99 SX SERVICE MANUAL

P/N 85-3666



MANITOU

ANSWER PRODUCTS, INC

28209 AVENUE STANFORD, VALENCIA, CA 91355

(805) 257-4411

www.answerproducts.com

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ANSWER PRECISION SUSPENSION

CONGRATULATIONS FOR CHOOSING THE LATEST STATE OF THE ART MOUNTAIN BIKE SUSPENSION FORK AVAILABLE. THE 1999 SX FORK MODELS HAVE STATE OF THE ART MCU/SPRING COMPRESSION SYSTEMS. THE SX SERIES ALL USE THE NEW TWIN PISTON CARTRIDGE SYSTEM (TPC) THAT SURPASS ALL OTHER TYPES OF OIL DAMPED SYSTEM IN PERFORMANCE AND DURABILITY.

Your 99 SX Fork is fully assembled and ready to be installed onto your bicycle and comes equipped with a 1 1/8" threadless steer tube. 99 SX's are available with the V-Brake cable hangerless arch and have an optional attachable cable hanger kit P/N 85-3800, which is available through your dealer.

CONSUMER SAFETY INFORMATION

IMPORTANT: The 99 SX Fork is a off road fork and as such, does come with the reflectors for on road use installed. Reflector bracket kit P/N 85-3674 is available through your dealer. Have your dealer or mechanic install the kit 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 contact your dealer.

1. Never remove or have the steer tube or stanchions (inner legs) removed from the crown. The steer tube and stanchions are press fit assembled at the factory. Pressing them out will permanently damage the crown, steer tube, and stanchions beyond repair and render them unsafe for any continued use.
2. Never attempt to threas a threadless steer tube. Machining threads will weaken the steer tube and cause unsafe condition. The only safe thing to do is obtain the proper crown/steerer from your dealer.
3. Any other alterations or modifications to your fork should be considered unsafe. Contact Answer products Techinical Support prior to modifying your fork in any way for safety information.
4. Do not use any Manitou Fork if any part appears to be be broken, bent, cracked, or damaged. Contact your dealer or Answer Products Technical Support, (800) 670-7446, if you have any questions concerning the integrity, condition, or safe operation of your fork.
5. Answer Products recommends that you periodically inspect your fork for wear and damage. Inspect the Crown, Inner Legs, and Outer Leg Dropout and Break Arch areas for cracks or damage. Befor 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 modified, 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 □ □ □ □
□ □ □ □ □ □
Figures 1,2, &3
Insure that the proper steer tube has been delivered on your fork. 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 99 SX Steer until seated on crown.
4. Clean and grease headset bearing and races of bicycle.
5. Install lower bearings on fork crown race.
6. Install steer tube into head tube frame.
7. Install upper bearing, spacers, and stem.
8. Install stem cap, adjust and tighten headset per manufacturer's instructions.
9. Install handlebars to desired height. Torque stem handlebar pinch screw and stem clamping system to manufacturer's instructions.
10. Install cantilever breaks and adjust to pre manufacturers instructions.
11. Ajust fork whell quick release to clear the 0.275" (7MM) thick secondary catch dropout. The quick release must be tightened after it is adequate thread engagement (4 or more threads with the release adjusted to bicycle per manufacturers specifications.
12. Install brake cable per manufacturers instructions.

Note: All 98 SX Forks are equipped with a secondary catch dropout.

Note: The 98 SX comes equipped with a hangerless arch. Brake cable hangers that attach to the arch are available through your dealer. See Figure 2

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 for 70MM travel fork models is 2.875"(73.0MM) and 3.268"(83.0MM) for 80MM travel fork modles. Any less clearance can result in accident resulting in serious injury or death. Figure 3

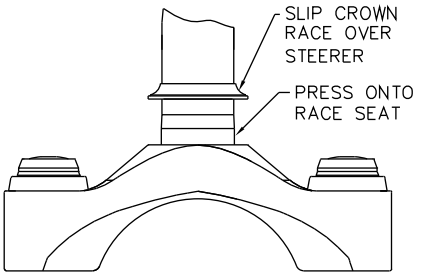


FIGURE 1: RACE INSTALLATION

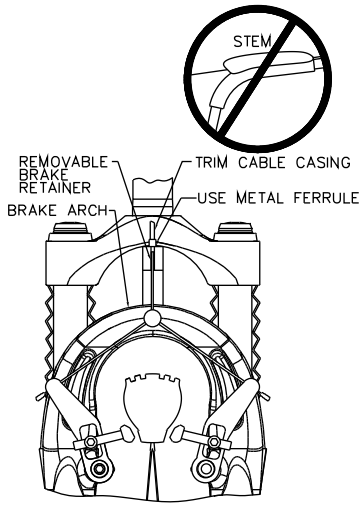


FIGURE 2: BRAKE CABLE ROUTING

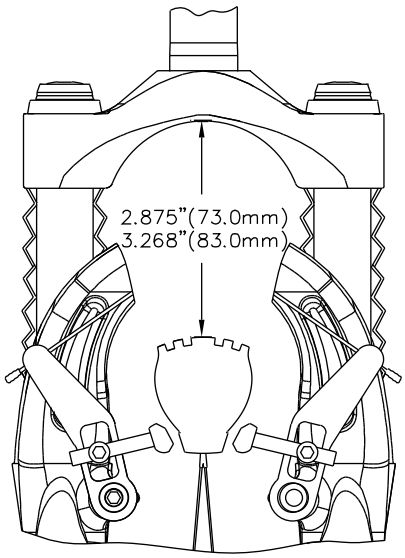


FIGURE 3: TIRE CLEARANCE

SPARE PARTS: Table 1

Spare parts can be ordered through your local dealer. If you have any problems that you cannot resolve with your dealer, you may call Answer Products Technical / Warranty Service Department at (805) 257-4411, 8:00 AM to 5:00 PM, Pacific Standard, Monday through Friday. In addition helpful information can be found on the Answer Products Web Site, http://www.answerproducts.com. Include on the site is down loadable manuals and e-mail to technical support.

