p/n: 062492
2000 X-VERT

2000
X-VERT
OWNER'S MANUAL

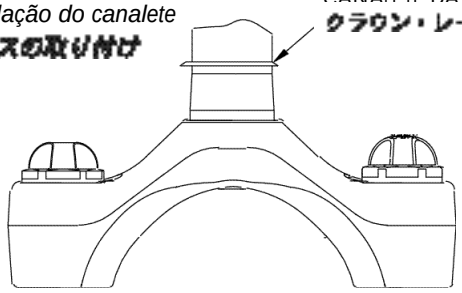
• Betriebsanleitung • Manual del usuario
• Manuel de l'utilisateur • Manuale del proprietario
• Handleiding • Manual do proprietário • オーナーズマニュアル

Answer Products
28209 Avenue Stanford, Valencia, California 91355-3984
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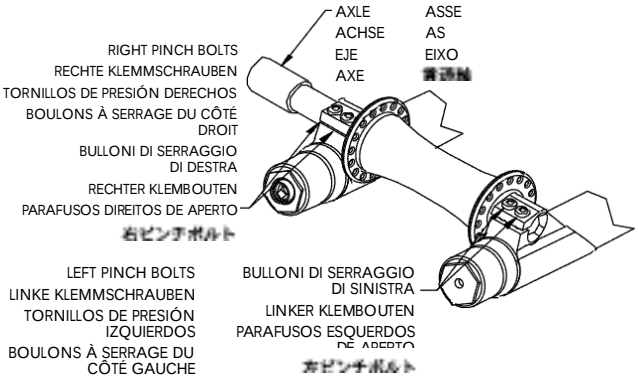
Race Installation
Einbau des Steuersatzrings
Instalación de la arandela
Installation du jeu de direction
Montaggio dell'anello della testa
Installatie van loopring
Instalação do canalete
レースの取り付け

CROWN RACE
GABELBRÜCKEN-STEUERSATZRING
ARANDELA DE LA DIRECCIÓN
CONE DE JEU DE DIRECTION
ANELLO DELLA TESTA
KROONLOOPRING
CANALETE DA COROA
クラウン・レース



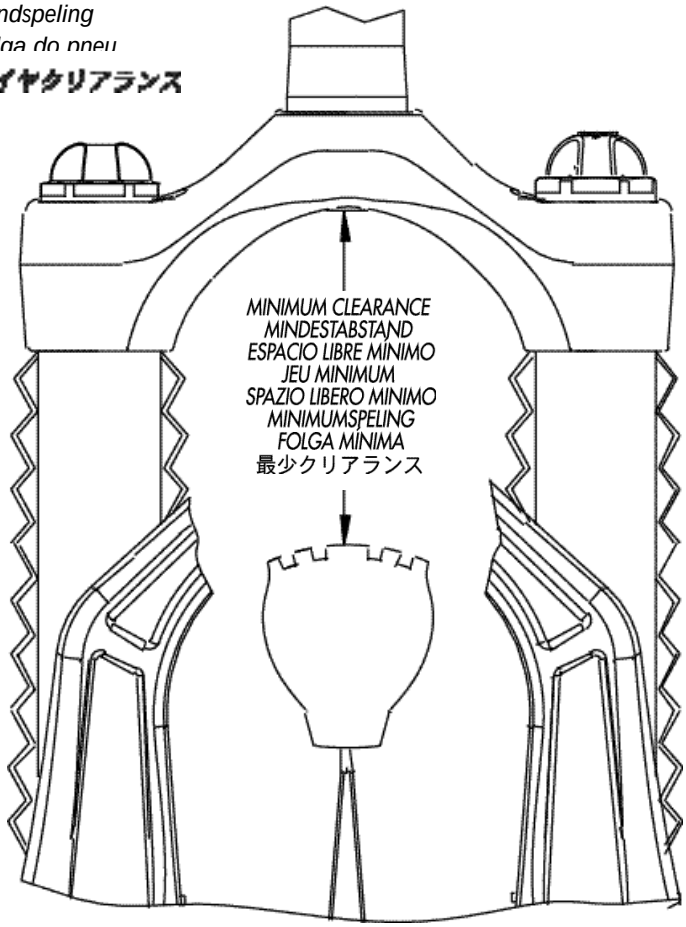
2

Axle and hub installation
Einbau der Achse und Nabe
Instalación del eje y buje
Installation de l'axe et du moyeu
Montaggio dell'asse e del mozzo
Installatie van as en naaf
Instalação do eixo e do cubo
前後軸とハブの取り付け



3

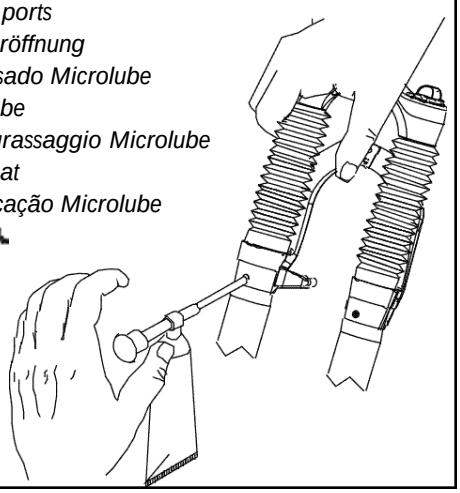
Tire clearance
Reifenabstand
Espacio libre de la cubierta
Distance arceau/pneu
Spazio libero del pneumatico
Bandspeling
Folga do pneu
タイヤクリアランス



