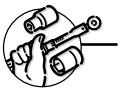
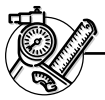
MAG SERIES

REFERENCE





PARTS

ASSEMBLY / DISASSEMBLY PROCEDURES

PARIS-ROUBAIX

ALSO SEE GENERAL SERVICE

Crown Assembly 3-10
Lower Legs (Sliders) 3-12
Braces 3-14
Seals 3-15
Bushings 3-16

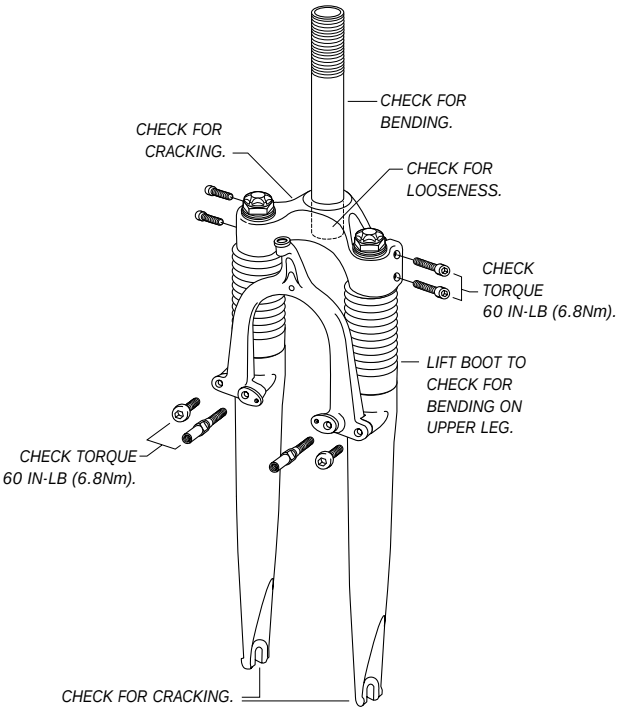
RECALL NOTICES

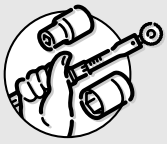
Item: Crowns on some 92 Mag 30 and Mag 20.
Defect: Cracking from corrosion, resulting in failure.
Identification: Forks with serial numbers between 27266-158841, with polished (not anodized) crown.

MAG SERIES SERVICE CHARTS

Maintenance Interval Checklist

Frequency	Task
Every ride (Inspection)	Check front wheel and quick release
	Check brake system attachments and function
	Check headset adjustment
	Check for fork structure damage (cracking: crown, forkends; bending: upper tubes, steerer; looseness: steerer/crown attachment
8 hours of riding / Every week	Clean fork boots
	Clean and oil upper tubes, resiwiper
	Check bolt torque (crown, brace bolts, brake pivots, reflector bracket)
	Check top cap torque
Every 2 weeks	Check and adjust air pressure
100 hours of riding /1 Year	Disassemble and clean fork
	Inspect springs for compression set
	Clean, inspect and grease bushings and resiwiper
	Clean and inspect upper tubes for bending, wear, discoloration
	Check air spring for proper pressure
	Clean fork boots
	Replace oil





Torque Tightening Table

Year	Model	Top Cap	Brake pivot post	Fork Brace Bolts	Crown bolt	Valve Body	Valve Bolt Assembly
92	Mag 20	see note 1	60 in-lb (6.8Nm)	60 in-lb (6.8Nm)	60 in-lb (6.8Nm)	420 in-lb (47.4Nm)	none
	Mag 30	see note 2					35 in-lb (4.0Nm)
93	Mag 10						
	Mag 21	see note 1					none
94-97	All						

Note 1: Hand tighten air caps into upper tubes (stanchions), install upper tube to crown assembly and tighten. Compression of upper tube to crown keeps air caps in place.
Note 2: Seated by air pressure, retained by circlip installed before pressurization.

Lubrication Chart

Year	Model	Original Oil	Tuning Option Oil	Quantity or height (per leg).	External Oil (reswiper)	Grease
92	Mag 20	SAE 8 wt or ATF	2.5 - 8 wt	32-35mm from top of compressed leg, ~60cc	Teflon fortified (Pedro's, TriFlow, Finish Line, etc., chain lubes)	Judy Butter (or Teflon fortified grease)
	Mag 30			45-50mm from top of compressed leg, ~60cc		
93	Mag 10	SAE 5 wt		45-50mm from top of compressed leg, ~60cc		
93	Mag 21			40-45mm from top of compressed leg		
94	Mag 10			45-50mm from top of compressed leg		
94-97	Mag 21, 21 SL/Ti			35-40mm from top of compressed leg		
95-96	Paris-Roubaix			40mm from top of compressed leg		

Note 1: ATF = automatic transmission fluid.
Note 2: See Mag Tuning Chart for customization and tuning tips for oil type, quantity, and port valving.
Note 3: 5 wt oil thins less with temperature variation (is more consistent than 8 wt).