DESCRIPTION	PART NUMBER
99 SX TI MRD KIT	85-3566
99 LOC-OUT ASSEMBLY KIT, 80MM	85-3734
99 SOFT RIDE KIT SX E, SX, SX R, X-VERT E	85-3751
99 MEDIUM RIDE KIT SX E, SX, SX R, X-VERT E	85-3752
99 FIRM RIDE KIT SX E, SX, SX R, X-VERT E	85-3753
99 ADJUSTER KIT SPYDER R, SX, X-VERT E	85-3754
99 SX C BUSHING SEAL KIT	85-3758
99 LOC-OUT ASSEMBLY KIT, 70MM	85-3759
99 SX CROWN, 1X5.5 CM	85-3787
99 SX CROWN, 1X6.5 CM	85-3788
99 SX CROWN, 1X7.5 CM	85-3789
99 SX CROWN, 1X5.5 CM	85-3790
99 SX CROWN, 1X8.5 CM	85-3791
99 SX CROWN, 1X10.5 CM	85-3792
99 SX CROWN, 1X12.5 CM	85-3793
99 SX CROWN, 1 1/8"X5.5 CM	85-3794
99 SX CROWN, 1 1/8"X6.5 CM	85-3795
99 SX CROWN, 1 1/8"X7.5 CM	85-3796
99 SX CROWN, 1 1/8"X8.5 CM	85-3797
99 SX CROWN, 1 1/8"X10.5 CM	85-3798
99 SX CROWN, 1 1/8"X12 THRDLS CM	85-3799
99 SX CROWN, 1 1/8"X12 ALLOY	85-3800
99 SX BRAKE HANGER KIT	85-3801
99 SPYDER R & SX E COMPRESSION DAMPING ASSEMBLY	85-3802
99 SX COMPRESSION DAMPING ASSEMBLY	85-3803
99 SX, SX R & SX TI LOWER SHAFT ASSEMBLY	85-3804
99 SX, SX R & SX TI COPMRESSION DAMPING ASSEMBLY	85-3805
99 SX E LOWER SHAFT ASSEMBLY	85-3806
99 SX C LOWER SHAFT ASSEMBLY	85-3807
MANITOU PREP M GREASE, 6 OZ.	85-3810
MICRO LUBE GREASE GUN HEAD	85-3812
MRD SUSPENSION FULID, 5WT., 8OZ.	85-3814
MAXIMA 7.5WT SUSPENSION FLUID, 8 OZ.	85-3820
MAXIMA 10WT SUSPENSION FLUID, 8OZ.	85-3822
99 SX BUSHING SEAL KIT	85-3827
98/99 SX TI SOFT RIDE KIT	85-3841
98/99 SX TI MEDIUM RIDE KIT	85-3842
98/99 SX TI FIRM RIDE KIT	85-3843
98/99 BUSHING REMOVAL TOOL	85-3892
98/99 BUSHING SIZING TOOL, SPYDER & SX	85-3893
99 SX OUTER ASSEMBLY BRIGHT YELLOW WITH OUT STICKERS	85-3894
99 SX OUTER ASSEMBLY BLACK WITH OUT STICKERS	85-3896
99 SX OUTER ASSEMBLY DARK BLUE WITH OUT STICKERS	85-3897
99 SX OUTER ASSEMBLY MANGO WITH OUT STICKERS	85-3898
99 SX OUTER ASSEMBLY BRIGHT RED WITH OUT STICKERS	85-3899
MICRO-LUBE DEMO KIT	85-3900
99 SX OUTER ASSEMBLY JADE WITH OUT STICKERS	85-4004
99 SX C OUTER ASSEMBLY BRIGHT RED WITH OUT STICKERS	85-4005
99 SX E YELLOW STICKER KIT	85-4019
99 SX E BLACK STICKER KIT	85-4025

SPARE PARTS: Table 1
Continued

DESCRIPTION	PART NUMBER
99 SX DARK BLUE STICKERT KIT	85-4027
99 SX BRIGHT RED STICKER KIT	85-4028
99 SX R MANGO STICKER KIT	85-4029
99 SX R BLACK STICKER KIT	85-4030
99 SX TI YELLOW STICKER KIT	85-4031
99 SX TI DARK BLUE STICKER KIT	85-4032
99 SX C BRIGHT RED STICKER KIT	85-4033
99 SX E BRIGHT RED STICKER KIT	85-4043
99 SX YELLOW STICKER KIT	85-4044
99 SX TI JADE STICKER	85-4045
99 SX E CROWN/STEERER/LEG KIT	85-4047
99 SX CROWN/STEERER/LEG KIT	85-4048
99 SX R & SX TI CROWN/STEERER/LEG KIT	85-4049
99 SX C CROWN/STEERER/LEG KIT	85-4050

