

# VT SERIES

## Owners Manual



### VARIABLE TRAVEL MOUNTAIN BIKE

- Multi purpose, Enduro, Trail ride, Light Freeride mountain bike
- Single pivot, linkage operated rear shock rear suspension
- Manitou Swinger SPV Air rear shock unit (included)
- Sealed bearings on all pivots
- 2 rear shock positions
- Front wheel travel: 3.5 ~ 4.7 inches (90 ~ 120 mm).
- Rear wheel travel: 5.0 ~ 5.6 inches (approx. 125 ~ 140 mm).



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## **1. Introduction.**

Giant's products are designed to provide years of recreation and enjoyment. The GIANT VT have been designed primarily as Enduro, Trail ride, Light Freeride bikes, but can be used for allround cross country riding as well.

However, in order to fully understand all the bicycle features, you must read this bicycle manual, the suspension fork and rear shock manuals provided by Giant and parts suppliers. If you do not understand any information in the manuals or if you misplace any of them, please contact your authorised Giant dealer immediately.

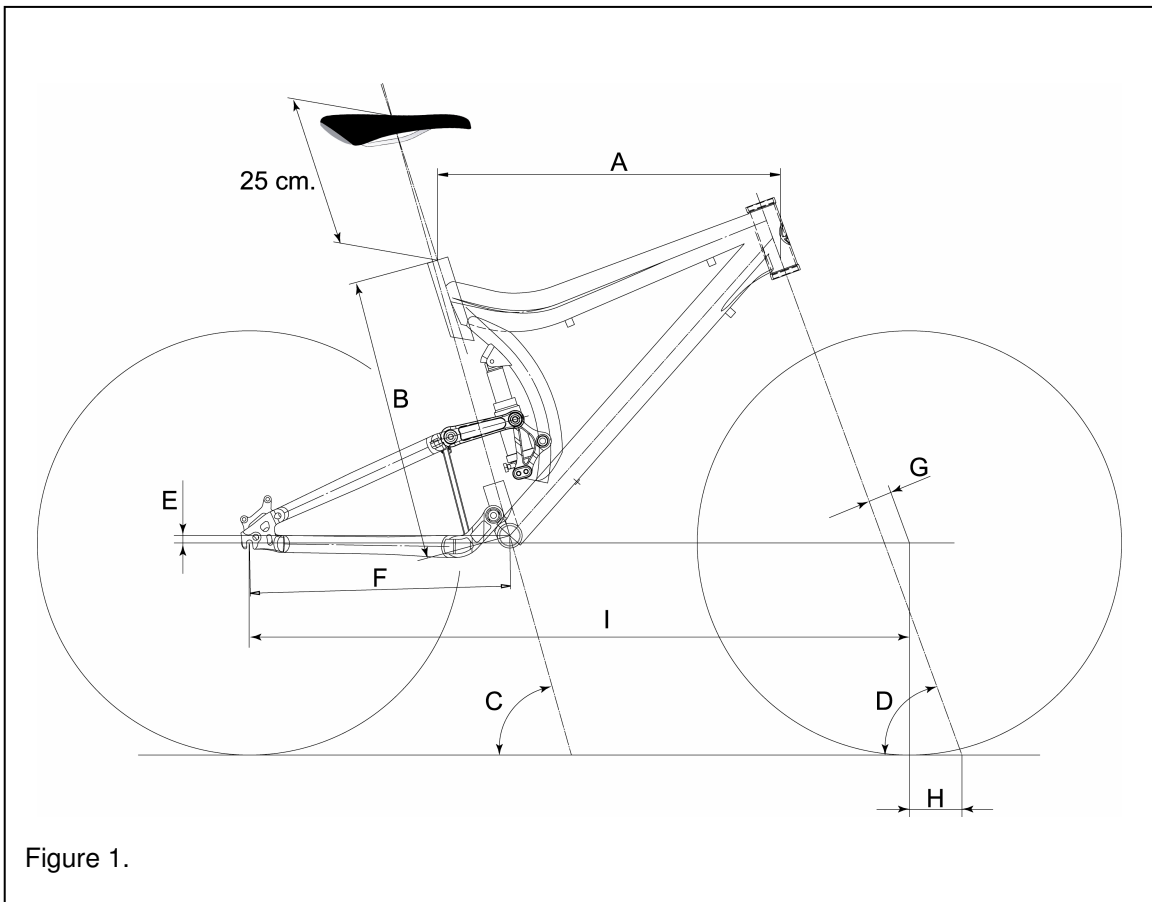
Please take the time to read and understand this material to help limit the possibility of serious injury.

