few rides
<p><b>Disassemble, clean, inspect, re-grease, replace worn or damaged parts in the following assemblies:</b></p> <ul style="list-style-type: none"> <li>· SHOCK LINK                      · PIVOT AXLES                      · FRAME PIVOT BEARINGS</li> </ul>	<p>In wet, muddy, sandy conditions every 25 hrs.</p> <p>In dry, conditions every 50 hrs.</p>
<p><b>Fork and Shock</b>- Consult the manufacturer's owner's manual for maintenance requirements.</p>	

#### **WARNING**

**Any part of a poorly maintained bike can break or malfunction leading to an accident where you can be killed, severely injured or paralyzed.**

Frequent checks are necessary to identify the problems that can lead to an accident. See "Inspect For Safety" in your [GT Bicycle Owners Manual](#).



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Force Carbon OMS  
138675 Rev.1

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