AVALANCHE

Downhill Racing

DHF-8 / DHF-Ti-8 / DHF-Ti-7
OWNERS MANUAL

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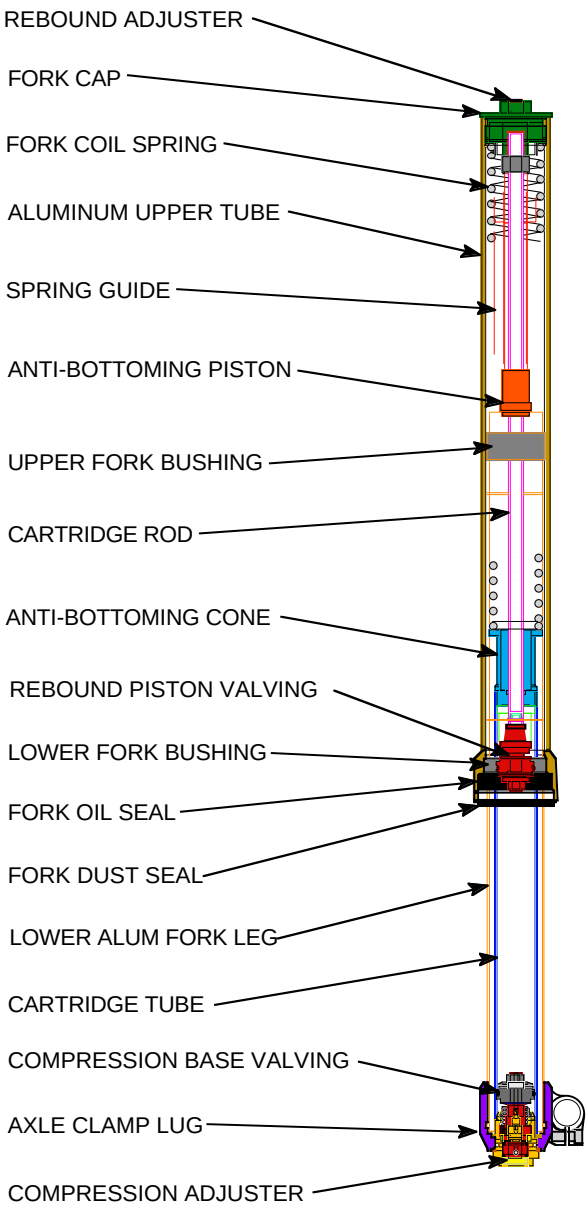
Avalanche DHF-8 forks have individual compression and rebound damping on each fork leg to allow you to fine tune your suspension for the increasing demands of today's downhill terrains. The compression and rebound has adjustable clickers with a range of 22 clicks for the optimum in tunability. The compression and rebound valving works with an oil bath internal bleed cartridge system so you will not experience oil fade during a run. The forks feature hard coat anodized aluminum CNC machined 37mm lower tubes and 43 mm dia upper tubes. The fork tubes are guided by low friction teflon coated bushings keeping stiction to a minimum - while maintaining the necessary stiffness for the most demanding riders. The seals are high quality double wiper-type with a separate dust seal. This means you won't have to replace seals and bushings every week to get ready for the race. Eight inches of fork travel will absorb the big hits and give you that plushness you been looking for. The forks have been valved to suit the needs of todays downhill racers and keeping the big drops in stride. The forks have a hydraulic anti-bottoming system to provide a soft cushion at the end of travel for those really big hits!