FORK MODEL GABELMODELL MODELO DE HORQUILLA MODÈLE DE FOURCHE MODELLO DI FORCELLA VORKMODEL MODELO DO GARFO **フォーク・モデル**	MINIMUM CLEARANCE MINDESTABSTAND ESPACIO LIBRE MÍNIMO JEU MINIMUM SPAZIO LIBERO MINIMO MINIMUMSPELING FOLGA MÍNIMA **最小クリアランス**
105 mm travel forks 120 mm travel forks 180 mm travel forks	4.14" (105 mm) 4.73" (120 mm) 7.10" (180 mm)
Gabel mit 105 mm Auslenkung Gabel mit 120 mm Auslenkung Gabel mit 180 mm Auslenkung	105 mm 120 mm 180 mm
Horquillas con recorrido de 105 mm Horquillas con recorrido de 120 mm Horquillas con recorrido de 180 mm	105 mm 120 mm 180 mm
Fourches ayant une course de 105 mm Fourches ayant une course de 120 mm Fourches ayant une course de 180 mm	105 mm 120 mm 180 mm
Forcelle con corsa da 105 mm Forcelle con corsa da 120 mm Forcelle con corsa da 180 mm	105 mm 120 mm 180 mm
Loop van 105 mm Loop van 120 mm Loop van 180 mm	105 mm 120 mm 180 mm
Curso de 105 mm Curso de 120 mm Curso de 180 mm	105 mm 120 mm 180 mm
105 mm 前後 120 mm 前後 180 mm 前後	105 mm (4.14") 120 mm (4.73") 180 mm (7.10")

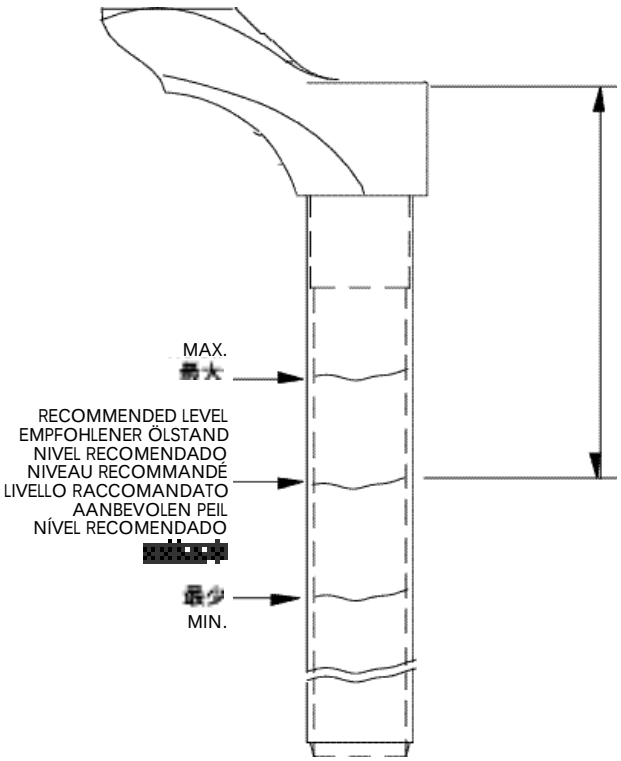
4

Microlube grease ports
Microlube Schmieröffnung
Orificio de engrasado Microlube
Graisseur Microlube
Apertura per l'ingrassaggio Microlube
Microlube smeergat
Orifício de lubrificação Microlube
グリース・ポート



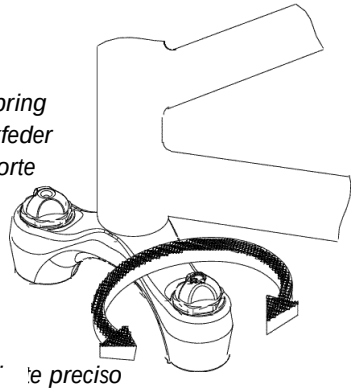
5

Oil level
Ölstand
Nivel del aceite
Niveau d'huile
Livello dell'olio
Oliepeil
Nível do óleo
オイルの量



6

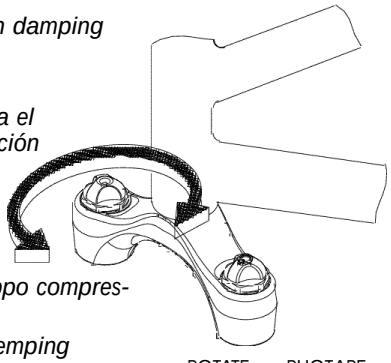
Fine tuning compression spring
Feinabstimmung der Druckfeder
Ajustes de precisión al resorte de compresión
Réglages fins des ressorts de compression
Messa a punto della molla di compressione
Fijnafstelling van drukveer
[illegible]e preciso
圧縮スプリングの微調整



ROTATE RUOTARE
DREHEN DRAAIEN
GIRAR GIRAR
TOURNER 回す

7

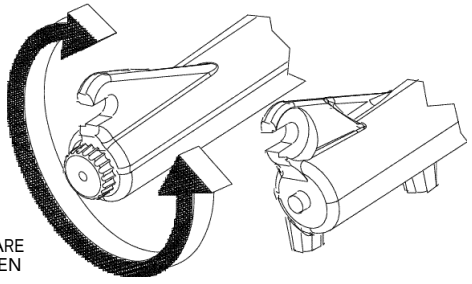
Fine tuning compression damping
Feinabstimmung der Druckstufendämpfung
Ajuste de precisión para el sistema de amortiguación de compresión
Réglages fins de l'amortissement de la compression
Messa a punto del gruppo compressione di smorzamento
Fijnafstelling van drukdemping
Ajuste de precisão do amortecimento de compressão
コンプレッション・ダンピングの微調整