**ALWAYS** read and follow all instructions in this manual.

It is very important that your dealer carries out any repair or maintenance, which is not described in this manual.

## 2. Sizing.

The actual frame measurements and geometries are listed below.



Size	S - 16.5"	M - 18.5"	L - 20.5"	XL - 22.5"
A. Top tube [mm.] (measured horizontally)	570	590	613	630
B. Seat tube [mm.]	420	470	520	570
C. Effective seat tube angle (*1)	74.3 degrees			
D. Head tube angle	70 degrees			
E. B.B. drop [mm.]	-12			
F. Chain stays [mm.]	429			
Center B.B. axle - center front wheel [mm.]	635	658	683	702
G. Fork rake [mm.]	39			
H. Trail [mm.]	86			
I. Wheel base [mm.]	1065	1085	1110	1130
Front wheel travel (VT bikes)	90~120 mm.			
Rear wheel travel	5.0~5.6" or 125~140 mm.			

(\*1) Effective seat tube angle:

Angle of centerline bottom bracket - saddle

(top of saddle 25cm above top seat tube, measured along the seatpost).

### 3. Exploded view.

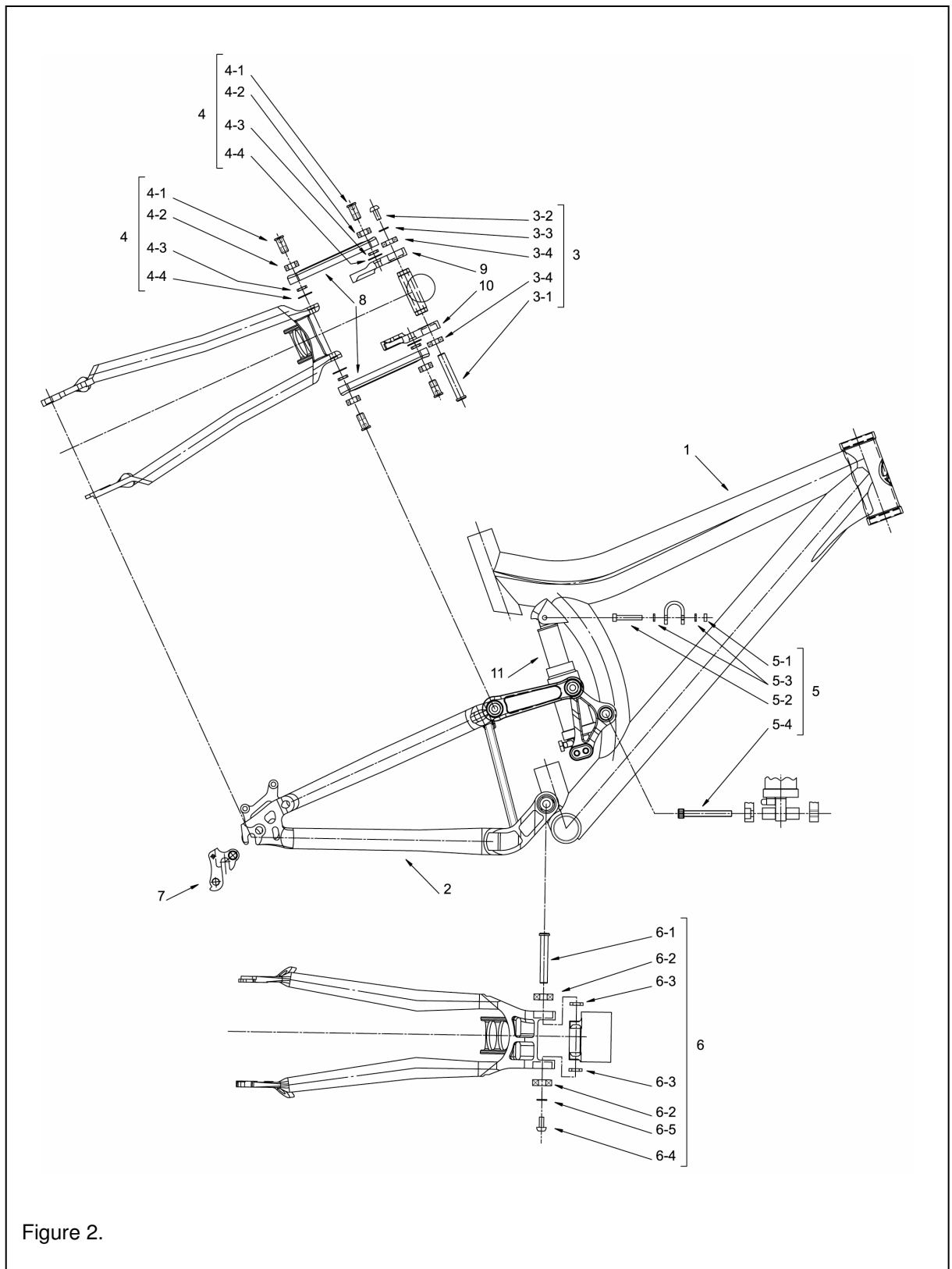


Figure 2.

NR.	DESCRIPTION	REMARKS	Q'TY PER BIKE
1	Front triangle		1
2	Rear triangle		1
3	Pivot parts set	Seat tube - linkage plates	1
	3-1 Fixing nut	1 pc. per set	
	3-2 Fixing bolt	1 pc. per set, same as 6-4.	