MAG SERIES SERVICE CHARTS (CONTINUED)

Spring Wear and Replacement Chart (Compression Set)

Year	Model	Top-out Spring	
		Optimum Length (mm)	Replacement Length (mm)
92	All	none	none
93-97	All	25	21

Service Tip

If an element on one side needs replacement, replace its match as well.

Tuning Chart

Note 1: Valve springs in 1993 were 40 lb, from 1994-97 25lb. The softer spring improves responsiveness and is a tuning variable.
Note 2: Valve spring preload is set by the number of washers used (thickness).
Note 3: Valve plates are a tuning variable. The .005" relief step machined into plates used from 1994-97 improves small bump response.
Note 4: The bleed holes (compression and rebound) are tuning variables.

CROSS COUNTRY: Settings, Travel, 46mm (standard)

Year	Model	Rider Weight (lbs)	Air Pressure (psi)	Oil Height (mm)	Oil Weight (SAE)	Valve Spring Preload (mm)	Rebound Bleed Hole(s) (mm)	Compression Bleed Hole (mm)
93-97	MAG 21, 21 SL/Ti	< 140lb (64kg)	35 - 40psi (2.4 - 2.8bar)	45 - 50	5	0 - .5	none	1.5
		140 - 180lb (64 - 82kg)	38 - 42psi (2.6 - 2.9bar)	40 - 45	5	0 - .5		1
		> 180lb (82kg)	42 - 48psi (2.9 - 3.3bar)	35 - 40	8	.5 - 1.0		1
93-94	MAG 10	< 140lb (64kg)	35 - 40psi (2.4 - 2.8bar)	50 - 55	5	0 - .5		1
		140 - 180lb (64 - 82kg)	38 - 42psi (2.6 - 2.9bar)	45 - 50	5	0 - .5		1
		> 180lb (82kg)	42 - 48psi (2.9 - 3.3bar)	40 - 45	8	.5 - 1.0		1
92	MAG 20	< 140lb (64kg)	35 - 40psi (2.4 - 2.8bar)	32 - 35	5	0 - .5		1
		140 - 180lb (64 - 82kg)	38 - 42psi (2.6 - 2.9bar)		8	1 - .5		none
		> 180lb (82kg)	42 - 48psi (2.9 - 3.3bar)		8	.5 - 1		none
92	MAG 30	< 140lb (64kg)	35 - 40psi (2.4 - 2.8bar)	45 - 50	8	n/a		n/a
		140 - 180lb (64 82kg)	38 - 42psi (2.6 - 2.9bar)		8			
		> 180lb (82kg)	42 - 48psi (2.9 - 3.3bar)		8			

DOWN HILL: Settings **(Continued on next page)**

Tuning Tips: *The air chamber size directly affects the force/travel relationship. A small chamber gives a rapidly rising spring rate, while in a bigger chamber the air is compressed during a "hit" at a more gradual rising rate. Chamber size is adjusted by oil height; more oil means less space to put the air and visa versa. Damping is hydraulic: higher viscosity oil dampens more. Mag forks have high "stiction" due to tight seal tolerances needed to hold air, and the need to have high enough initial air pressure to resist bottoming out on big bumps. Later models (starting from 1993) featured progressively improved response to small bumps using negative springs, weaker valve springs and machined valve plates to reduce stiction force and give quicker response. Damping became more clever too, so besides oil viscosity, revised porting (holes) allowed a partial bypass of the system both in compression and damping for more supple response to conditions and rider weight. Many of these parts or modifications are tuning variables.*

Mag Series Tuning Chart (continued)

Note 5: The 1994-97 valve body gives a "plusher" ride as it has more holes. Bodies are a tuning variable for models between 1993-97.
Note 6: Oil Height actually means height from the *top* of the oil to the top of the compressed upper tube assembly. In effect, you measure the height the oil does *not* occupy.
Note 7: 60mm travel can be made with Long Travel Kit #59030 or Performance Tuning Kit #59025 for 1993-97 models shown.

MAG SERIES SERVICE CHARTS (CONTINUED)

Tuning Chart *(continued)*

Note 1: Valve springs in 1993 were 40 lb, from 1994-97 25lb. The softer spring improves responsiveness and is a tuning variable.
Note 2: Valve spring preload is set by the number of washers used (thickness).
Note 3: Valve plates are a tuning variable. The .005" relief step machined into plates used from 1994-97 improves small bump response.
Note 4: The bleed holes (compression and rebound) are tuning variables.

