



DEVINCI

**2003 Technical Manual
Arrowhead, Dragonfly
and Moonracer
Version 1.0**

*Specifications are subject to change
without prior notice.

INTRODUCTION

Congratulations and thank you for choosing a Devinci bicycle. This bicycle is designed to give you many years of performance and enjoyment. This **Technical Manual** is a supplement to the **Owner's Manual**. This manual must be read, understood and used with the **Owner's Manual**.

This technical manual provides information for the following 2003 models of bicycles:

- Arrowhead;
- Dragonfly;
- Moonracer.

You must refer to the **Owner's Manual** for complete information concerning the use and maintenance of your Devinci bicycle.

GENERAL INFORMATION

In this section:

- **Read this manual!**
- **Warning!**



NOTE: Devinci strongly advises that you read and understand all the information contained in the **Owner's manual** as well as in this manual. Using your bicycle before reading and understanding all the information contained in these two manuals may lead to serious or fatal injuries.



WARNING: Devinci recommends that the maintenance on your bicycle be performed by an authorized Devinci retailer or a qualified bicycle mechanic. All instructions contained in this manual are for the intended use of a qualified bicycle mechanic who possesses the appropriate tools. The use of a bicycle that is not assembled correctly may lead to serious or fatal injuries.



WARNING: Certain shocks contain pressurized nitrogen. Under no circumstances should you attempt to open the pressurized cartridge. Opening a shock under pressure is a dangerous operation that may lead to serious injuries. Before using or handling a shock, consult the **Owner's manual**.



Adjustment of the suspension for the Arrowhead

In this section:

- Air pressure Adjustment
- Sag adjustment

This section provides the guidelines for the adjustment of the rear suspension of the Arrowhead. Please consult the **Operating manual** for the **Rock Shox Duke C** fork for all information concerning the front suspension.

The Arrowhead is assembled with a **Fox Float** air shock. The damping constants were specifically predetermined for the geometry of the rear suspension of this frame. Consult the **Fox Float Owner's Manual** for all information concerning the air shock.

Pressure adjustment

The rear shock may be adjusted according to the cyclist weight, style and the different kinds of terrain by modifying the pressure, increasing or decreasing the tension of the air shock as specified in the **Owner's manual** for the air shock. Experimenting with various pressures may be necessary to determine the correct tension to apply to the positive chamber as in the negative chamber.

Sag adjustment

The sag is the measurement of the compression of the shock when the cyclist sits on the bicycle. For the **Fox Float** shock, it is necessary to change the pressure in the positive chamber of the air shock in order to modify the sag. You must refer to the **Owner's Manual** for the **Fox Float** for the sag adjustment. The recommended sag is 7,6 mm (0.3 in) for positions P1 and P2.



Adjustment of the suspension for the DragonFly

In this section:

- **Pressure Adjustment**
- **Sag adjustment**

This section provides the guidelines for the rear suspension adjustment of the Dragonfly. Please consult the **Operating manual** for the **Rock Shox Duke SL** fork for all information concerning the front suspension.

The Dragonfly is assembled with a **Fox Float R** air shock. The damping constants were specifically predetermined for the geometry of the rear suspension of this frame. This shock possesses an adjustment that controls the speed in which the shock returns to its normal position after compression (rebound constant). Consult the **Owner's Manual** for the **Fox Float R** for all information concerning the air shock.

Pressure adjustment

The rear shock may be adjusted according to the cyclist weight, style and the different kinds of terrain by modifying the pressure, increasing or decreasing the tension of the air shock as specified in the **Owner's manual** for the air shock. Experimenting with various pressures may be necessary to determine the correct tension to apply to the air chamber.

Sag adjustment

The sag is the measurement of the compression of the shock when the cyclist sits on the bicycle. For the **Fox Float R** shock, it is necessary to change the pressure in the air chamber of the air shock in order to modify the sag. You must refer to the **Owner's Manual** for the **Fox Float R** for the sag adjustment. The recommended sag is 7,6 mm (0.3 in) for positions P1 and P2.



Adjustment of the suspension for the Moonracer

In this section:

- **Pressure Adjustment**
- **Sag adjustment**

This section provides the guidelines for the adjustment of the rear suspension of the Moonracer. Please consult the **Operating manual** for the **Rock Shox SID Team** fork for all information concerning the front suspension.

The Moonracer is assembled with a **Fox Float RL** air shock. The damping constant of the compression was specifically predetermined for the geometry of the rear suspension of this frame. This shock possesses an adjustment that controls the speed in which the shock returns to its normal position after compression (rebound constant). Consult the **Owner's manual** for the **Fox Float RL** for all information concerning the air shock.