••Important Notice••

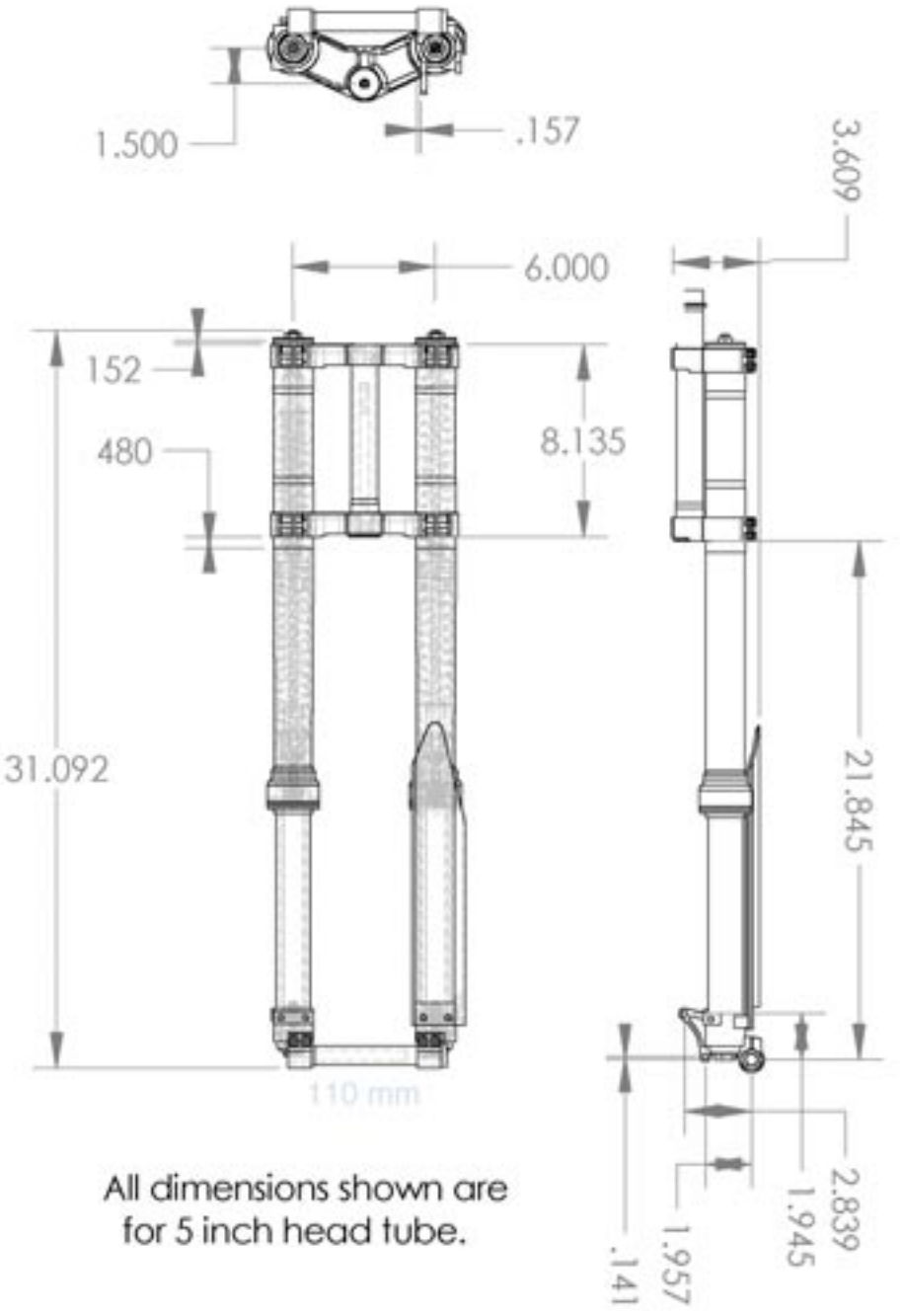
This manual is intended as a supplement for a qualified suspension technician. The procedures developed within are to be used as a guide for set-up, repair and maintance. Complete dissamebly should not be attempted and any further repair or modifications must be accomplished by Avalanche Downhill Racing or an authorized service center.


REBOUND ADJUSTER
FORK CAP
FORK COIL SPRING
ALUMINUM UPPER TUBE
SPRING GUIDE
ANTI-BOTTOMING PISTON
UPPER FORK BUSHING
CARTRIDGE ROD
ANTI-BOTTOMING CONE
REBOUND PISTON VALVING
LOWER FORK BUSHING
FORK OIL SEAL
FORK DUST SEAL
LOWER ALUM FORK LEG
CARTRIDGE TUBE
COMPRESSION BASE VALVING
AXLE CLAMP LUG
COMPRESSION ADJUSTER

SPECIFICATIONS

SIZE.....37mm
TRAVEL.....8” or 7”
ADJUSTMENTS.....individual
compression &
rebound
(22 clicks ea)
5mm or 8mm preload
MATERIAL.....Lightweight Anodized
6061 T6 aluminum
WEIGHT.....9.0 lbs/ 8.2 lbs Ti Fork
SPRINGS.....0.31/0.33/0.35 kg/mm
SEALS.....double lip rubber
with separate dust wiper
BUSHINGS.....teflon coated bronze
OIL.....85/150 synthetic
OIL HEIGHT.....95-140 mm, 32-50 mm Ti
VALVING.....fully revalvable
OPTIONS.....alternate spring rates,

TOOLS.....3/8 mm shaft clamp,
14 & 15mm wrenches,
37mm seal diver, 19 mm
6 pt impact socket, oil level
syphon



All dimensions shown are for 5 inch head tube.