DOWN HILL: Settings, Travel, 60mm except 92 Mag 20 (46mm)

Year	Model	Rider Weight (lbs)	Air Pressure (psi)	Oil Height (mm)	Oil Weight (SAE)	Valve Spring Preload (mm)	Rebound Bleed Hole(s) (mm)	Compression Bleed Hole (mm)
93-97	MAG 21, 21 SL/Ti	< 140lb (64kg)	38 - 42psi (2.6 - 2.9bar)	40 - 45	5	0 - .5	2 x 1.0	2
		140 - 180lb (64 - 82kg)	40 - 45psi (2.8 - 3.1bar)	35 - 40	5	1 - .5	1 x 1.0	2
		> 180lb (82kg)	42 - 50psi (2.9 - 3.5bar)	30 - 35	8	2 - .5	none	1.5
93-94	MAG 10	< 140lb (64kg)	38 - 42psi (2.6 - 2.9bar)	45 - 50	5	3 - .5	2 x 1.0	2
		140 - 180lb (64 - 82kg)	40 - 45psi (2.8 - 3.1bar)	40 - 45	5	4 - .5	1 x 1.0	2
		> 180lb (82kg)	42 - 50psi (2.9 - 3.5bar)	30 - 35	8	5 - .5	none	1.5
92	MAG 20	< 140lb (64kg)	38 - 42psi (2.6 - 2.9bar)	32 - 35	5	0 - .5	none	2 x 1.0
		140 - 180lb (64 - 82kg)	40 - 45psi (2.8 - 3.1bar)	27 - 32	8	1 - .5		1 x 1
		> 180lb (82kg)	42 - 50psi (2.9 - 3.5bar)	22 - 32	8	0 - .5		none

Tuning Tips: *The air chamber size directly affects the force/travel relationship. A small chamber gives a rapidly rising spring rate, while in a bigger chamber the air is compressed during a "hit" at a more gradual rising rate. Chamber size is adjusted by oil height; more oil means less space to put the air and visa versa. Damping is hydraulic: higher viscosity oil dampens more. Mag forks have high "stiction" due to tight seal tolerances needed to hold air, and the need to have a high enough initial air pressure to resist bottoming out on big bumps. Later models (starting from 1993) featured progressively improved response to small bumps using negative springs, weaker valve springs and machined valve plates to reduce stiction force and give quicker response. Damping became more clever too, so besides oil viscosity, revised porting (holes) allows a partial bypass of the system both in compression and damping for more supple response to conditions and rider weight. Many of these parts or modifications are tuning variables.*

Tuning Chart (continued)

Note 5: The 1994-97 valve body gives a "plusher" ride as it has more holes. Bodies are a tuning variable for models between 1993-97.
Note 6: Oil Height actually means height from the *top* of the oil to the top of the compressed upper tube assembly. In effect, you measure the height the oil does *not* occupy.
Note 7: 60mm travel can be made with Long Travel Kit #59030 or Performance Tuning Kit #59025 for 1993-97 models shown.

MAG SERIES SERVICE CHARTS (CONTINUED)

Tools Useful for Working on Forks

Note 1: (✓) means that for certain models this tool is useful as final option, but otherwise not required.
Note 2: Specific RockShox tools usually for more complex operations have RockShox numbers.
Note 3: For 95-96 Paris-Roubaix, we don't have a specific list. Use the 94-97 Mag 21 list as a guideline.

			92		93		94	94-97
Description	**RockShox Part #**		**Mag 30**	**Mag 20**	**Mag 10**	**Mag 21**	**Mag 10**	**Mag 21, 21 SL/Ti**
football needle	56991		✓	✓	✓	✓	✓	✓
seal separator	70113		✓	✓	✓	✓	✓	✓
upper tube clamping blocks	70101		✓	✓	✓	✓	✓	✓
valve body tool	70105		✓	✓	✓	✓	✓	✓
seal/lower bushing installer	70103		✓	✓	✓	✓	✓	✓
bushing removal tool (as last resort)	70106						(✓)	(✓)
dropout vise blocks	70107		✓	✓	✓	✓	✓	✓
air pump w/gauge	20109		✓	✓	✓	✓	✓	✓
4mm hex wrench	common shop tools		✓	✓	✓	✓	✓	✓
8mm open end wrench			✓	✓	✓	✓	✓	✓
flat screwdriver			✓	✓	✓	✓	✓	✓
19mm socket and ratchet or box wrench				✓		✓	(✓)	(✓)
22mm socket and ratchet or box wrench								✓
6mm bolt					✓			
8mm hex wrench							✓	
32mm headset wrench (as last resort)			✓	✓	✓	✓	(✓)	(✓)
36mm headset wrench (as last resort)			✓	✓	✓	✓	(✓)	(✓)
small tip internal snap ring pliers					✓	✓	✓	✓
small tip external snap ring pliers			✓	✓	✓	✓	✓	✓
vernier calipers			✓	✓	✓	✓	✓	✓
metric tape measure/ruler >150mm			✓	✓	✓	✓		
torque wrench			✓	✓	✓	✓	✓	✓
#1 Phillips screwdriver						✓		
safety glasses	other tools		✓	✓	✓	✓	✓	✓
bench vise			✓	✓	✓	✓	✓	✓
medium strength thread lock			✓	✓	✓	✓	✓	✓
cup/beaker			✓	✓	✓	✓	✓	✓