	3-3 Washer	1 pc. per set, same as 5-3 and 6-5.	
	3-4 Bearing	2 pcs per set, same as 4-2.	
4	Pivot parts set	Linkage plates	4
	4-1 Fixing bolt	1 pc. per set	
	4-2 Bearing	1 pc. per set, same as 3-4.	
	4-3 Aluminium spacer	1 pc. per set	
	4-4 Teflon™ washer	1 pc. per set	
5	Fixing set rear shock		1
	5-1 Fixing nut upper shock mount	1 pc. per set	
	5-2 Fixing bolt upper shock mount	1 pc. per set	
	5-3 Washer	1 pc. per set, same as 3-3 and 6-5.	
	5-4 Fixing bolt lower shock mount	1 pc. per set	
6	Pivot parts set	Chain stays - bottom bracket	1
	6-1 Fixing nut	1 pc. per set	
	6-2 Bearing	2 pcs per set	
	6-3 Spacer	2 pcs per set	
	6-4 Fixing bolt	1 pc. per set, same as 3-2.	
	6-5 Washer	1 pc. per set, same as 3-3 and 5-3.	
7	Replaceable dropout	Incl. bolt and nut	1
8	Linkage plates, straight	Set L and R	1
9	Linkage plate LH, triangle		1
10	Linkage plate RH, triangle		1
11	Rear shock	Incl. hardware	1

## 4. Rear suspension.

The rear suspension for your Giant VT bicycle / frame kit is provided by a Manitou Swinger SPV 3-way adjustable air shock.

For a description of the coil spring shock, see <http://www.answerproducts.com> or the Manitou owner's manual that comes with your bike or frame kit.