ROTATE RUOTARE
DREHEN DRAAIEN
GIRAR GIRAR
TOURNER 回す

8

Fine tuning rebound damping
Feinabstimmung der Zugstufendämpfung
Ajuste de precisión para la amortiguación de rebotes
Réglages fins de l'amortissement de la détente
Messa a punto dello smorzamento all'estensione
Fijnafstelling van terugveringdemping
Ajuste de precisão do ressalto de amortecimento
リバウンド・ダンピングの微調整



ROTATE RUOTARE
DREHEN DRAAIEN
GIRAR GIRAR
TOURNER 回す

ANSWER PRECISION SUSPENSION

CONGRATULATIONS FOR CHOOSING THE LATEST STATE-OF-THE-ART MOUNTAIN BIKE SUSPENSION FORK AVAILABLE. THE 2000 X-VERT FORK MODELS HAVE A STATE-OF-THE-ART MCU/SPRING COMPRESSION SYSTEM. THE X-VERT SERIES USES THE TWIN PISTON CARTRIDGE SYSTEM (TPC) THAT SURPASSES ALL OTHER TYPES OF OIL-DAMPED SYSTEMS IN PERFORMANCE AND DURABILITY. THE X-VERT DC AND X-VERT CARBON ARE EQUIPPED WITH DUAL TRIPLE CLAMPS FOR EXTRA RIGIDITY. THE X-VERT CARBON USES THE 20 MM X 120 MM OVERSIZE THROUGH AXLE AND IS COMPATIBLE WITH STANDARD DH HUBS.

Your X-VERT fork is fully assembled and ready to be installed onto your bicycle and comes equipped with a 1 1/8" threadless steer tube. X-VERTs are available with the V-brake cable hangerless arch, post style disk brake mounts, and have an optional attachable cable hanger which is available through your dealer.

CONSUMER SAFETY INFORMATION

IMPORTANT: The X-VERT fork is an off-road fork, and as such, does not come with proper reflectors for on-road use. Have your dealer or mechanic install proper reflectors to meet the Consumer Product Safety Commission's (C.P.S.C.) Requirements for Bicycles if the fork is going to be used on public roads at any time. If you have questions regarding C.P.S.C. Standards or would like to purchase reflector bracket kit (P/N 85-3674) contact your dealer.

1. Never remove or have the steer tube or stanchions removed form the crown. The steer tube and stanchions (inner legs) are press fit assembled at the factory. Press fit inner legs have higher performance vs. bolt-in inner legs. Pressing them out will permanently damage the crown beyond repair and render it unsafe for any continued use.
2. Never attempt to thread a threadless steer tube. Machining threads will weaken the steer tube and cause an unsafe condition. The only safe thing to do is to obtain the proper crown/steerer from your dealer.
3. Any other alterations or modifications to your fork should be considered unsafe. Contact Answer Products Technical Support prior to modifying your fork in any way for safety information.
4. Do not use the X-VERT fork if any parts are broken, bent, cracked, or you suspect may be damaged. Contact your dealer or Answer Products Technical Support, (661) 257-4411, if you have any questions concerning the integrity or condition of your fork. Answer Products recommends that you periodically inspect your fork for wear and damage.
5. Answer Products recommends that you periodically inspect your fork for wear and damage. Inspect the crown, inner legs, outer leg dropout and brake arch areas for cracks or damage. Before every ride check to ensure that the proper preload exists and that the positive rebound stop is in order to ensure that the fork can not over extend.

WARRANTY INFORMATION

Any Answer Products fork found by the factory to be defective in materials and/or workmanship within one year from the date of purchase will be repaired or replaced at the option of the manufacturer, free of charge, when received at the factory, freight prepaid. This warranty does not cover breakage, bending, or damage that may result from crashes or falls. This warranty does not cover any fork that has been subject to misuse or whose serial number has been altered, defaced or removed. This warranty does not cover paint damage. Any modifications made by the user will render the warranty null and void. This warranty is expressly in lieu of all other warranties, and any implied are limited in duration to the same duration as the expressed warranty herein. Answer Products shall not be liable for any incidental or consequential damages.

If for any reason warranty work is necessary, return the fork to the place of purchase. In the USA, dealers should call Answer Products for a return authorization number (RA#). At that time instructions for repair, return, or replacement shall be given. Customers in countries other than USA should contact their dealer or local distributor.

INSTALLATION INSTRUCTIONS

Insure that the proper steer tube has been delivered on your X-VERT. The steer tube may need to be cut to length to fit your bicycle head tube. If you are not familiar with this procedure or do not have the proper tools to cut the steer tube it is recommended that you seek a dealer with a qualified bicycle mechanic to perform installation.

WARNING THE STEER TUBE AND STANCHIONS (INNER LEGS) ARE A ONE-TIME PRECISION PRESS FIT AT THE FACTORY AND CANNOT BE REMOVED FROM THE CROWN. REPLACEMENT OF THE ENTIRE CROWN/STEERER ASSEMBLY MUST BE DONE TO CHANGE STEER TUBE LENGTHS OR DIAMETERS. REMOVING AND REPLACING THE STEER TUBE OR STANCHIONS WILL RESULT IN AN UNSAFE CONDITION AND SHOULD NEVER BE DONE.