TROUBLESHOOTING GUIDE

In addition to this guide, use the general chart, *Troubleshooting*, in the *General Service* section which has a list of many generic problems. If your problem is not listed on either chart, solve by opening up the fork in the problem area to uncover the root causes and possible solutions. Mechanical problems usually give good visual clues and telltale evidence such as wear or deformation. Reassemble with corrected or replaced parts to test your solution. If the problem persists, repeat, looking for overlooked factors.

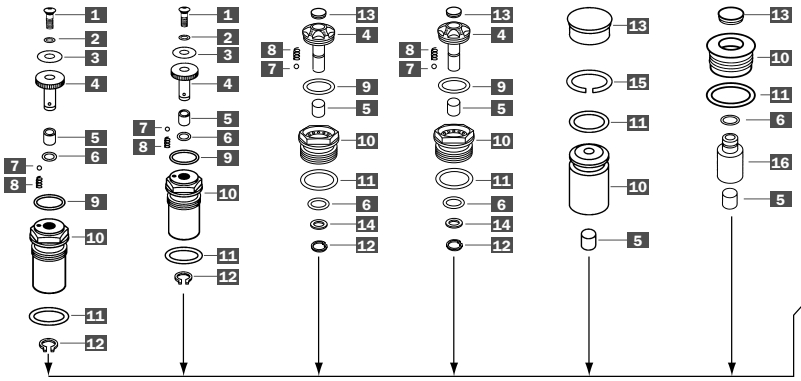
Troubleshooting Chart

Symptom	Cause	Solution
Fork doesn't spring back	No air pressure.	Check air pressure.
	Valving holes may be clogged.	Clean and overhaul fork.
Damping is inconsistent	Too little oil.	Add oil.
	Oil is foaming.	Use different formulation oil.
	Oil dirty or damping holes blocked.	Overhaul and clean, replace oil.
Always loses air pressure	Air valve worn.	Replace rubber valve parts.
	Seal leak.	Inspect upper seals, O-rings and check upper tubes for scratches.
Oil is leaking	Seal is bad.	Inspect all seals and O-rings; replace as necessary.
	Upper tubes are worn.	Measure and replace.
	Bottom plate O-ring seal failed.	Rebuild internals, reseat O-ring or replace.
Seals have blown out	Seals are old.	Replace seals.
	Seal retaining ring or circlip is not seated properly, or is missing.	Make sure the retaining ring or circlip is located in its groove and seated properly.