Set-up

Each fork has adjustable rebound and compression. The rebound adjuster is at the top of each fork. The standard setting is 14 clicks out (counter clockwise) from full hard. To increase rebound damping turn the adjuster in (clockwise), this will slow the extention of the forks. To decrease rebound damping turn the adjuster out (counter clockwise) this will quicken the extention of the forks.

The compression adjuster is at the bottom of each fork. The standard setting is 14 clicks out (counter clockwise) from full hard. To increase compression damping turn the adjuster in (clockwise), this will stiffen the compression of the forks. To decrease compression damping turn the adjuster out (counter clockwise) this will soften the compression of the forks.

Oil height and spring rate can also be changed to tune the forks to the desired weight and speed of the rider. The oil height or air chamber has a range of 95-140 mm depending on what springs and spacers are installed (see Adjusting Spring Rate Chart). These forks also have an option for variable spring preload by adding or removing preload washers. The standard preload is 8 mm. A washer under the cap can be removed to reduce the preload to 5 mm.

Fork height can be raised or lowered ± 6 mm to quicken or slow steering. This is done by sliding the upper fork tube up in the clamps to quicken the steering and down to slow up the steering.

Bleed screws are provided to equalize the air pressure inside the forks. Remove the screw on the fork cap with the forks fully extended to equalize the pressure, tighten screw, check before each ride.

ADJUSTING Ti FORK SPRING RATE

The Ti forks have the spring in the left leg only. The rate is changed using the same method as the standard fork. Place the small springs at the bottom of the fork leg first then the main spring and the aluminum spacer with the plastic ends pressed in each end. Pour 100 ml of oil into leg. Turn fork upside down before each ride to lubricate the spring and internals.

Other Features

These forks will fit standard 20mm axles with a 110mm hub spacing. The lower lugs are sized to fit today's internation standard for disc brakes.

The optional springs at9ainable are : .29, .31, .33, .35 kg/mm spring rates. The standard main spring is .35, and the optional softer main spring is .33.

The features and quality contained in these forks were previously only found in an off road motorcycle suspension - but have been adapted to a mountain bike to give you the edge required for the increased speeds and jumps encountered on today's downhill runs. Experience the future in downhill mountain biking.

Its all downhill from here!

FORK CAP DISASSEMBLY

Remove fork cap with 15 mm wrench. If leg spins in you hand use the lower crown pinch bolts to hold it from turning, do not clamp in the area of the fork cap this will pinch the upper leg to the cap and prevent it from turning.

Grasp the fork spring and pull down to expose the jam nut.

Inset the 14 mm wrench to keep the spring from moving.

Using a 15 mm wrench loosen the fork cap from the cartridge rod by squeezing the wrenches together.

SPRING REMOVAL

Unthread the fork cap from the cartridge rod

Remove any helper springs and preload spacers and set them aside. If a different spring rate is desired then see page 14 for options for reassembly.

Remove main spring.

REMOVE OIL

Hold leg upside down over tank and proceed to pull cartridge rod in and out to pump out old fluid.

Using a spring to apply pressue to the cartridge tube air impact the base valve from the lower lug.

Remove base valve and inspect piston and retaining nut, if nut is loose re-tighten with 10 mm wrench and red Loctite™. If piston o-ring is damaged it must be replaced (-017) or if the base valve o-ring (-019).

Dump remaining oil and remove cartridge assembly, wipe outside surface with clean rag and set aside.

REINSTALL CARTRIDGE

Install cartridge tube into clean slider tube, using the spring apply pressure to the end and thread base vale into the lower lug.

Make sure that the base valve is not cross threaded, thread the valve into the lug by hand as far as possible.

Using an air impact and a 6pt 19 mm socket, tighten the base valve, do not over tighten (25-35 foot-lbs)

REMOVE SEAL

Remove all oil as shown on page 10. Pry dust seal away from leg as shown wiyth scew driver

Remove clip. Heating the upper tube around the seal area with a propane tourch will ease the seal and bushing removal.

Using the fork leg as a slide hammer, slide upper tube off from the lower slider tube, this may take 3-4 consective strokes.

Remove the slider, bushing, washer, seal, clip and dust seal from the leg, inspect leg for damage. Any burrs or scratches must be sanded down with 600 grit paper before the new seals can be installed.

INSTALL SEAL

Wrap electricions tape to prevent damage to the seal.

Apply a thin film of grease to the dust seal and oil seal

Install dust seal, clip, oil seal, washer, bushing. and slider.