Adjustment of the pressure

The rear shock may be adjusted according to the weight of the cyclist weight, style and the different kinds of terrain by modifying the pressure, increasing or decreasing the tension of the air shock as specified in the **Owner's manual** for the air shock. Experimenting with various pressures may be necessary to determine the correct tension to apply to the air chamber.

Sag adjustment

The sag is the measurement of the compression of the shock when the cyclist sits on the bicycle. For the **Fox Float RL** shock, it is necessary to change the pressure in the air chamber of the air shock in order to modify the sag. You must refer to the **Owner's Manual** for the **Fox Float RL** for the sag adjustment. The recommended sag is 7,6 mm (0.3 in) for positions P1 and P2.



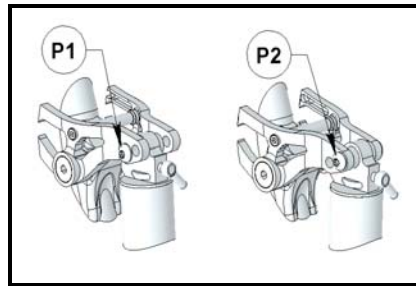
Full suspension cross-country frame pivots

In this section:

- Shock configuration
- Disassembly of the pivots
- Reassembly of the pivots
- Pivot maintenance
- Full suspension cross-country frame exploded view

The pivots are designed for easy maintenance and are extremely durable.

Shock configuration *



	Wheel travel
P1	85 mm (3.35 in)
P2	75 mm (2.95 in)

* For correct positioning of the shock, refer to the item number relating the model of the shock on the exploded view.

WARNING:

The required pressure for the shock is not the same for positions P1 and P2. Refer to the **Sag adjustment** relating to your bicycle model for more information.



* The shock represented here is only shown as an example.

Disassembly of the pivots

Tools required

Qty.	Description
1	4 mm Hexagonal Key
2	5 mm Hexagonal Key
2	6 mm Hexagonal Key
1	Tool n° 1 (Devinci #DT-PP-01)
1	Tool n° 2 (Devinci #DT-PP-02)
1	Bicycle stand
-	Loctite 242
-	Loctite 262
-	Lithium soap grease

- Place the bicycle securely on a work stand designed for this purpose.
- Remove the rear wheel, the rear derailleur and the crankset.
- Unscrew the shock bolt of the **SU pivot** (item 15) and the shock bolt of the **SL pivot** (item 19). Remove the shock (item 24, 25 and 26).
- To remove the seat stays (item 3), disassemble the two **SS pivot** and the two **DO pivots**. While holding firmly item 21 with the appropriate key, unscrew and remove item 22. Then remove item 21. Separate the seat stays from the chain stays (item 2) and the linkages (items 4 and 5). Remove the washers (item 8). Keep the internal bearing ring (item 7) in the bearings of the **DO** and **SS pivots** (item 6) to avoid all contamination.
- Securely retain one of the **BB pivot** bearing shaft (item 12) with the appropriate key and unscrew the other. Remove both. Keep item 17 screwed as is in one item 12. Remove the chain stays and the washers (item 14). Leave the internal bearing ring (item 11) in the bearings (item 9).
- To dismantle the **LK pivot**, securely retain one of the bearing shaft (item 16) with the appropriate key and unscrew the other. Remove both. Keep item 17 screwed in as it is in one item 16. Remove the linkages and the washers (item 10). Keep the internal bearing ring (item 13) in the bearings (item 9).
- Unscrew the screws (item 23) of the bridge (item 18) and separate the left linkage from the right linkage.
- To extract the bearings (items 6 and 9) from the linkages, the chain stays and the front (item 1), use the correct tools. For 12 mm bearings, tool n° 1 (Devinci #DT-PP-01) must be used. For 14 mm bearings use tool n° 2 (Devinci # DT-PP-02). Remove items 7, 11 and 13 from the bearings. Refer to the owner's manual of every tool before proceeding.