1. Remove old forks from bicycle.
2. Measure and cut the steer tube to fit your bicycle head tube.
3. Remove crown race from old forks and press onto X-VERT steerer until seated on crown (Figure 1).
4. Clean and grease headset bearings and races of bicycle.
5. Install lower bearings on fork crown race.
6. Insert steer tube into head tube of frame.
7. Install upper bearings, spacers, and stem.
8. Install stem cap and screw, tighten until slack just disappears.
9. Install handlebars to desired height. Torque stem handlebar pinch screws and stem clamping system to manufacturer's instructions.
10. Install cantilever brakes and adjust per manufacturer's instructions.
11. Position the X-VERT DC and X-VERT CARBON steering stop bumpers to prevent frame damage.
12. For all X-VERTs except the X-VERT CARBON adjust front wheel quick release to clear the 0.275" (7 mm) thick secondary catch dropout. The quick release must be tightened after it is properly seated into the dropout counter bores. Insure that there is adequate thread engagement (4 or more threads with the release adjusted to lock) due to the wider adjustment. Install front wheel to bicycle per manufacturer's specifications.
13. For the X-VERT CARBON lightly pinch the thread axle sleeve in the left dropout. Install the through axle and hub. Tighten the axle until it bottoms 60-90 in-lbs. (6.8-10.2 Nm). Slide the right leg in and out on the axle to find the center position and torque the right dropout pinch bolts to 30-50 in-lbs. (3.4-5.6 Nm). See Figure 2.
14. Install brake cable per manufacturer's instructions.

NOTE: 2000 X-VERT, X-VERT DC and X-VERT SUPER forks are equipped with a secondary catch dropout. The X-VERT CARBON is equipped with an oversize 20 mm through axle that is compatible with standard DH 20x110 mm hubs.

WARNING WHEN INSTALLING WHEEL OR ANY NEW TIRE CHECK THE MINIMUM TIRE CLEARANCE. MEASURE FROM THE HIGHEST POINT ON THE TIRE TO THE BOTTOM OF THE CROWN. THE MINIMUM CLEARANCE ALLOWED IS:
3.15" (80 MM) FOR 80 MM TRAVEL FORKS
3.94" (100 MM) FOR 100 MM TRAVEL FORKS
4.53" (115 MM) FOR 115 MM TRAVEL FORKS
6.30" (160 MM) FOR 160 MM TRAVEL FORKS
ANY LESS CLEARANCE CAN RESULT IN SERIOUS INJURY OR DEATH. (FIGURE 3)

MAINTENANCE

IMPORTANT: The X-VERT should not be used if any parts appear to be or are damaged. Contact your local dealer or Answer Products for replacement parts.

IMPORTANT: Use of fork boots is required to keep your X-VERT (except for the X-VERT CARBON) performing well and your warranty in effect. Use of this fork with the boots removed will shorten the life, reduce the performance and void the warranty.

Your X-VERT fork requires periodic maintenance, cleaning, and inspection. Moisture and contamination may build up inside the fork depending on the severity of riding conditions. To maintain top performance it is recommended that the fork be periodically disassembled, cleaned, dried and re-greased using the Microlube grease ports located on the back of each outer leg. (Figure 4)

IMPORTANT: When lubricating the fork with grease through the grease ports it is important to note the grease is being forced between the upper and lower bushings. If the area is overfilled the force of the grease may force the upper bushing and dust seal out.

IMPORTANT: Before every ride you should:
1. Ensure that quick release skewers are properly adjusted and tight.
2. Wipe the inner legs clean and check entire fork for any obvious damage.
3. Check headset slack.
4. Insure that the front brake cable is properly seated in the cable retainer and check brake adjustment.

IMPORTANT: Maintaining the proper oil level in your TPC is critical (right leg only). Not enough oil will allow foaming and reduce the performance. Too much oil will restrict travel and may cause damage to the system and create an unsafe riding condition. Finish reading this entire section prior to making any changes to the oil level.

To check the oil level remove only the compression assembly located in the top of the right leg. Leave the left side compression stack (adjuster, MCU, spring assembly) in place to keep the fork fully extended. Use a tape measure or "dip stick" to determine the oil level. Refer to the following table for the correct oil level for your fork model. (See Figure 5.)

	OIL LEVEL		
Fork Model	**Minimum**	**Maximum**	**Recommended**
X-VERT	3.00" (76.2 mm)	3.25" (82.5 mm)	3.125" (79.3 mm)
X-VERT DC	9.00" (229 mm)	11.00" (279 mm)	10.00" (254 mm)
X-VERT SUPER	3.00" (76.2 mm)	3.25" (82.5 mm)	3.125" (79.3 mm)
X-VERT CARBON	7.50" (190 mm)	9.50" (241 mm)	8.50" (216 mm)

NOTE: Use SAE 5WT fork oil. We recommend Maxima suspension fluid.

ADJUSTING RIDE QUALITIES

X-VERT TPC forks offer a wide adjustment range to suit individual riding preference and rider weight by simply changing the MicroCellular Elastomer (MCU's). Fine tune adjustments can be made using the preload adjusters located on top of the fork crown. Softer blue and harder yellow elastomers are available from your dealer.

NOTE: The 98 and 99 X-VERT model forks use a compression stack in the right leg only; the 2000 models' compression stack is in the left leg. MCUs and springs used in pre-98 model Manitou forks are NOT interchangeable with later versions of Manitou forks.