FIGURE 4: 99 SX E FORK SCHEMATIC

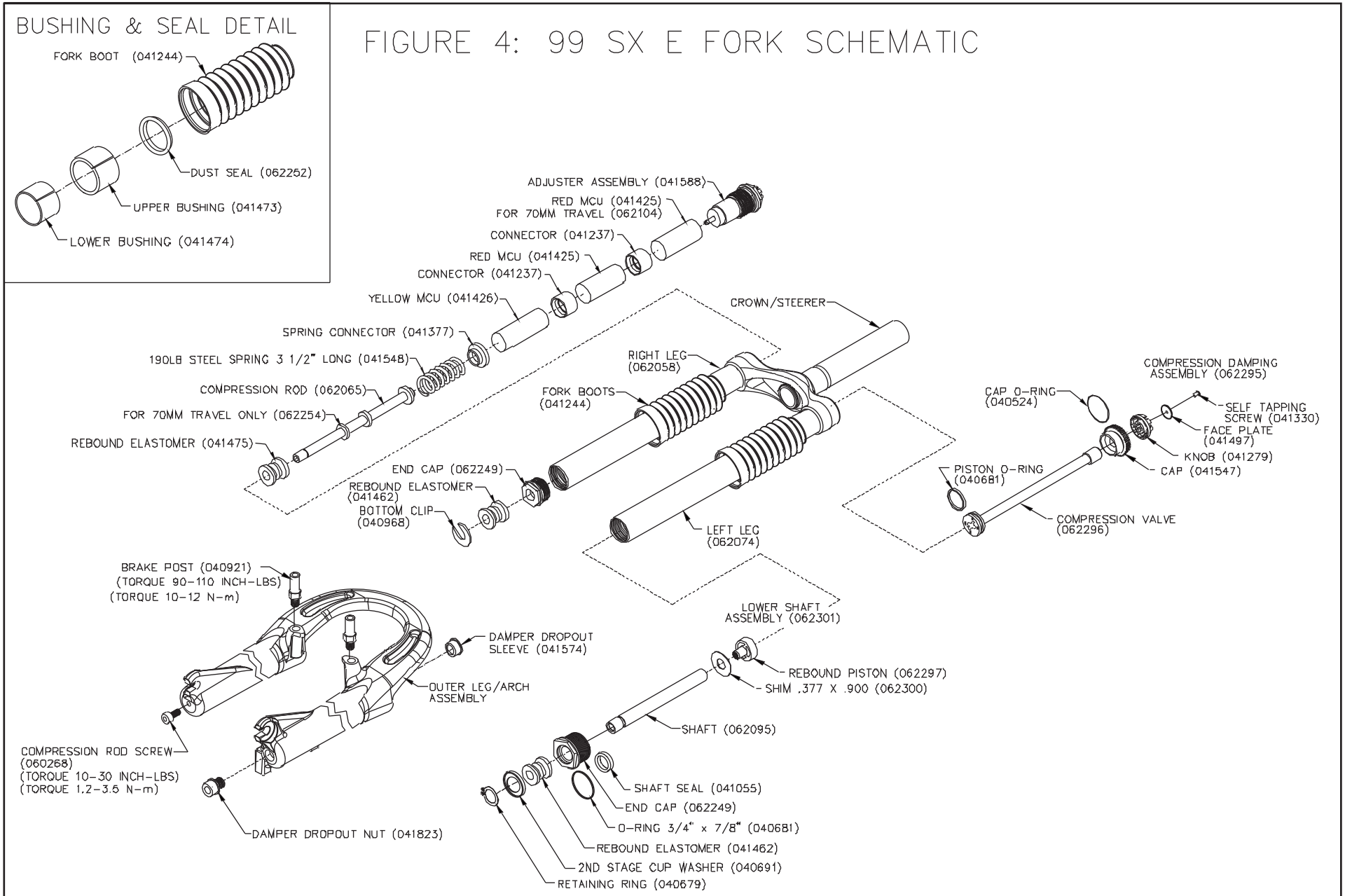
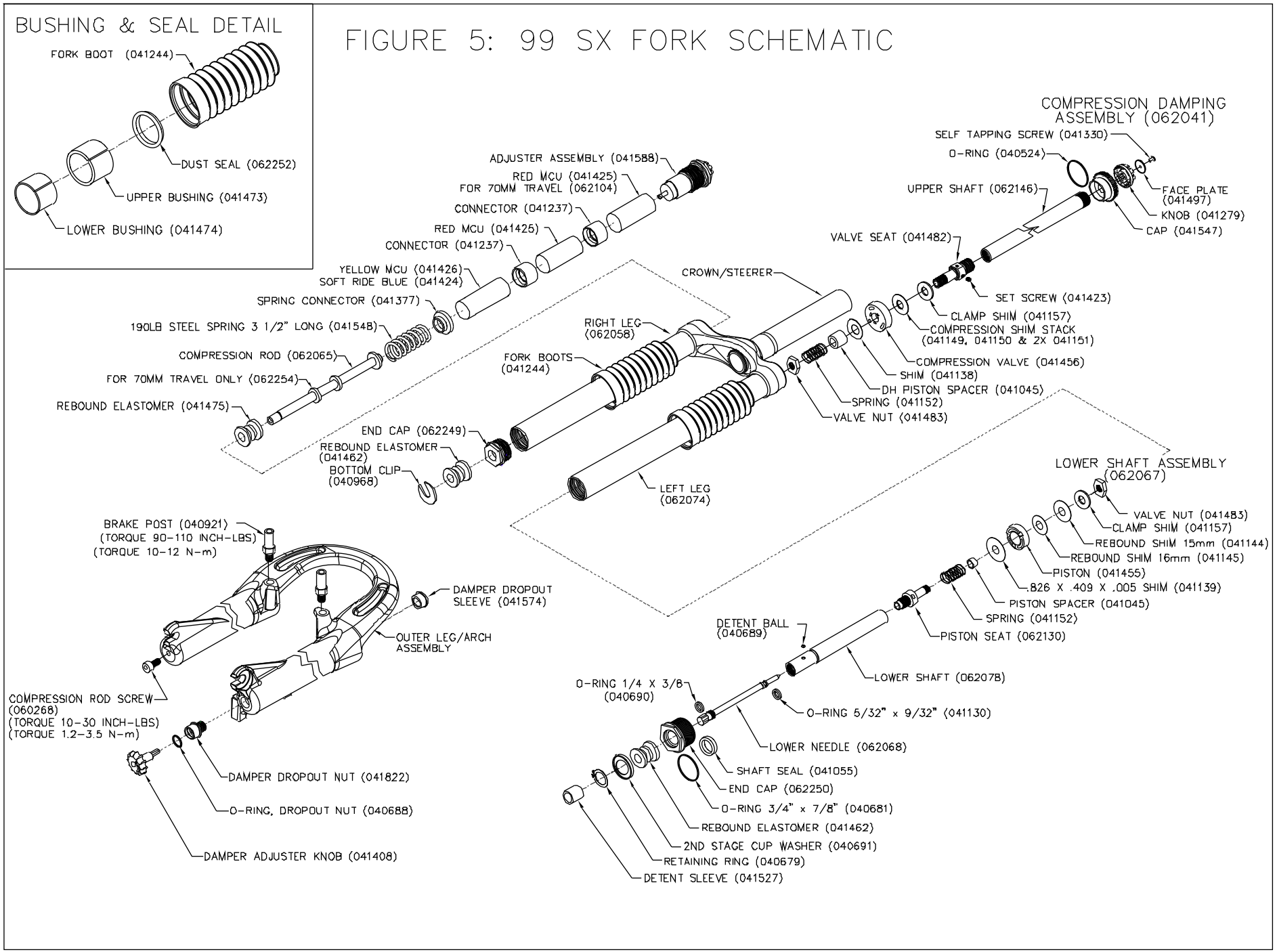