Reassembly of the pivots

- A. To maintain a bearing in place, there must be a tightening between the exterior diameter of the bearing and the interior diameter of the housing. Before putting the bearing in place, always lightly grease its housing.
- B. Ensure that all parts are clean. The tightening torques and the Loctite application zones on the fastening elements as well as the greasing of the parts are indicated in the exploded view.
- C. With tools n° 1 and n° 2 (Devinci #DT-PP-01, Devinci #DT-PP-02) insert the bearings of the **SS**, **DO** and **BB pivots** into the appropriate items. Refer to the tools' owner manual.
- D. To ensure proper placement of the bearings into the **LK pivot**, make sure to use the shoulder mounting bushing for the tool n° 2. When using this tool the mechanic will be able to respect the insertion dimension of 1 mm necessary for proper operating of the mechanism.
- E. Securely place item 1 on a work stand expressly designed for this purpose.
- F. Assemble items 4, 5, 18 and 23. Then use this structure to proceed with the assembly of the **LK pivot** including items 10, 13, 16 and 17.
- G. Assemble items 2, 11,12,14 and 17 for the **BB pivot**, assemble items 3, 7, 8, 21 and 22 for the **DO pivot** and assemble items 3, 4, 5, 7, 8, 21 and 22 for the **SS pivot**.
- H. As illustrated, assemble the shock on the linkages (**SU pivot**) and item 1 (**SL pivot**) using items 19 and 15. Before using the bicycle, make sure the shock is adjusted to the recommended pressure.

Pivot maintenance

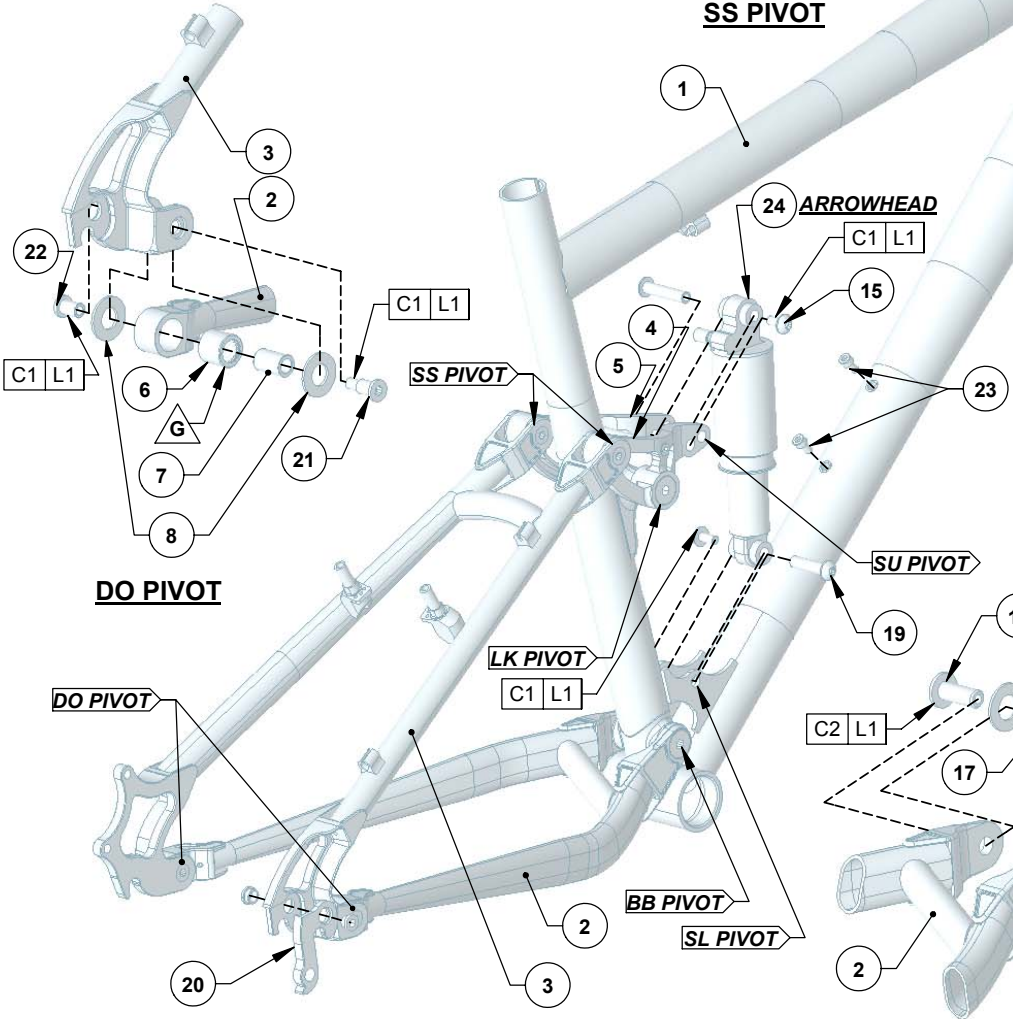
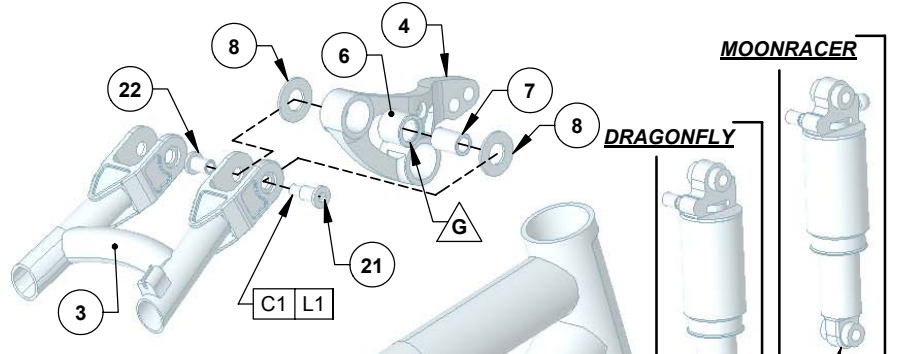
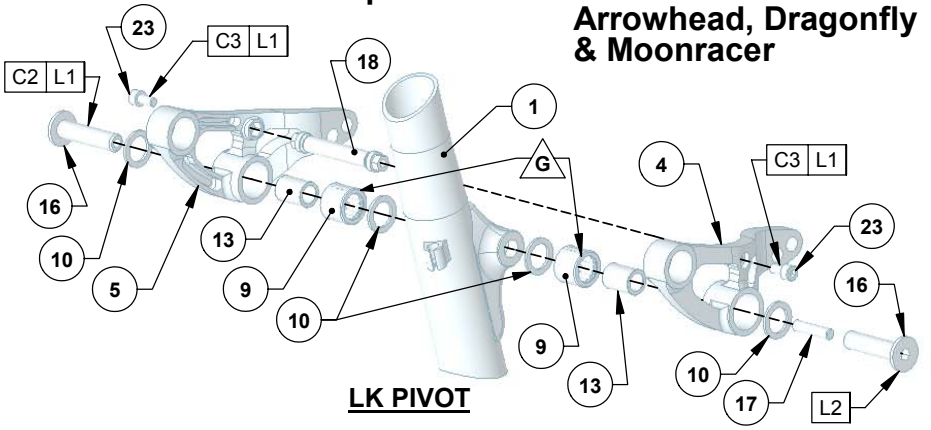
Activities to be performed	Inspection and / or repair			
	Upon each usage	Weekly	Monthly	Yearly
Make sure the shock is operating properly	√			
Make sure all fastening elements are properly assembled by verifying that the torque applied is according to that specified in the exploded view.	√			
Clean the bicycle with a soft soap (do not use a high -pressure cleaner).				
Condition for use: excessive mud	√			
Condition for use: dry weather, dust		√		
Verify the tightness of the pivots.		√		
Adjust the sag of the shock.			√	
Inspect the front, the seat stays and the chainstays to ensure proper assembly.			√	
Disassemble / grease the bearings as needed / reassemble.			√	
Disassemble / inspect all parts to ensure proper assembly. Replace used parts as needed / reassemble.				√