### **WARNING:**

**Improper adjustment of rear suspension shock can result in unstable conditions or loss of control.**

### **4-1 Adjusting travel.**

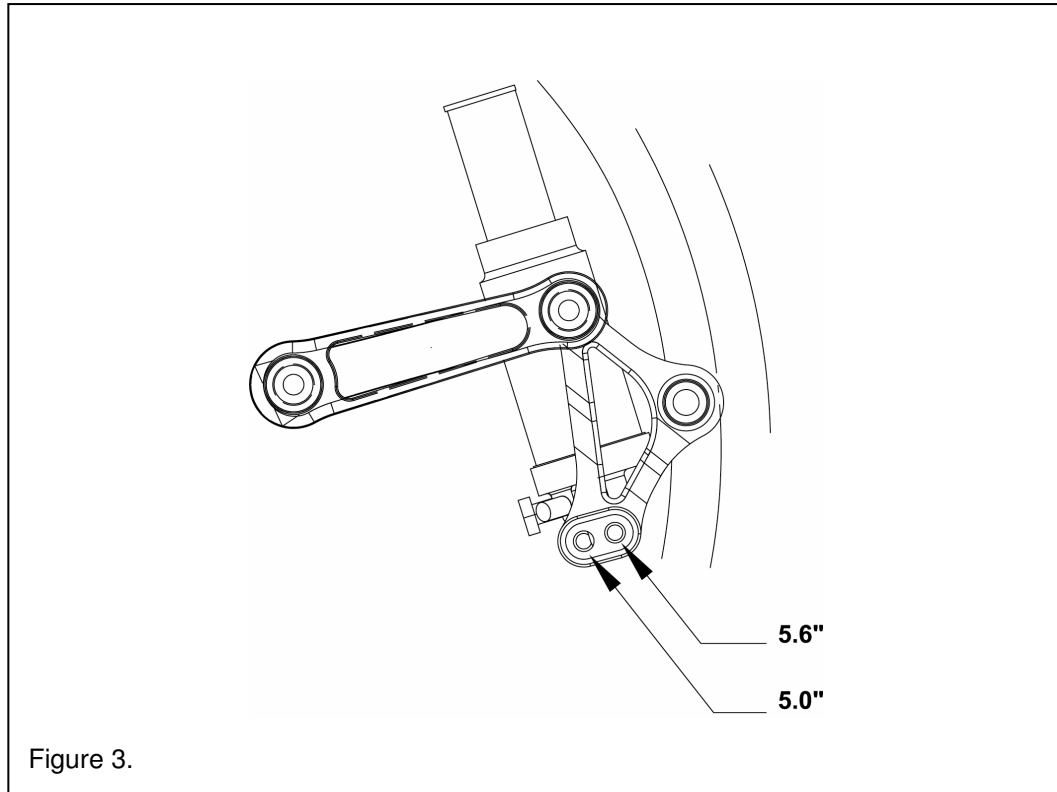
Your Giant VT bicycle gives you the ability to change the rear wheel travel with minimal effort. This is accomplished by multiple positions for the lower shock pivot bolt (see figure 3 below).

To change the travel:

1. Using a 6 mm. Allen-key, remove the lower shock mounting bolt.
2. Pivot the shock backward or forward to align the eyelet with one of the holes.
  - The most forward position is for 5.6" travel.
  - The most backward position is for 5.0" travel.
3. The threads of fixing bolt should be cleaned and re-set using Loctite™ Primer (#7649) and Loctite™ blue Removable Threadlock (#242) or similar material.  
Install the bolt and tighten to the proper torque of 10-12 Nm.
4. After any adjustment is made to travel, you will need to readjust all pre-load settings.

### **WARNING:**

**Improper (dis-)assembly may result in damage to the bicycle or in an accident which can cause serious injury or death.**



#### **4-2 Manitou Swinger SPV air shock.**

##### SPV SET-UP QUICK REFERENCE GUIDE.

This quick reference guide is to be used for setting up the Swinger air shock. Follow this order to ensure the best possible tuning.

##### Air Shock Initial Set Up:

1. Adjust Sag: Sag is the amount the shock compresses under normal body weight.  
 Cross country: 25-30% Sag  
 Freeriding: 30-40% Sag.
2. Set SPV Pressure: range should be between 50 and 175 psi. Pressure should be between 50-70% of body weight. More pressure will create more compression damping, hold the bike up more and pedal better. Less pressure will create less compression damping, allow more sag, and be more responsive and supple.
3. Rebound Damping: Turn the blue knob located on the eyelet mount clockwise to increase rebound damping.