Using a 37 mm seal driver, install bushings and seal.

Install clip, be sure that it is seated in groove, press on dust seal.

ADJUSTING SPRING RATE

Soft Rate
(three springs)
8 mm preload
.31 kg/mm
.29w/soft main spring
130-165 lb rider
oil hgt 95-140
oil hgt 32-50 Ti fork

Med Rate
(two springs)
8 mm preload
.33 kg/mm
.31w/soft main spring
165-200 lb rider
oil hgt 110-140
oil hgt 32-50 Ti fork

Stiff Rate
(one spring)
8 mm preload
.35 kg/mm
.33w/soft main spring
200-235 lb rider
oil hgt 120-140
oil hgt 32-50 Ti fork

Note: 3 mm spacer can be removed to reduce preload to 5mm

SETTING OIL HEIGHT

Pour oil into upper fork tube. Pull upper leg up 130-150 mm and hold hand over top while compressing the fork to force oil into the cartridge. Fill oil to top with leg compressed and pull up and down on cartridge rod until air bubbles stop rising and damping feels consistant.

Set air chamber height to 120 mm, 38 mm Ti right leg from top with tube compressed as shown.
Air chamber height range 95-140 mm. range 32-50 mm for the Ti right leg.

Higher oil heights(smaller air chamber) will increase bottoming resistance and make more progressive.

Lower oil heights(larger air chamber) will decrease overall spring rate and lessen midstroke compression.

REASSEMBLY

Extend cartridge rod and tilt fork at a 30 degree angle and slide fork spring over spring guide

Grip spring and pull down to install 14 mm wrench. Install the spring kit/preload spacers under this wrench in same manner.

Measure cartridge rod threads, 19 mm of threads must be exposed before cap is installed.

Screw on fork cap, make sure the cartridge rods bottoms on cap and bring jam nut up to contact cap

Tighten jam nut to fork cap, do not over tighten because this will damage the rod. Snug the fork cap to the upper leg hand tight.

INSTALLING FORK ON BIKE

Install head set per manufacture's instructions. Use our head lock if desired to provide additional strength to secure head set. Depending on desired stem length, select the appropriate bolts to reach and engage the head lock shaft, if needed these bolts can be trimed or spaced with spacers.

Tighten the angled pinch bolt under the upper crown to 15 in-lbs.

Install fork tubes to desired height, be sure that the clamp is on a the clamping area provided by the upper fork tubes. Tighten lower pinch bolts with 6mm allen to 15-20 in-lbs. the upper crown bolts to 20-30 in-lbs.

Install the axle thru the hub and tighten the axle washer with the axle bolt to the left lug. Tighten the left lug pinch bolts first and then push the forks up and down a few times to best center the right lug on the axle, one the best position is found tighten the right pinch bolts.

Install the brake caliper to the left lug with the 6 mm allen bolts provided.

Maintenance Schedule

Wash forks with warm soap and water after each ride to remove dried on mud and dirt.

Fork dust wipers can be pryed down to clean mud that may off accumulated behind dust wiper.

Check pinch bolts on the upper crown, lower crown, and axle lugs for correct torque.

Check axle cap allen screw for correct torque.

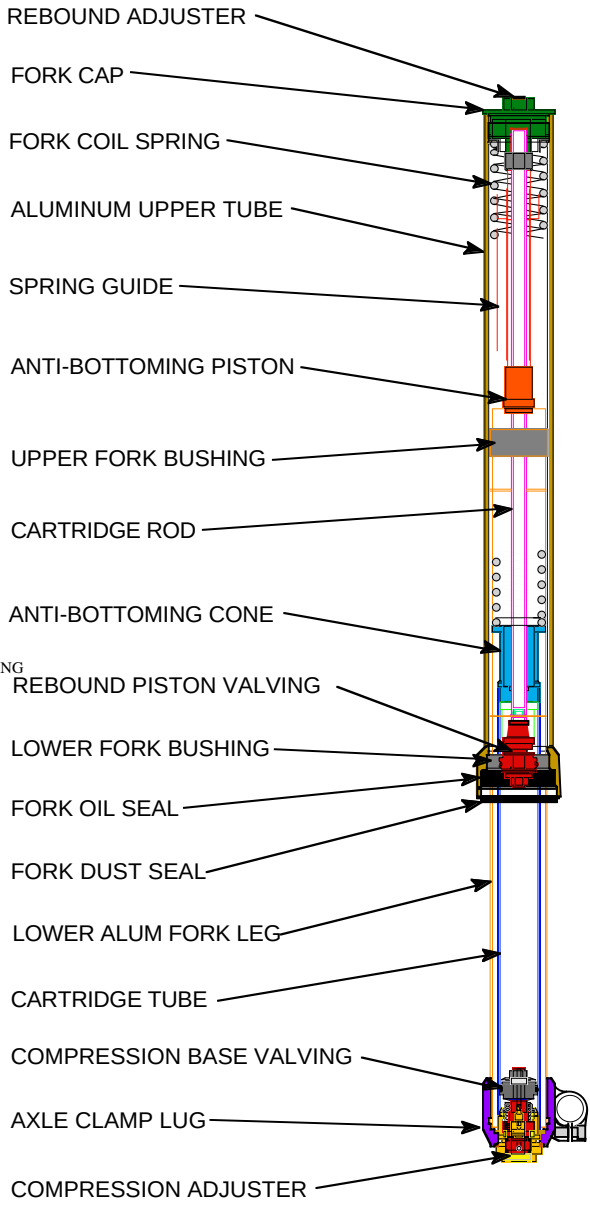
Inspect upper and lower sliders for dents or scratches that would damage the seal, if found then use 600 grit emery cloth to remove and or blend in. Severe damage will cause the seal to leak or accumulate dirt and must be replaced.