FIGURE 5: 99 SX FORK SCHEMATIC



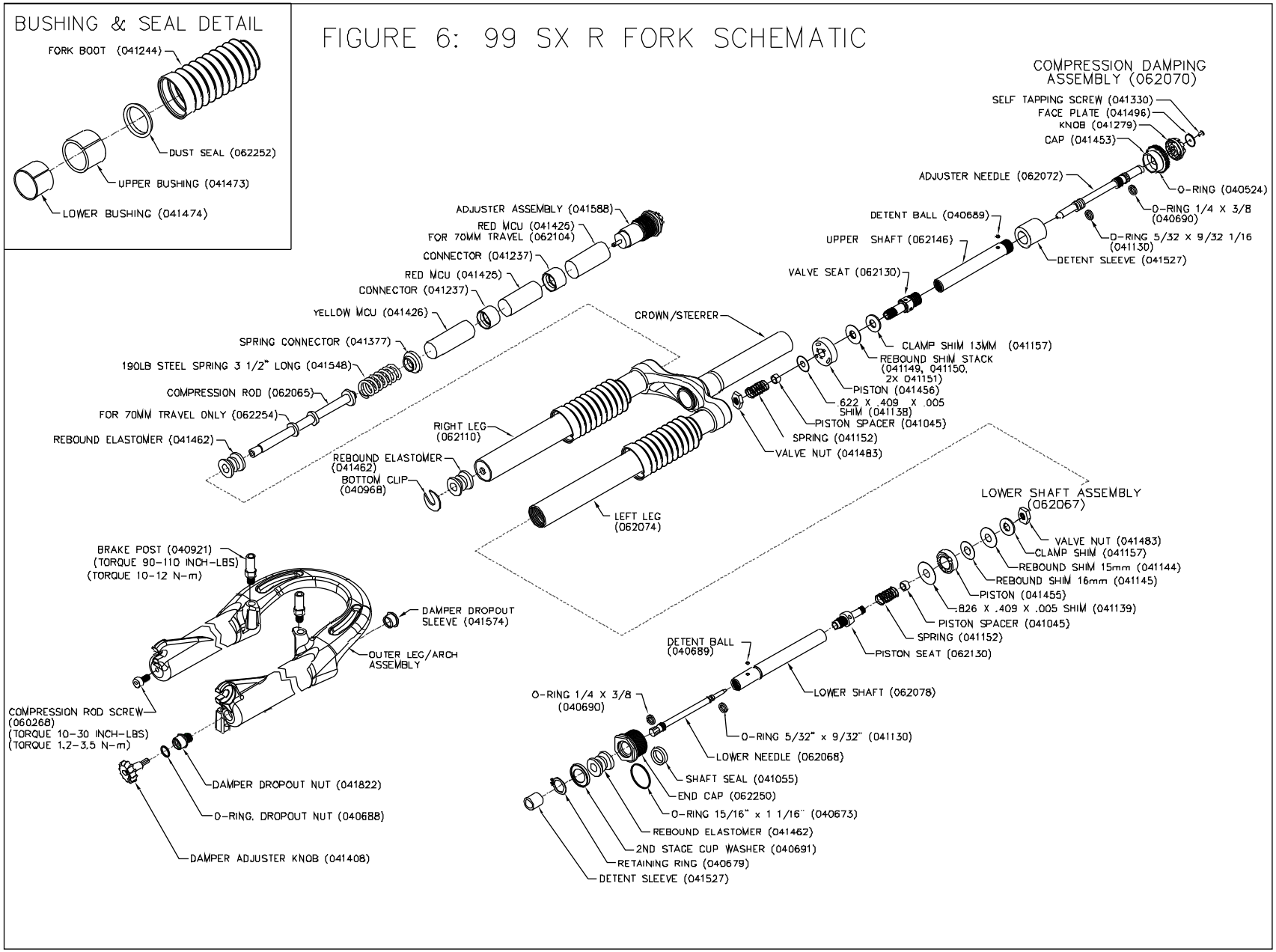

BUSHING & SEAL DETAIL
FORK BOOT (041244)
DUST SEAL (062252)
UPPER BUSHING (041473)
LOWER BUSHING (041474)
FIGURE 6: 99 SX R FORK SCHEMATIC
COMPRESSION DAMPING ASSEMBLY (062070)
SELF TAPPING SCREW (041330)
FACE PLATE (041496)
KNOB (041279)
CAP (041453)
ADJUSTER NEEDLE (062072)
O-RING (040524)
O-RING 1/4 X 3/8 (040690)
O-RING 5/32 X 9/32 1/16 (041130)
DETENT SLEEVE (041527)
DETENT BALL (040689)
UPPER SHAFT (062146)
VALVE SEAT (062130)
ADJUSTER ASSEMBLY (041588)
RED MCU (041425) FOR 70MM TRAVEL (062104)
CONNECTOR (041237)
RED MCU (041425)
CONNECTOR (041237)
YELLOW MCU (041426)
SPRING CONNECTOR (041377)
190LB STEEL SPRING 3 1/2" LONG (041548)
COMPRESSION ROD (062065)
FOR 70MM TRAVEL ONLY (062254)
REBOUND ELASTOMER (041462)
CROWN/STEERER
CLAMP SHIM 13MM (041157)
REBOUND SHIM STACK (041149, 041150, 2X 041151)
PISTON (041456)
.622 X .409 X .005 SHIM (041138)
PISTON SPACER (041045)
SPRING (041152)
VALVE NUT (041483)
RIGHT LEG (062110)
REBOUND ELASTOMER (041462)
BOTTOM CLIP (040968)
LEFT LEG (062074)
LOWER SHAFT ASSEMBLY (062067)
VALVE NUT (041483)
CLAMP SHIM (041157)
REBOUND SHIM 15mm (041144)
REBOUND SHIM 16mm (041145)
PISTON (041455)
.826 X .409 X .005 SHIM (041139)
PISTON SPACER (041045)
SPRING (041152)
PISTON SEAT (062130)
DETENT BALL (040689)
LOWER SHAFT (062078)
O-RING 1/4 X 3/8 (040690)
O-RING 5/32" x 9/32" (041130)
LOWER NEEDLE (062068)
SHAFT SEAL (041055)
END CAP (062250)
O-RING 15/16" x 1 1/16" (040673)
REBOUND ELASTOMER (041462)
2ND STAGE CUP WASHER (040691)
RETAINING RING (040679)
DETENT SLEEVE (041527)
BRAKE POST (040921) (TORQUE 90-110 INCH-LBS) (TORQUE 10-12 N-m)
DAMPER DROPOUT SLEEVE (041574)
OUTER LEG/ARCH ASSEMBLY
COMPRESSION ROD SCREW (060268) (TORQUE 10-30 INCH-LBS) (TORQUE 1.2-3.5 N-m)
DAMPER DROPOUT NUT (041822)
O-RING, DROPOUT NUT (040688)
DAMPER ADJUSTER KNOB (041408)