Rider Weight [kg] / [lb]	Main Spring air pressure	
	Short Travel Sag 25-30% [psi]	Long Travel Sag 30-35% [psi]
55 kg / 120 lb or less	90-130	
55-60 kg / 130 lb	130-135	
60-65 kg / 140 lb	135-140	
65-70 kg / 150 lb	140-145	
70-75 kg / 160 lb	145-150	
75-80 kg / 170 lb	150-155	
80-85 kg / 180 lb	155-160	
85-90 kg / 190 lb	165-170	
90-95 kg / 200 lb	175-180	
95-100 kg / 209 lb	185-190	
100 kg / 220 lb or more	195-250	

The rear shocks are serviceable and must be returned for maintenance, repair or service, only to an authorised Manitou dealer (or the Manitou distributor in your country) once a year or more often if the bike is used in extreme conditions.

This service is not necessarily free of charge!

**WARNING:**

**All service and maintenance of the rear shocks should only be performed with proper tools by an authorised Manitou dealer or by the Manitou distributor in your country.**

**4-3 Removing the rear shock assembly or pivots.**

It is necessary to periodically check the rear shock unit and the suspensions' pivot points for damage or wear. The rear shock unit should be returned to an authorised Manitou dealer or to the Manitou distributor in your country to inspect and repair.

(Note: this is not covered under the terms of the warranty).

**WARNING:**

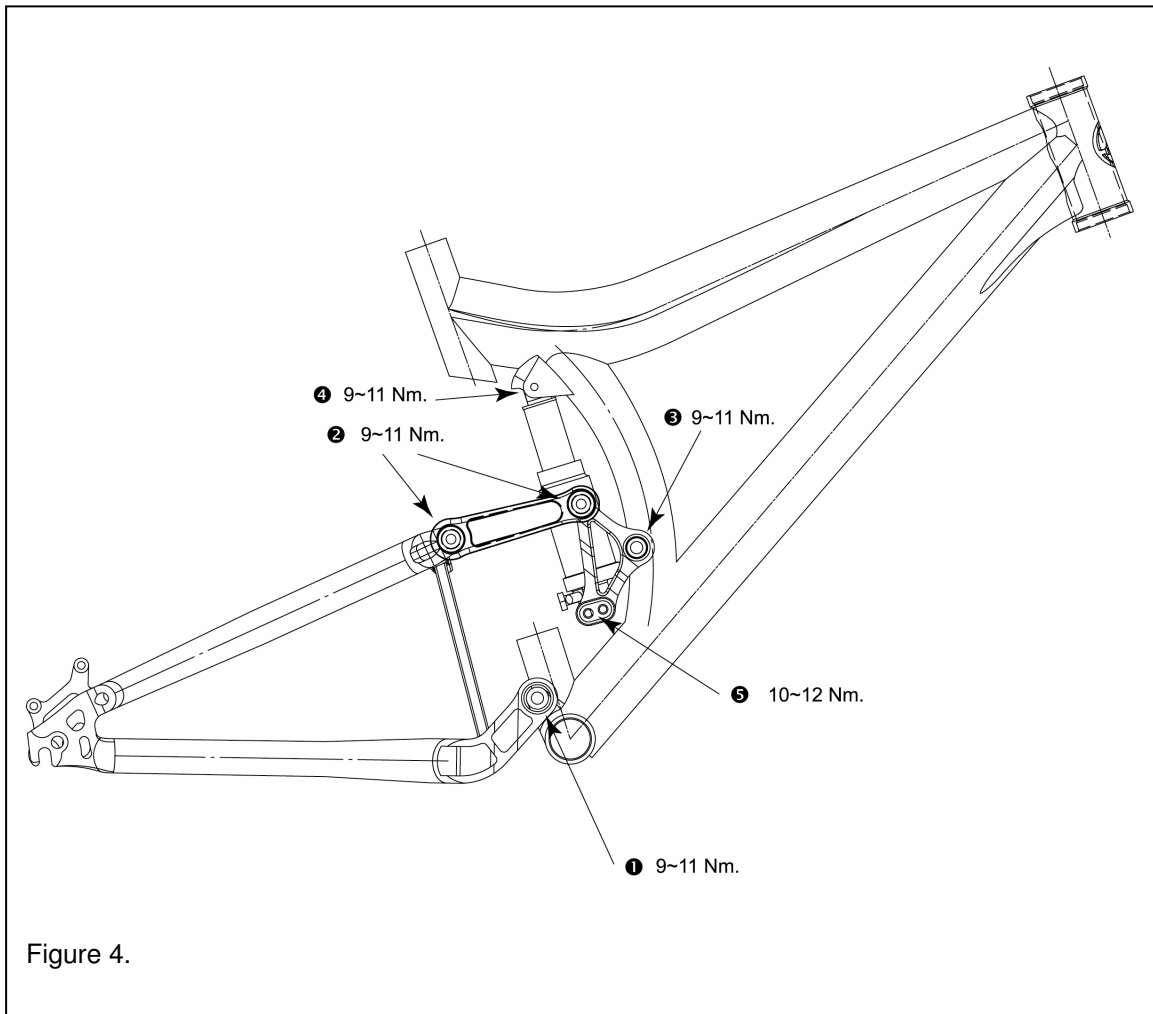
**Do not try to disassemble or to replace the rear shock or a pivot by yourself !  
Improper (dis-)assembly may result in damage to the bicycle or in an accident which can cause serious injury or death. Only an authorised Giant dealer should disassemble the rear shock or pivots.**