MAG SERIES 1992-97

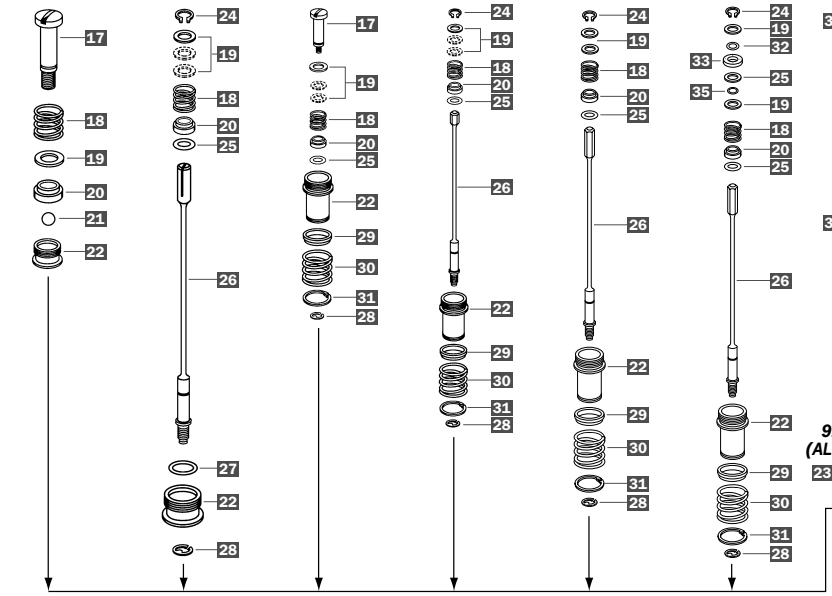
AIR CAP ASSEMBLIES

92 Mag 20	93 Mag 21	94 Mag 21/SLTI Paris-Roubaix	95-97 Mag 21	92 Mag 30 93 Mag 10	94 Mag 10



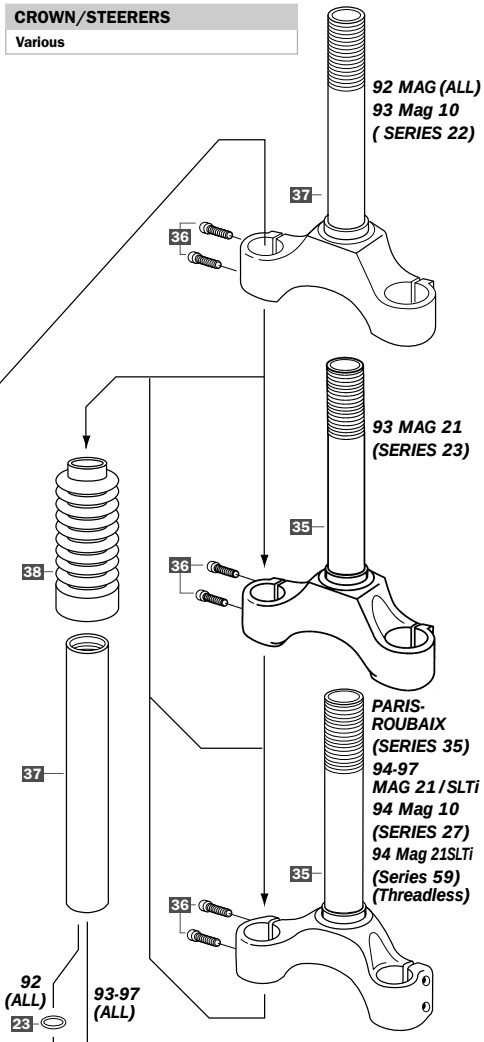
AIR VALVE ASSEMBLIES

92 Mag 30	92 Mag 20	93 Mag 10	93 Mag 21	94 Mag 10 94 Mag 21/SLTI	Paris-Roubaix



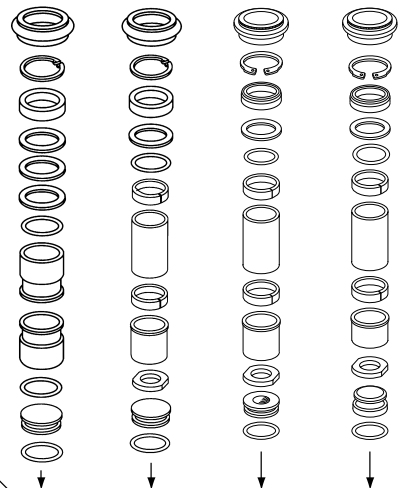
CROWN/STEERERS

Various



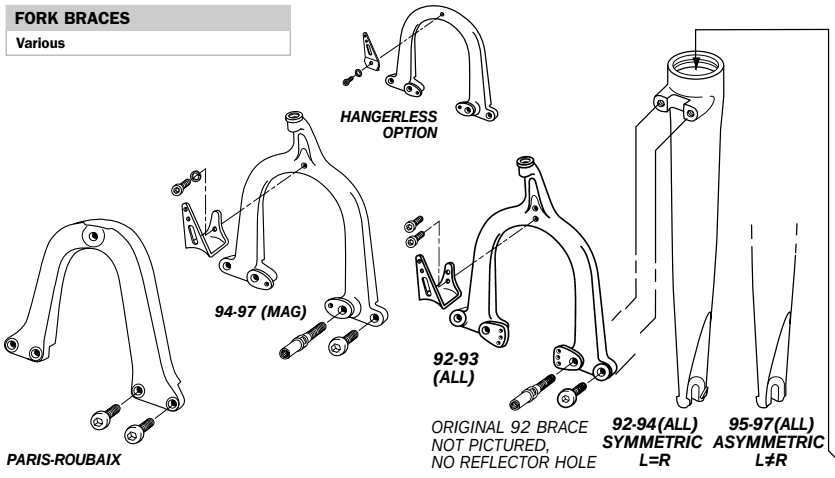
BUSHING ASSEMBLIES

92 Mag (All)	93 Mag (All)	94-97 (All)	Paris-Roubaix



FORK BRACES

Various



MAGNESIUM

PARTS LIST

Top Cap Assembly: *Note 1:* Threading for aluminum upper tubes different than steel (94 Mag 21 all versions , Paris-Roubaix); Note 2: 94 Mag 10 can also use assy 20604. Note 3: For 92 Mag 30, 93 Mag 10 assy is items 5, 10, 11 only. Note 4: Mag 20 can not use later Mag 21 cap assy due to adj rod shape

Valve Assembly: *Note:* Valve spring, valve plates and valve bodies are tuning variables. Springs 44103, 44306 interchangeable, plate 42327 has machined relief step .005" for improved small hit response. Intake valve ports and compression bleed holes vary on valve bodies.