FIGURE 7: 99 SX TI FORK SCHEMATIC

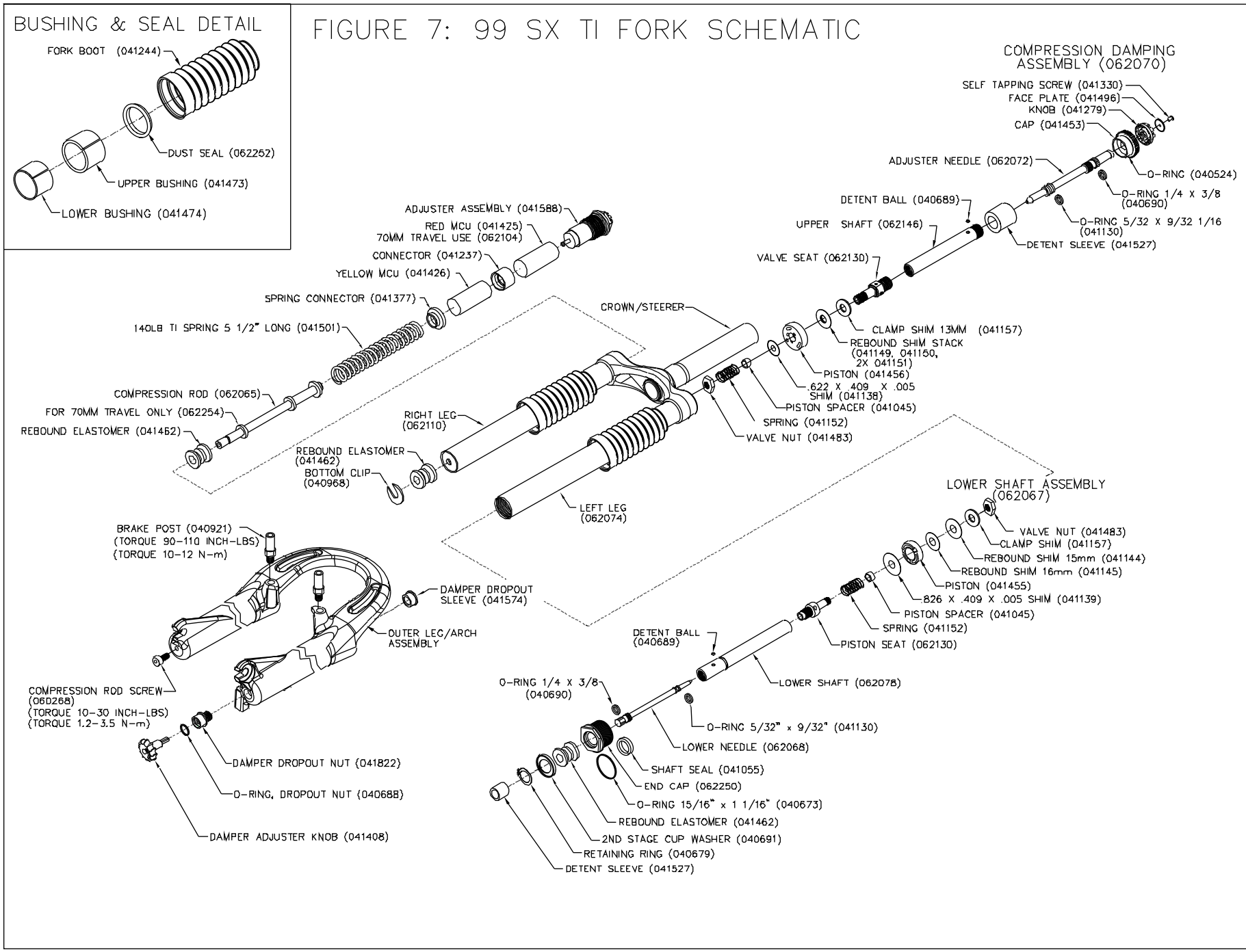
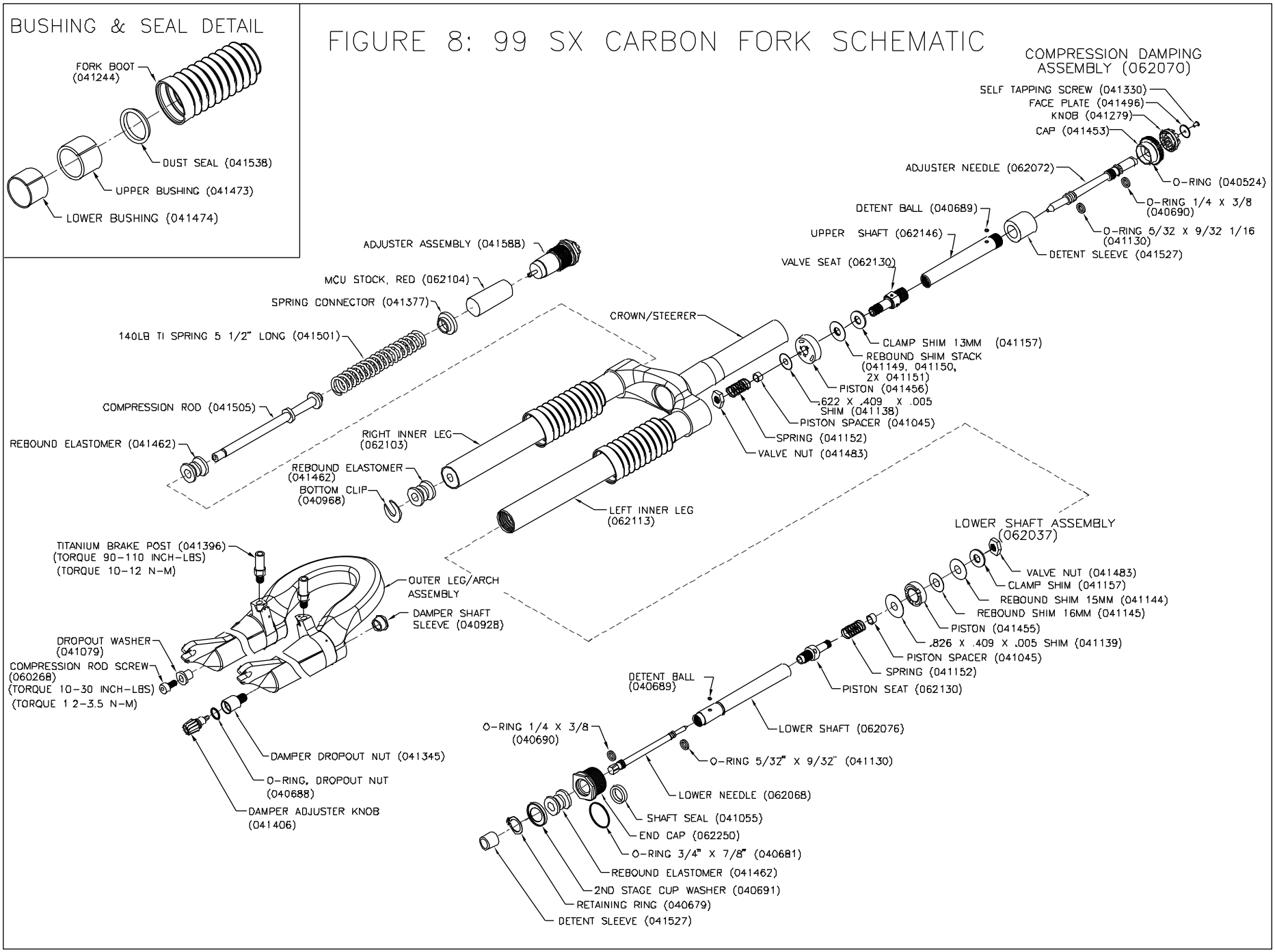


FIGURE 8: 99 SX CARBON FORK SCHEMATIC



MAINTENANCE

IMPORTANT: The 99 SX 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 99 SX performing well and your warranty in effect. Use of this fork with the boots removed will shorten the life of the fork, reduce the performance and void the warranty.

Your 99 SX 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.

IMPORTANT: When filling the fork with grease through the grease ports it is important to note the grease is being forced between the upper and lower bushing. 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. Whipe the inner legs clean, lubricate and check entire fork for any obvious damage.
3. Check headset adjustment.
4. Insure that the front brake cable is properly seated in the cable retainer & check brake adjustment.

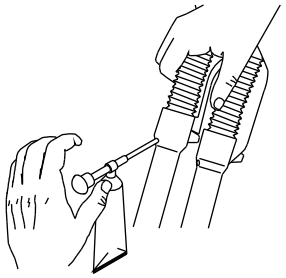


FIGURE 9: LUBRICATING THE BUSHINGS

IMPORTANT: Maintaining the proper oil level in your TPC is very important. Not enough oil will allow foaming and reduce the performance. Too much oil will restrict travel and may cause damage to the system and an unsafe riding situation. Finish reading this entire section prior to making any changes to the oil level.

To check the oil level remove only the compression damping assembly located in the top of the left leg. Leave the right 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. Oil level should be between 3.25" (83MM) and 4.5" (114MM) below the crown where the damping assembly screws in. The recommended level is 4.0" (102MM). It is recommended that you replace your oil at least once during the season, twice if it has been contaminated with dirt, mud, or other foreign substance. Use SAE 5WT Maxima fork oil or equivalent. See Figure 10.