ITEM	DESCRIPTION	PART #	QTY.
1	FRONT	1285-0300	1
2	CHAIN STAY	1285-9800	1
3	SEAT STAYS	1385-9900	1
4	RIGHT LINKAGE	MFP3005	1
5	LEFT LINKAGE	MFP3006	1
6	BEARING HK1216 2RS	MFP283	4
7	INTERNAL BEARING RING	MFP211	4
8	WASHER IGUS GTM-1224-015	MFP285	8
9	BEARING HK1416 2RS	MFP284	4
10	WASHER IGUS GTM-1420-015	MFP286	4
11	INTERNAL BEARING RING	MFP290	1
12	BEARING SHAFT	MFP216	2
13	INTERNAL BEARING RING	MFP291	2
14	WASHER IGUS GTM-1426-015	MFP287	2
15	TOP SHOCK BOLT	MFP288	1
16	BEARING SHAFT	MFP215	2
17	THREADED ROD	MFV230	2
18	BRIDGE	MFP3021	1
19	BOTTOM SHOCK BOLT	MFP289	1
20	DERAILLEUR HANGER	MFD205	1
21	PIVOT SCREW	MFV231	4
22	PIVOT NUT	MFV232	4
23	SCREW M5 X 0.8 X 10 CH C	MFV038	4
24	FOX FLOAT (Arrowhead)	MASU312	1
25	FOX FLOAT R (Dragonfly)	MASU303	1
26	FOX FLOAT RL (Moonracer)	MASU208	1

Index and exploded view of:

Arrowhead, Dragonfly & Moonracer



LEGEND

L1	Apply Loctite 242 to the threads.
L2	Apply Loctite 262 to the threads.
C1	Torque of 55 @ 65 lb·in
C2	Torque de 90 @ 100 lb·in
C3	Torque de 30 @ 50 lb·in
G	Clean with a dry clean cloth. Grease using lithium soap.