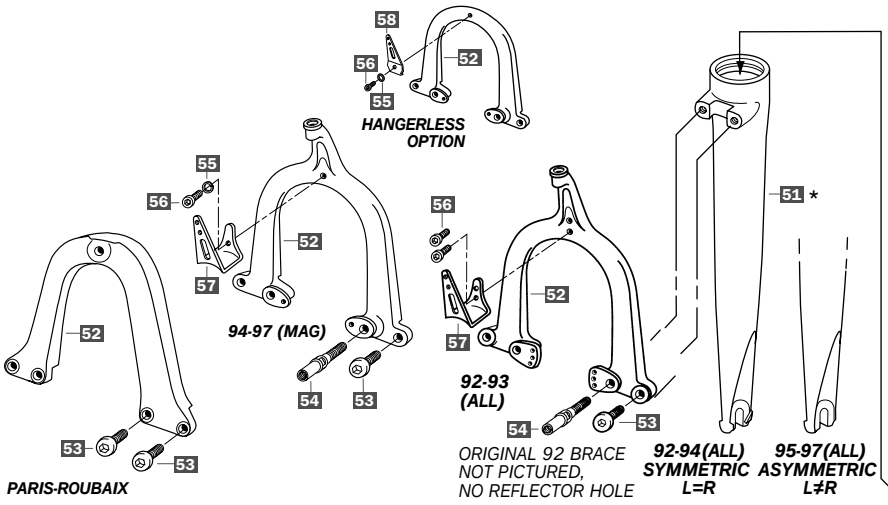
Crown Assemblies: The 22 (involved in recall), 23, 27 series are interchangeable. The 35 series has a different fork rake. "xxxx" refer to different available steerer lengths and diameters (see Crown Chart). Crown bolts interchangeable. Upper tubes for Paris-Roubaix and 94 Mag 21 (all) are aluminum and have different top cap theading dimensions. Boots recommended for 1992 models which did not come with them.

		92		93		94			95	96-97	95-96
Ref	**Part Name**	**Mag 30**	**Mag 20**	**Mag 10**	**Mag 21**	**Mag 10**	**Mag 21**	**21SL/Ti**	**Mag 21**	**Mag 21**	**Paris-Roubaix**
	Air Cap Assembly	20101	20201	20101	20301	20602	20601	20601	20604	20604	20601
1	Air Filler Screw		46165		46165						
2	Air Valve Screw O-ring		51207		51121						
3	Adjuster Head Decal		57206		57206						
4	Adjuster Head		42303		42304		42316	42316	42316	42316	42316
5	Air Valve	56301	56303	56301	56303	56303	56303	56303	56303	56303	56303
6	Adjuster Head O-ring		51203		51123	51103	51123	51123	51123	51123	51123
7	Ball Plunger		48110		48110		48110	48110	48110	48110	48110
8	Adjuster Index Spring		44201		44201		44201	44201	44201	44201	44201
9	Adjuster Head Dust Ring		51207		51207		51207	51207	51207	51207	51207
10	Air Cap	42207	42229	42207	42231	42238	42219	42219	n/a	n/a	42219
11	Air Cap O-ring	51101	51202	51101	51202	51202	51202	51202	51202	51202	51202
12	Adjuster Head Retaining Clip		50111		50111		50111	50111	50111	50111	50111
13	Dust Cap	56101		56101		56102	56102	56102	56102	56102	56102
14	Air Cap Washer						52207	52207	52204	52204	52207
15	Air Cap Retaining Clip	50104		50104							
16	Adjuster Head					42318					
	Valve Assembly	20105	20205	20305	20305	20406	20406	20406	20406	20406	56303
17	Valve Bolt	46105		46109							
18	Valve Spring (25lb=44306, 40lb=44103)	44101	44103	44103	44103	44306	44306	44306	44306	44306	44306
19	Valve Spring Washer(s) 52211=0.5mm 52205=1.0mm (more = more preload)	52207	52211	52205	52205	52205	52205	52205	52205	52205	52205
20	Valve Plate	52217	42305	42321	42321	42327	42327	42327	42327	42327	42327
21	Check Ball	56304									
22	Valve Body	42205	42205	42206	42206	42226	42226	42226	42226	42226	42223
23	Top Out O-Ring	51108	51108								
24	Valve Spring Retaining Ring (c-clip)		50113		50125	50125	50125	50125	50125	50125	50125
25	Rebound Plate		42307	42323	42323	42323	42323	42323	42323	42323	42323
26	Adj. Rod (Delrin=42331, Al=42302, Slotted=42301)		42301		42302	42331	42331	42331	42331	42331	42347
27	Valve Body O-Ring		51209								
28	Adjuster Rod/Valve Bolt Retaining Clip		50115	50117	50115	50115	50115	50115	50115	50115	50115
29	Top Out Washer (negative spring collar)			52209	52209	52209	52209	52209	52209	52209	52209
30	Top Out Spring (negative spring)			44301	44301	44301	44301	44301	44301	44301	44301
31	Top Out Spring Retaining Ring (c-clip)			50121	50121	50121	50121	50121	50121	50121	50121
32	Lockout Plate O-ring										51208
33	Lockout Plate										42328
34	Washer Spacer										52223
35	Crown/Steerer Assembly	22xxxx	22xxxx	22xxxx	23xxxx	27xxxx	27xxxx	59xxx	27xxxx	27xxxx	35xxxx
36	Crown Bolt (Ti=46156)	46152	46152	46152	46158	46152	46158	46156	46158	46158	46156
37	Upper Tube (Stanchion)	40804	40802	40806	40807	40835	40813	40813	40835	40835	40819
38	Fork Boot	56531	56531	56531	56531	56531	56531	56531	56531	56531	