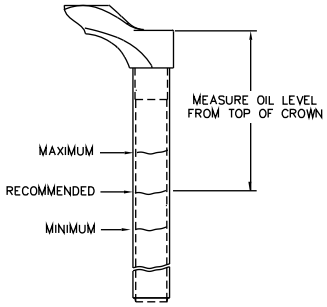


FIGURE 10: TPC OIL LEVEL

GENERAL DISASSEMBLY

NOTE: The Fork does not need to be removed from the bicycle for general disassembly-assembly or cleaning. It is also not necessary to disassemble the 98 Manitou Forks for compression Elastomer replacement. Elastomer replacement is accomplished by removing the adjuster assembly per Figure 12.

Removal of outer leg / arch assembly Figure 11:

1. Use a 4MM allen wrench to remove the M6 lower compression rod screw from the right leg dropout. Pop out the damping adjuster knob from the left dropout, SXR & SX TI. A small screwdriver may be helpful. Use a 8MM allen wrench to remove the dropout nut. Fully compress the fork to prevent the compression rod and damper shaft from turning while removing screws.
2. Pull outer leg assembly down to remove from the inner legs and crown.
3. Remove fork boots.

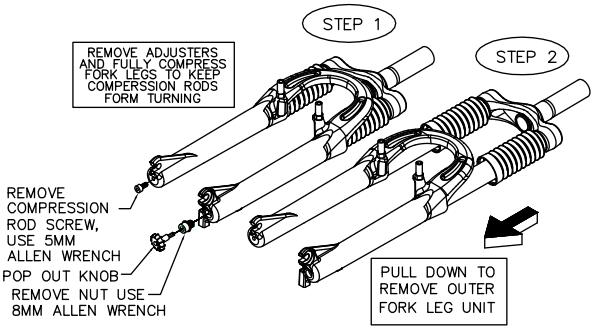


FIGURE 12: COMPRESSION STACK

4. Bushing replacement will require the use of the bushing removal and installation tool available from Answer Products. It is recommended that the bushings be left installed unless they absolutely need replacement.

Note: It is not recommended to remove the dust seal every time the fork is disassembled. The seal and bushings may be cleaned and re-greased in place.

Compression Stack & Compression Rod Removal Figure 12:

1. Press the bottom clip off the compression rod.
2. Slide off the rebound elastomer from right leg compression rod.
3. Unscrew and remove the adjuster assembly by hand.
4. Turn fork upside down to remove the compression rod. If forks are installed on bicycle give the rod a quick upward thrust and catch it as it pops up above the crown.

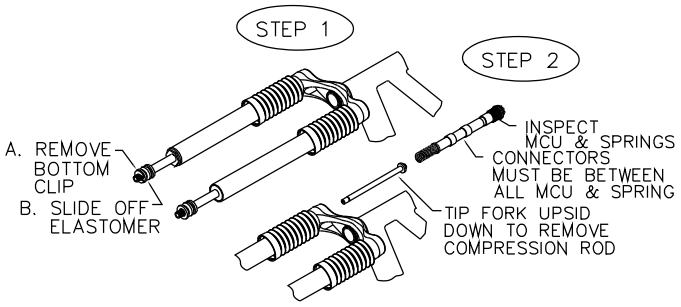


FIGURE 12: COMPRESSION STACK

Lower Shaft Disassembly Figure 13:

Note: Lower Shaft disassembly is best done with the fork removed from the bicycle. Disassembly of the damping stack is not required unless you want to change or replace the shim stack.

1. Remove the left cap compression damping assembly from the top of the fork leg and pour the oil out of the top of the fork and discard appropriately. For complete disassembly continue.
2. Remove the plastic end cap and pull the lower shaft out of the inner leg.
3. Remove the clear plastic detent sleeve and capture the 1/8" dia. Detent ball used on SX, SX R, SX TI and SX C.
4. SX, SX R, SX TI and SX C adjuster needle may be unscrewded from the shaft.
5. For SX, SX R, SX TI, and SX C use 5MM allen wrench to remove piston seat. Keep note of the exact order of the shims and spacers.

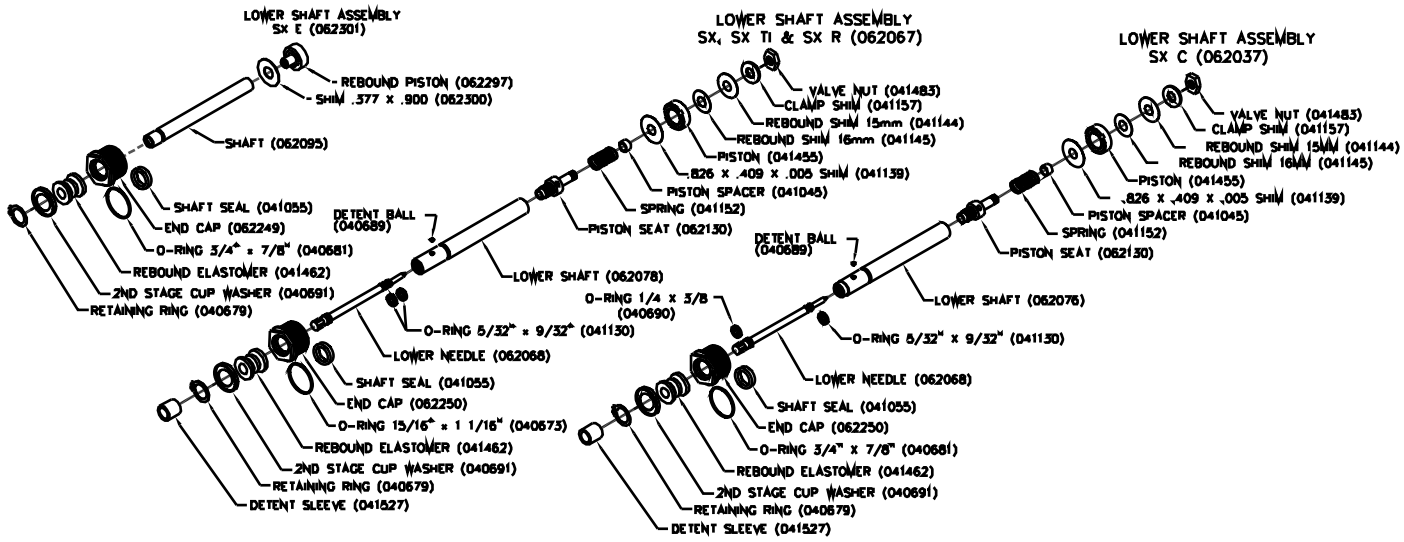


FIGURE 13: LOWER TPC SHAFT ASSEMBLY

Compression Damping Disassembly Figure 14:
1. The compression damping assembly is almost identical to the lower shaft assembly.
2. Unscrew the compression damping adjuster all the way until it stops. The knob and the needle do not need to be removed. The shaft also does not need to be removed from the cap. The threads are bonded to prevent leaking.
3. Remove either the valve nut or the piston seat following the instructions above for the lower shaft assembly.