## 5. Tightening torque.

The bolts used for the rear suspension (rear shock and pivots) are high-grade products and have been tightened in the factory with specific torque. If it is necessary to remove or tighten the bolts, extreme care should be taken when re-tightening them.

All bolts should be cleaned and re-set using Loctite™ primer (#7649) and Loctite™ blue Removable Threadlock (#242).

For the location and tightening torque of all bolts please refer to the illustration below (fig. 4).



Location		Tools needed	Recommended tightening torque
①	Main pivot (BB - chain stays)	5 mm. Allen-keys, 2x	9~11 Nm.
②	Linkage plates pivots	5 mm. Allen-key	9~11 Nm.
③	Linkage plates - seat tube pivot	5 mm. Allen-keys, 2x	9~11 Nm.
④	Upper shock mount	5 mm. Allen-key, 10 mm. wrench	9~11 Nm.
⑤	Lower shock mount	6 mm. Allen-key	10~12 Nm.

## 6. Cleaning and maintenance.

Proper maintenance of a Giant VT bicycle is important to insure years of trouble free safe riding and enjoyment.

We recommend taking this bike to your authorised Giant dealer for periodic service and inspection of suspension systems. Parts such as seals, elastomer bumpers and bearings can be adversely affected by use, dirt and ultraviolet radiation. The bike should be returned to an authorised Giant dealer for front fork and rear shock inspection and adjustment once a year or more often if the bike is used in extreme conditions.

Note: this is not covered under the terms of the warranty and is not necessarily free of charge!

DO NOT use high-pressure water or air hoses to clean bike. This can force dirt into areas that may cause damage.

DO NOT lubricate any of the pivot points. These are high quality self lubricating Teflon™ or similar surfaced pivots.

See also the manuals of the suppliers of the suspension fork, rear shock, and other parts that come with this Giant VT bike / frame.

Bicycles and bicycle components are more complex than ever before. It is very important that your dealer carries out any repair or maintenance, which is not described in this manual. Consult your dealer for help in determining your maintenance needs.

How much of your bike's service and maintenance you can do depends on your skill and experience, and whether you have the special tools required. If you want to learn how to work on your bicycle ask your dealer for advice on a suitable book and local bicycle repair courses.

### **Warning.**

**Many bicycle service and repair tasks require special knowledge and tools. Do not begin any adjustments or service on your bicycle if you have the slightest doubt about your ability to properly complete them. Improper adjustment or service may result in damage to the bicycle or in an accident which can cause serious injury or death.**