MAG SERIES 1992-97

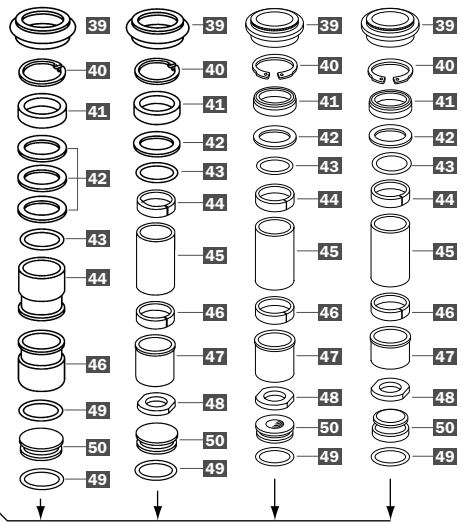
FORK BRACES

Various



BUSHING ASSEMBLIES

92 Mag (All)	93 Mag (All)	94-97 (All)	Paris-Roubaix



NOTE: *Available as an assembly only, includes whichever items 48-50 pertain to a given casting.*

PARTS LIST (CONTINUED)

Bushings and seals: 1994-97 uses a bigger diameter upper bushing. If changing lower assemblies or bushings, pay attention to this point. Use dust wipers with boots for extra contamination protection wherever possible, though 1994-97 (except Mag 10) did not originally come with a wiper.

Lower Tube assemblies: Lower Tube assemblies: 1: When replacing pre-1994 with 1994 or later, use the newer upper bushing (different dimension). 2: Note that pre-1995 legs have dropout tabs on both sides (L & R). 3: 1994 models are pictured with 1994 style legs, but numbers shown below are for available 1995 style replacements. Example: The M21SL had greenish-gold symmetrical legs part #40732; The M21SLTi translucent gold part #40737. Both replaced by numbers below.

Fork Braces and bolts: Original 1992 braces and brace bolts are not shown. Braces shown can accept boots and all are interchangeable.

Reflector Mounts: Original 1992 braces can be replaced as above. Bracket 60337 is good for hangerless brace.