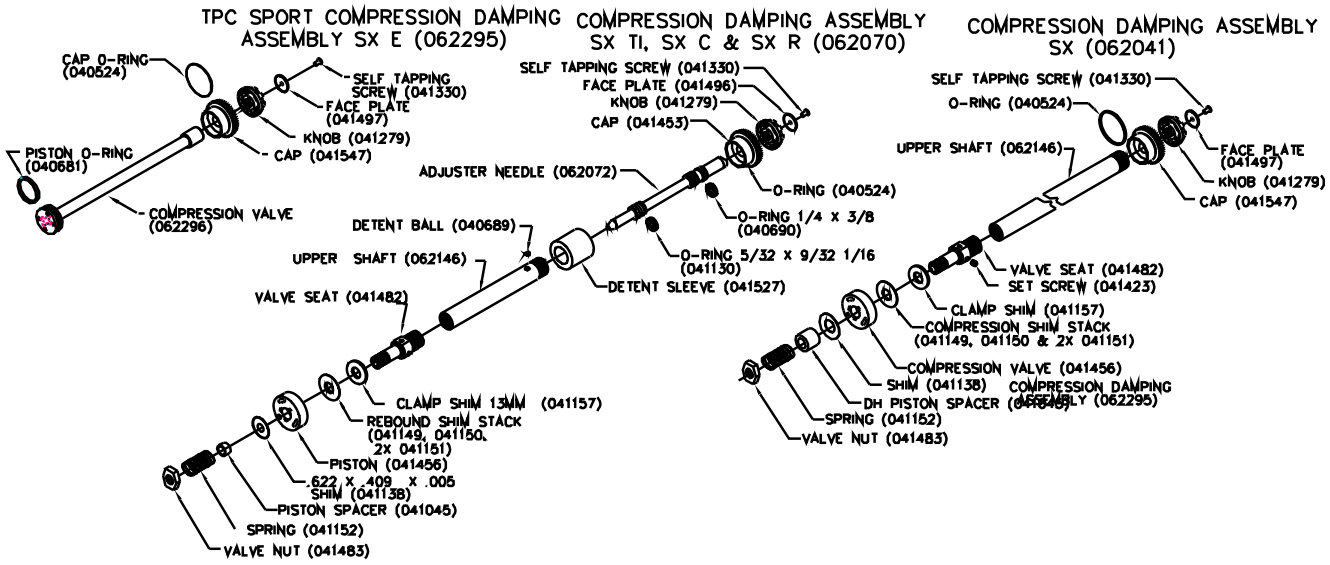


FIGURE 14: TPC COMPRESSION DAMPING ASSEMLBY

DAMPER INSPECTION
1. Check the shaft for scratches, wear, or other obvious damage.
2. Check the seal gland and end cap seal grooves for damage.
4. Check shims for permanent bends or damage.
5. Check all other parts for obvious damage, replace if necessary.
6. Replace all seals that have been removed.

FORK INSPECTION
1. Check the fork boots for obvious damage.
2. Check the dust seal for tears, wear, or damage. Replace if needed.
3. Inspect the lower and upper bushing for damage to the Teflon coating. Replace using the bushing removal and replacement kits if necessary.
4. Check all MCU & springs for obvious damage. Replace if necessary.
5. Check the preload adjuster and connectors. Replace if damaged.
6. Check the outer leg/arch assembly for nicks or deep gouges on outside and inside. Replace if damaged.
7. Check the inner leg for deep gouges and other damage. Minor wear resulting in color change is not detrimental to the gold anodized surface. Replace if wear is excessive or damaged.
8. Check inner legs at the bottom of the crown for cracks or for flaking anodize. Replace crown steer leg assembly if cracked or if gold anodize is beginning to flake.
9. Check the underside of the crown for cracks. Replace if cracked.

RE-ASSEMBLE

Lower Shaft Figure 15:
1. Install all o-rings and seals removed.
2. Grease all seals lightly with seal grease.
3. Apply small amount of blue Locktite to piston seat threads.
4. Assemble shim stack and spacers in exact order that they were removed. For SX E, thread on valve nut and torque 30 IN-LB (3.5N-m) max. For SX, SX R SX TI, and SX C, hand tighten piston seat. Be sure large blow off washer will slide over piston spacer and compress the small spring. Clamp shaft in soft jaws or collet and line up slots in clamp ring with hole in piston seat using 1/8" or smaller pin. Use a 5MM Allen wrench and tighten piston seat by turning Allen wrench and pin at same time. Torque 30 IN-LB (3.5 N-m) max.

5. SX, SX R, SX TI and SX C install lower needle gently into shaft, thread until it stops then back off one turn for initial adjustment.
6. Slide shaft assembly through the plastic end cap, place detent ball in place and slide on 2nd STG Elastomer.
7. Insert into left leg and thread in end cap. Torque 30 IN-LB (3.5N-m) max.
8. Add approximately 100 CC of 5 WT Maxima or equivalent oil. Do not over fill. Check oil level, see Figure 8.

Compression Damping Assembly Figure 16:

1. Reassemble compression damping stack following the instructions above for the lower shaft assembly.
2. Install compression damping assembly into the left leg. The oil level should cover the compression valve when the assembly is installed.

Compression Rod & Boots Figure 15:

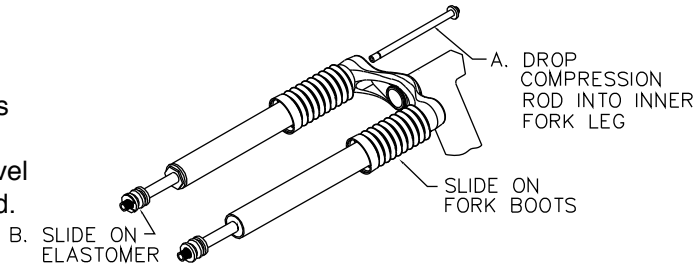


FIGURE 15: COMPRESSION ROD & BOOT

1. Clean all parts thoroughly.
2. Grease compression rod lightly. Be sure rebound Elastomer is installed onto compression rod.
3. Drop compression rod down into inner legs. Shake inner leg to get rod through inner leg plug.
4. Slide on black second stage, cup washer, and orange 3rd stage Elastomer.
5. Slide Boots onto inner leg.

Outer Leg Assembly Figure 16:

1. Slide Outer leg / Arch assembly onto inner legs and fully compress.
2. Install and torque 5MM compression rod screw and dropout nut to 10-30 inch-lb. (1.1-3.5 N-m). Over torquing the dropout nut may damage the damper shaft.
3. Pop in damper adjuster knob. O-ring holds knob in place (SX, SX R, SX TI, & SX C).
4. Slide skirt of fork boots onto the outer leg groove. Be sure the lip snaps into the groove.
5. Clean adjuster cap threads thoroughly. Clean threads on inside of inner leg.
6. Assemble MCU's, springs, and connectors with thick grease.
7. Install adjuster assembly into inner leg just hand tight.