Compression Spring Fine Tuning: Figure 6

Fine tuning adjustments to the spring rate are made by rotating the adjuster knobs located on top of the crown. Note all 2000 X-VERT models use compression spring systems in the left leg only. The left knob for all X-VERT models is used to adjust preload. Rotating the knob clockwise will firm the ride, adding preload to the compression stack. Rotating the knob counter clockwise will soften the ride. Four full revolutions will take the adjuster from full soft to the extreme firm setting.

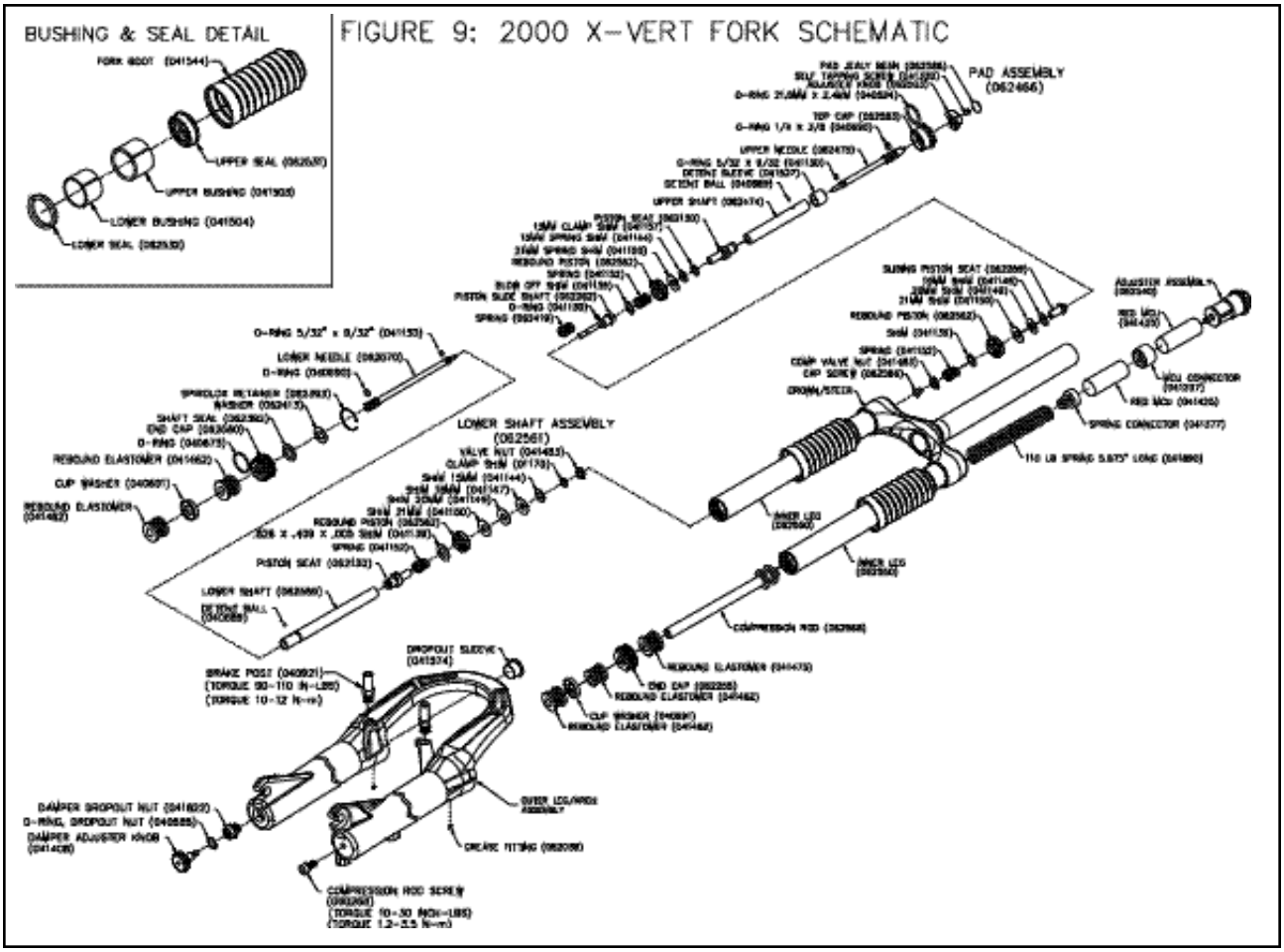
Compression Damping Fine Tuning: Figure 7