Fork oil must be replaced every 80-100 hours of riding time.

Forks should be completely disassembled after every other oil changed and internals cleaned and inspected. Fork seals and bushings should be replaced also.

Replacement Parts List

5020 CARTRIDGE ROD
5021 CARTRIDGE TUBE
5016 REBOUND NEEDLE
O-RING REBOUND ADJUSTER
REBOUND HOLDER
CHECK SPRING
5002 CHECK PLATE
5001 CHECK SPOOL
5003 REBOUND VALVE STOP
NUT
REBOUND SHIMS
5015 REBOUND PISTON
TOPOUT SPRING
5019 TOPOUT PLATE
REBOUND ADJUSTER ROD
CARTRIDGE BUSHING
5018 CARTRIDGE BUSHING HOLDER
5009 BOTTOMING CONE
5010 BOTTOMING PISTON
5011 PISTON NUT
5012 PISTON HOLDER
CLIPS
5031 SPRING GUIDE
O-RING SPRING GUIDE
ROD NUT
5008C FORK CAP HOUSING
5006 REBOUND CAP ADJUSTER
5004 ADJUSTER DETENT
DETENT BALL
DETENT SPRING
O-RING ADJUSTER DUST
O-RING ADJUSTER OIL
O-RING CAP
BLEED SCREW
O-RING BLEED SCREW
5007 COMPRESSION ADJUSTER HOUSING
O-RING COMP ADJ
5014 COMPRESSION PISTON
O-RING COMP PISTON
COMP VALVE STOP
COMP SHIMS
5005 COMP ADJUSTER
5024 LOWER LUG RIGHT
5025 LOWER LUG LEFT
O-RING LUGS
PINCH BOLTS
5022 SLIDER TUBE
5023 STANCHION TUBE
37 MM FORK SLIDERS
37 MM FORK BUSHINGS
37 MM SHOWA USD FORK SEAL KIT
37 MM SEAL CLIP
37 MM SEAL WASHER
FORK HELPER SPRINGS
5036 FORK SPRING SPACERS
FORK SPRINGS
FORK PROTECTORS
5035 STEM ROD
5034 STEERER TUBE CAP
5032 STEERER TUBE
5033 STEM CAP
5028 UPPER TRIPLE CLAMP
5029 LOWER TRIPLE CLAMP
STEM BOLTS
5026 20 MM AXLE
8X1.25 MM X 20 LONG FLAT HEAD AXLE BOLT
5027 8X20 MM AXLE WASHER MACHINED



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WARRANTY

The set-up supplied with the forks has been adjusted for average rider weight, ability and terrain. Spring rate changes and oil height recomendations are provided within this manual for adjusting this set-up. . The forks and triple clamps are warranteed for two years from date of purchase from defects and workmanship and will be repaired as required, free of charge. This warranty does not include damage caused by accident, wear and tear or abuse as determined by inspection by Avalanche. Avalanche forks are for professional racing and the rider assumes all risks to injury while using this product.

Settings

ability_____	spring rate_____
terrain_____	oil height_____
weight_____	fork height_____
comp_____	rebound_____
serial #_____	Model #_____

AVALANCHE DOWNHILL RACING
12 DAVIDSON ROAD
COLCHESTER, CT 06415
860-537-4306
FAX 860-537-8260
www.avalanchedownhillracing.com