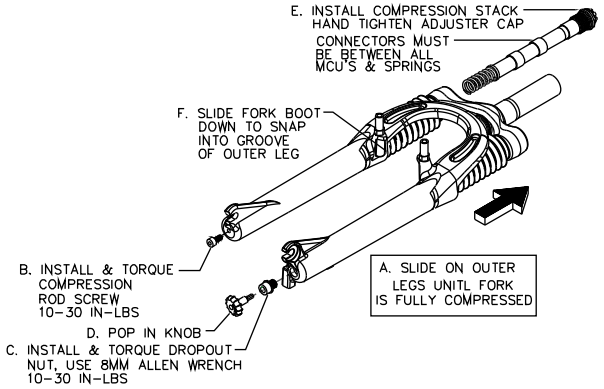


FIGURE 16: OUTER LEG ASSEMBLY

INNER FORK LEGS & CROWN

The inner fork legs and steer tube are press fit into the crown and may never be removed. Removing them will make the fork unsafe to use. If you see any slippage contact Answer Technical Staff immediately (800) 670-7446.

BRAKE ARCH

NOTE: The 99 SX brake arch is permanently bonded to the outer legs and is not removable. If the unit is damaged or if the bond is broken or separated it must be replaced. Using the fork with a damaged brake arch bond is unsafe and could cause serious injury. Contact Answer Products if you suspect that your brake arch bond is damaged.

ADJUSTING RIDE QUALITIES

98 SX TPC forks offer a wide adjustment range to suit individual riding preference and rider weight by simply changing the MicroCellular Urethane (MCU's). Fine tune adjustments can be made using the preload adjusters located on top of the fork crown. Softer blue and harder yellow MCU's are available from your Dealer.
NOTE: Since 98 model forks use a compression stack in the right leg only, MCU's and Springs used in previous Manitou forks are NOT interchangeable with later versions of SX model Forks.

Compression Spring Fine Tuning: Figure 17
Fine tuning adjustments to the spring rate are made by rotating The adjuster knobs located on top of the crown. Note the 99 SX E, SX, SX R, SX TI and SX C uses compression spring systems in both right and left legs. Both right and left knobs on top of the crown adjust preload. The right knob for those models is used to adjust preload. Rotating the knobs clockwise will firm the ride, adding preload to the compression stack. Rotating the knobs counter clockwise will soften the ride. Four full revolutions will take the adjuster from full soft to the extreme firm setting.

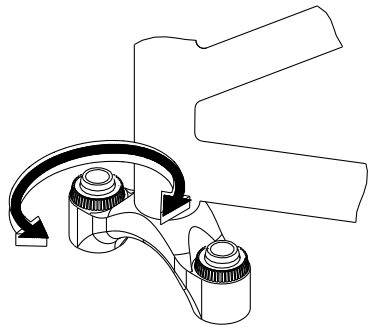


FIGURE 17: PRELOAD

Compression Damping Fine Tuning: Figure 18
To adjust the SX R, SX TI and SX C simply rotate the compression damping knob located on top of the left leg and crown. 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 sharp bumps like rocky sections, but will feel good in 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 good in all conditions. To adjust the compression dampling for the SX remove the compression damping assembly from the top of the left leg. Adjust the set screw on the valve seat in to increase compression damping and out to reduce the compression damping. Try adjusting one half full turn at a time. The SX E uses TPC Sport for compression damping and is not adjustable.

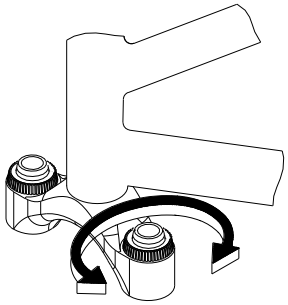


FIGURE 18: COMPRESSION DAMPING

Rebound Damping Fine Tuning: Figure 19

To adjust the SX, SX R, SX TI and SX C simply rotate the rebound damping knob located on bottom of the left leg. Rotating the knob clockwise will increase the damping, rotating the knob counter clockwise will reduce the damping. Excessive rebound damping will give you a harsh ride over repetitive bumps (like braking bumps) because the fork will pack up. Insufficient rebound damping will make the fork over active, top out and slap back when landing from a jump. We suggest that you try adjusting your fork on the very active side, minimum rebound. Then try it over a variety of terrain and tune in more rebound from there. The SX E uses TPC Sport for Rebound damping and is not adjustable

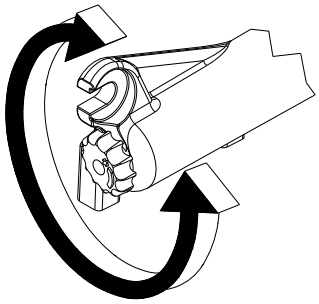


FIGURE 19: REBOUND DAMPING

To adjust the rebound damping for the SX only, the left leg must be disassembled as follows:

1.) Turn the entire fork upside down. This will eliminate the need to drain the oil.
2.) Remove the dropout nut located at the bottom of the left leg and the M5 socket screw located at the bottom of the right leg. Pull the outer leg casting off of the inner legs.
3.) Stroke the damper shaft several times to transfer the oil into the upper chamber. Give the oil several minutes to drain off of the lower shaft assembly.
4.) Unscrew the damper end cap and pull out the lower shaft assembly.
5.) Adjust the set screw on the valve seat in to increase rebound damping and out to reduce the rebound damping. Try adjusting one half full turn at a time.
6.) Re-assemble. Stroke the leg several times to bleed the air out before checking the oil level.

For additional tuning tips we recommend that you obtain a copy of the MRD tuning Manual P/N 85-3485 and check out the MRD Race Tuning kits available at your dealer.

TROUBLE SHOOTING

Fork seems to "top out" or has a slight clunking feel when front wheel comes off the ground:
Excessive preload or insufficient rebound damping will result in a "top out" . Select MCU's that better fit your weight and riding style, having the preload adjuster set mid to low range, and increase the rebound damping to eliminate "top out".

The fork feels less active and is not getting the travel it used to when it was new:
Chances are that the fork is developing stiction. Cleaning and applying light oil to the stanchions will help.

Outer legs feel loose on inner legs and bushings, a knock or rock can be felt when pushed from side to side:
A very small knock is normal with the new 99 harder bushings. If the knock is excessive or you can feel the fork rocking then the bushings should be removed and replaced. To do this you must have the Answer Products Bushing Removal and Replacement Tool Kit.

A small amount of oil seems to be leaking from top of the left leg at the adjuster cap:
If the 99 SX us store upside down for a period of time a small amount of oil may leak through the adjuster cap / knob assembly. The cap area is not subjected to damping pressure. A small leak in that area will not affect the performance of the fork or cause any type of damage. We recommend that you store your Manitou right side up. If this condition causes you some problems please contact your Answer Products dealer or call our warranty tech department for prompt service.

CYCLE COMPUTER INSTALLATION INSTRUCTIONS:
Follow the instructions in your owners manual with the following exceptions:

WARNING: DO NOT DRILL A HOLE IN THE DROPOUT. THIS MAY WEAKEN THE DROPOUT, WILL VOID THE WARRANTY, AND MAY CAUSE AN UNSAFE CONDITION WITH RISK OF INJURY. DO NOT USE THE TEMPLATE PROVIDED IN THE 95 OR 96 SERVICE MANUAL.