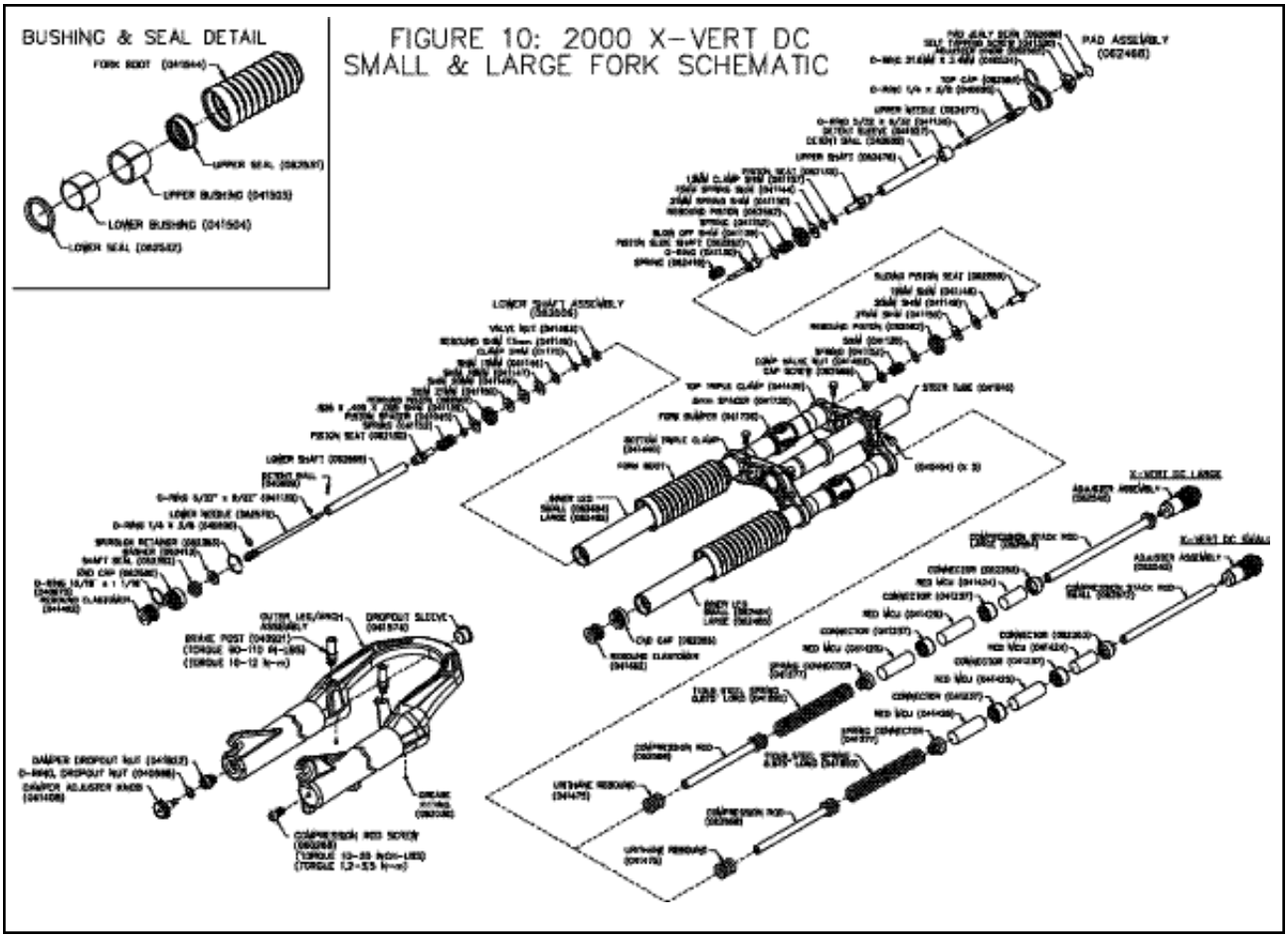
To adjust the X-VERT forks simply rotate the compression damping knob located on top of the right leg and crown. Rotating the knob clockwise will increase damping, rotating the knob counter-clockwise will reduce the damping. Excessive damping will give you a harsh ride over sharp bumps like rocky sections, but will feel good on large hits like G-outs. Insufficient compression damping will bottom out in the large hit G-outs and bob a little while climbing, but feel plush on the sharp hits. A correctly adjusted fork will perform well in all conditions.

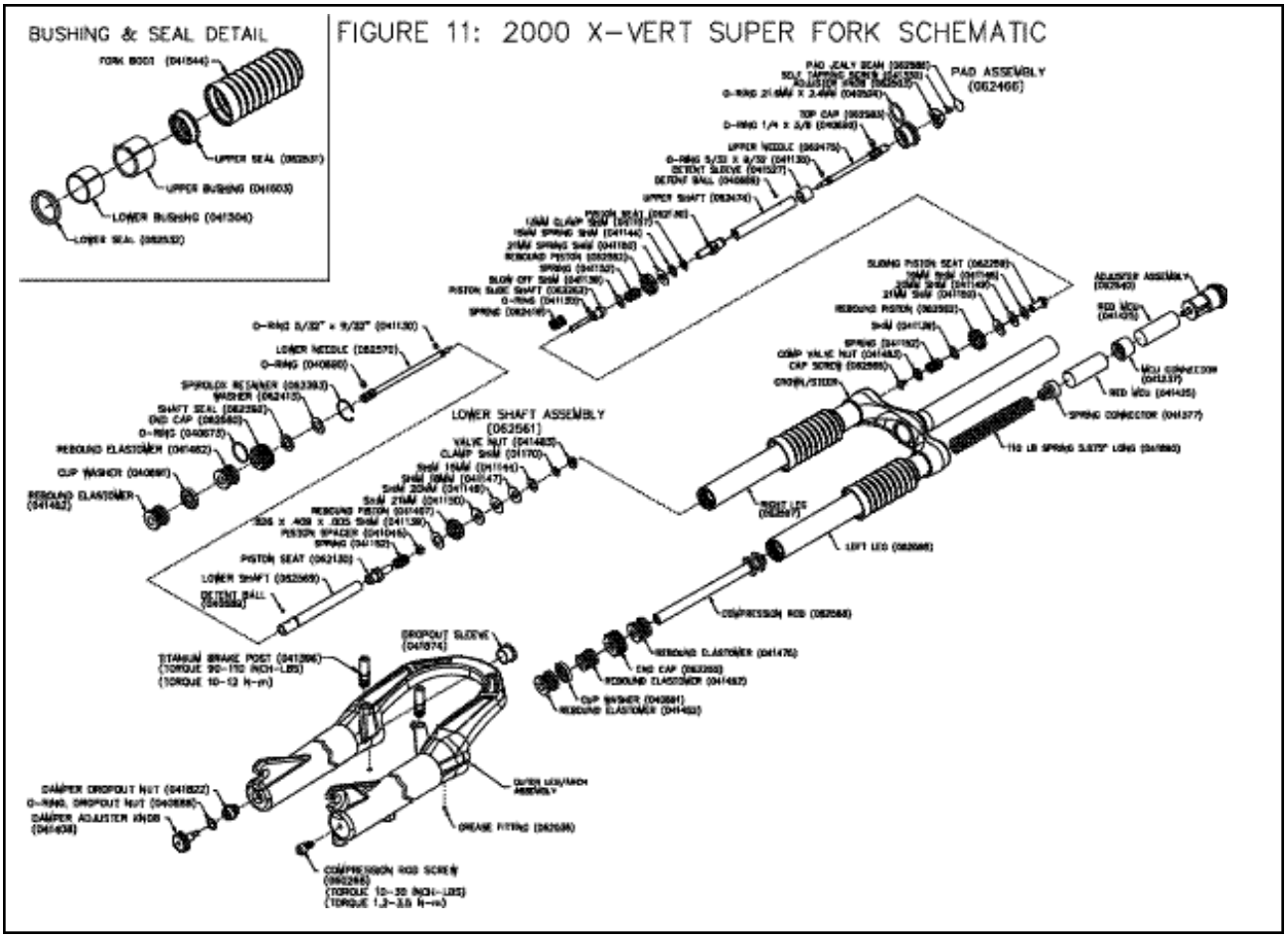
Rebound Damping Fine Tuning: Figure 8

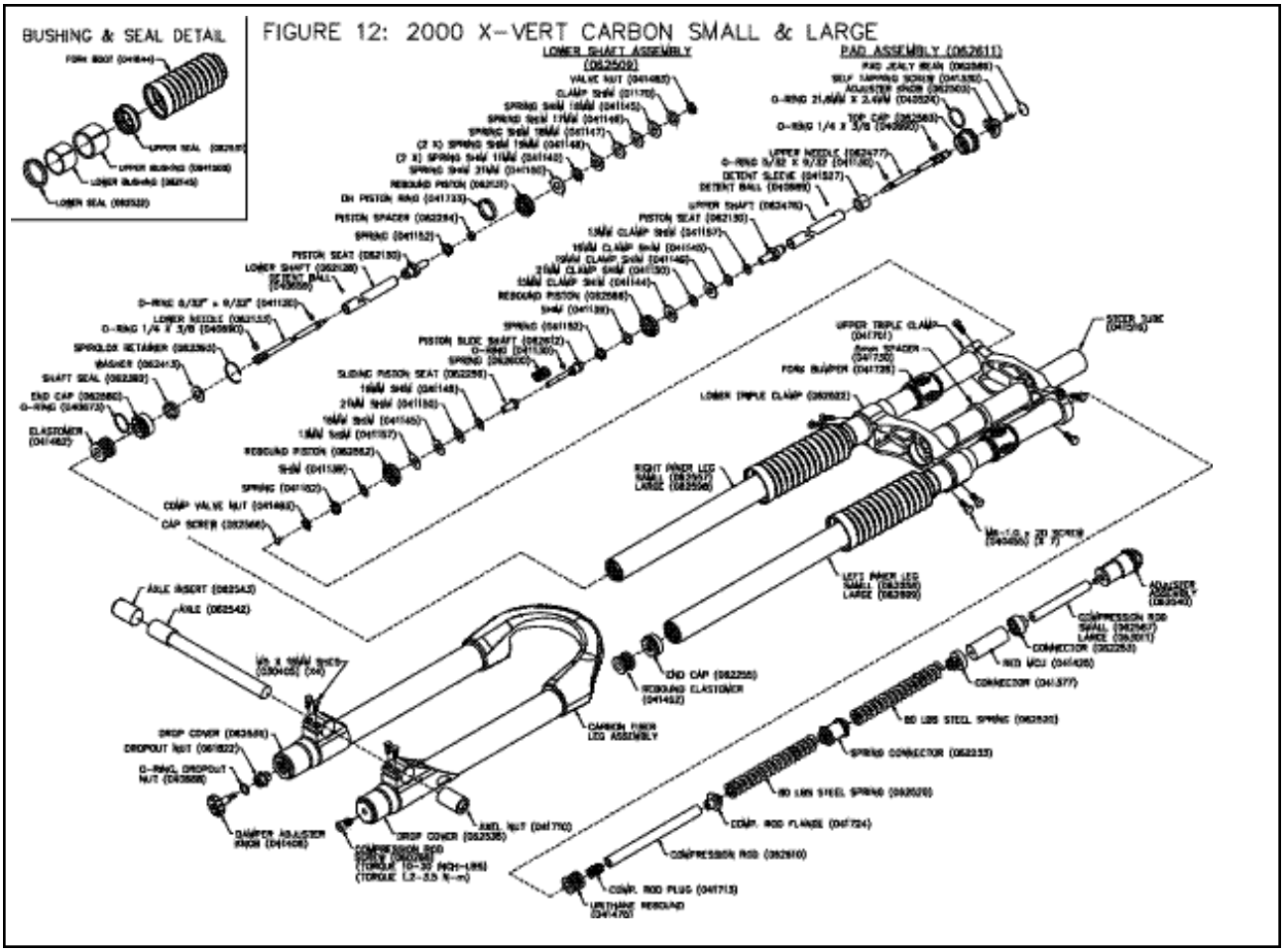
To adjust the X-VERT forks simply rotate the rebound damping knob located on the bottom of the right leg. Rotating the knob clockwise will increase the damping, rotating the knob counter-clockwise will reduce the damping. Excessive damping will give you a harsh ride over repetitive bumps (like breaking bumps) because the fork will pack up. Insufficient rebound damping will make the fork over active and top out. We suggest that you try adjusting your fork on the very active side, or minimum rebound. Then try it over a variety of terrains and tune in more rebound from there.

Figures 9, 10, 11 and 12 are schematics of the X-VERT, X-VERT DC, X-VERT SUPER, and X-VERT CARBON fork models. ■


BUSHING & SEAL DETAIL
FORK BOOT (041544)
UPPER SEAL (062530)
UPPER BUSHING (041503)
LOWER BUSHING (041504)
LOWER SEAL (062532)
FIGURE 9: 2000 X-VERT FORK SCHEMATIC
PAD ASSEMBLY (062466)
LOWER SHAFT ASSEMBLY (062561)
DROPOUT SLEEVE (041574)
BRAKE POST (040921)
(TORQUE 90-110 IN-LBS)
(TORQUE 10-12 N-m)
DAMPER DROPOUT NUT (041603)
O-RING, DROPOUT NUT (040888)
DAMPER ADJUSTER KNOB (041408)
BRAKE FITTING (062098)
COMPRESSION ROD SCREW (062068)
(TORQUE 10-30 INCH-LBS)
(TORQUE 1.2-3.5 N-m)
110 LB SPRING 5.875" LONG (041886)


BUSHING & SEAL DETAIL
FORK BOOT (041544)
UPPER SEAL (062530)
UPPER BUSHING (041503)
LOWER BUSHING (041504)
LOWER SEAL (062532)
FIGURE 10: 2000 X-VERT DC SMALL & LARGE FORK SCHEMATIC
PAD ASSEMBLY (062466)
LOWER SHAFT ASSEMBLY (063004)
DROPOUT SLEEVE (041574)
BRAKE POST (040921)
(TORQUE 90-110 IN-LBS)
(TORQUE 10-12 N-m)
DAMPER DROPOUT NUT (041603)
O-RING, DROPOUT NUT (040888)
DAMPER ADJUSTER KNOB (041408)
COMPRESSION ROD SCREW (062068)
(TORQUE 10-30 INCH-LBS)
(TORQUE 1.2-3.5 N-m)
X-VERT DC LARGE
X-VERT DC SMALL


BUSHING & SEAL DETAIL
FORK BOOT (041544)
UPPER SEAL (062537)
UPPER BUSHING (041603)
LOWER BUSHING (041304)
LOWER SEAL (062532)
FIGURE 11: 2000 X-VERT SUPER FORK SCHEMATIC
PAD ASSEMBLY (062466)
LOWER SHAFT ASSEMBLY (062561)
DROPOUT SLEEVE (041674)
TITANIUM BRAKE POST (041296) (TORQUE 90-110 INCH-LBS) (TORQUE 10-12 N-m)
DAMPER DROPOUT NUT (041822)
O-RING, DROPOUT NUT (040888)
DAMPER ADJUSTER KNOB (041438)
GREASE FITTING (062638)
COMPRESSION ROD SCREW (062266) (TORQUE 10-30 INCH-LBS) (TORQUE 1.2-3.5 N-m)
COMPRESSION ROD (062568)
REBOUND ELASTOMER (041470)
END CAP (062350)
CUP WASHER (040891)
REBOUND ELASTOMER (041462)
LEFT LEG (062666)
SPRING CONNECTOR (041377)
110 LB SPRING 3.875" LONG (041660)
ADJUSTER ASSEMBLY (062640)
ROD MCU (041435)
MCU CONNECTION (041337)


BUSHING & SEAL DETAIL
FORK BOOT (041544)
UPPER SEAL (062537)
UPPER BUSHING (041603)
LOWER BUSHING (062542)
LOWER SEAL (062532)
FIGURE 12: 2000 X-VERT CARBON SMALL & LARGE
LOWER SHAFT ASSEMBLY (062509)
PAD ASSEMBLY (062611)
AXLE INSERT (062543)
AXLE (062542)
DROP COVER (062535)
DROPOUT NUT (041822)
O-RING, DROPOUT NUT (040888)
DAMPER ADJUSTER KNOB (041438)
CARBON FIBER LEG ASSEMBLY
END CAP (062250)
REBOUND ELASTOMER (041462)
UPPER TRIPLE CLAMP (041761)
FORK BUMPER (041728)
LOWER TRIPLE CLAMP (062502)
RIGHT INNER LEG SMALL (062557) LARGE (062556)
LEFT INNER LEG SMALL (062555) LARGE (062999)
ADJUSTER ASSEMBLY (062640)
COMPRESSION ROD SMALL (062567) LARGE (062601)
CONNECTOR (062253)
ROD MCU (041435)
CONNECTOR (041377)
80 LBS STEEL SPRING (062530)
SPRING CONNECTOR (062533)
80 LBS STEEL SPRING (062529)
COMP. ROD FLANGE (041724)
COMPRESSION ROD (062610)
COMP. ROD PLUG (041713)
URETHANE REBOUND (041470)