		92		93		94			95	96-97	95-96
Ref	**Part Name**	**Mag 30**	**Mag 20**	**Mag 10**	**Mag 21**	**Mag 10**	**Mag 21**	**21SL/Ti**	**Mag 21**	**Mag 21**	**Paris-Roubaix**
39	Dust Wiper	56107	56107	56107	56107	56107	56107	56107	56107	56107	56107
40	Main Seal Retaining Ring	50107	50107	50107	50107	50107	50107	50107	50107	50107	50107
41	Main Seal	56403	56403	56403	56403	56403	56403	56403	56403	56403	56403
42	Bushing Washer	52201	52201	52201	52201	52201	52201	52201	52201	52201	52201
43	Main Seal O-ring	51104	51104	51104	51104	51104	51104	51104	51104	51104	51104
44	Upper Bushing	42400	42400	54131	54131	54125	54125	54125	54125	54125	54125
45	Bushing Spacer			53130	53130	53130	53130	53130	53130	53130	53130
46	Lower Bushing	42400	42400	54131	54131	54131	54131	54131	54131	54131	54131
47	Top Out Sleeve (standard travel)			53124	53124	53124	53124	53124	53124	53124	53123
47	Top Out Sleeve (long travel)			53123	53123	53123	53123	53123	53123	53123	
48	Bottom Washer			56305	56305	56305	56305	56305	56305	56305	56305
49	Bottom Plate O-ring	51107	51107	51117	51117	51117	51117	51117	51117	51117	51129
50	Bottom Molded Plate	42210	42210	42212	42212	42222	42222	42222	42222	42222	42221
51	Lower Tube Assembly, Champagne (R)									20527	20526
51	Lower tube assembly, Champagne (L)									20528	20525
51	Lower Tube Assembly, Gold (R)					20517	20517	20523	20517		
51	Lower Tube Assembly, Gold (L)					20518	20518	20524	20518		
51	Lower Tube Assembly, Gold (L & R)	20207	20207	20207	20207						
52	Fork Brace, Champagne									49001	
52	Fork Brace (hangerless option), Champagne									48950	
52	Fork Brace (hangerless option), Black									48954	
52	Fork Brace, Gold (1995)								48987		
52	Fork Brace, Black ('93 version w/2 ref brkt holes)	48998	48998	48998	48998	48998	48998			48998	
52	Fork Brace, Magnesium							48990			
52	Fork Brace, Champagne (Road)										48988
53	Brace Bolt (Ti=46172)	46169	46169	46169	46169	46169	46169	46172	46169	46169	46172
54	Brake Post (Ti=49129)	48125	48125	48125	48125	48125	48125	48129	48123	48123	
55	Lock Reflector Bracket Washer					52222	52222	52222	52222	52222	uses non-RockShox reflector bracket
56	Reflector Bracket Screw	47171	47171	47171	47171	47171	47171	47171	47171	47171	
57	Reflector Bracket	60335	60335	60335	60335	60335	60335	60335	60335	60335	
58	Ref. Brkt. F/Hangerless Brace (option)									60337	

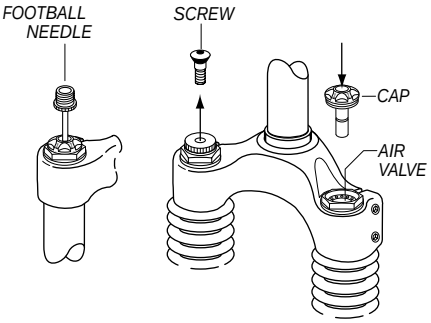
MAG SERIES ASSEMBLY & DISASSEMBLY

Drawings may not match the exact model on which you are working. See the schematics and parts lists for individual model details.

Note: *Wear safely glasses. Contents under pressure and oil may shoot out.*

1 DISASSEMBLY

1 Remove caps or screws covering air valves.
2 Lubricate football needle, then insert it into the valves to depressurize legs, taking care to point it away from your face.



Tip: *Lubricating the valve needle reduces valve wear, extending valve life. Judy Butter or Slick Honey are two good lubricant choices.*

PRESSURIZATION

1 After 1 hour at 80 to 100 psi, release air and pump to final setting (see tuning charts).
2 Attach air valve covers or screws.

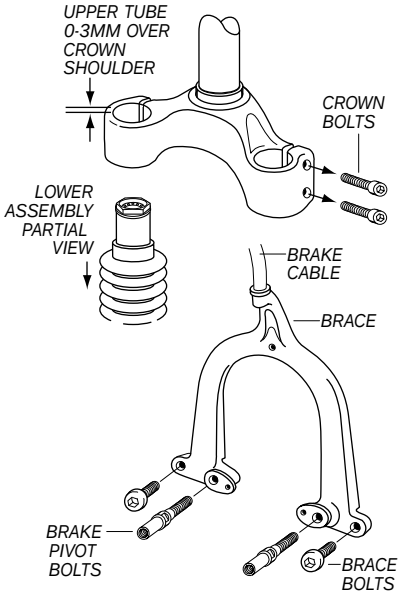
12 ASSEMBLY

BACK NEXT

CROWN & BRACE

2 DISASSEMBLY

1 Disconnect brake cable.
2 Remove crown bolts.
3 Remove lower assembly from crown.
4 Remove brace by removing brakes, brace and brake pivot bolts



NEXT

1 Place brace on lower legs and attach bolts using blue Loctite and torque to 60 in-lb (6.8Nm). Install brakes to manufacturer's specs.
2 Install lower leg assembly onto crown, setting height 0-3mm above crown shoulder, twist upper tubes to align first adjuster marking with crown slot (if with adjuster knob) and torque to 60 in-lb (6.8Nm).
3 Reinstall brake cable, confirm brake function.

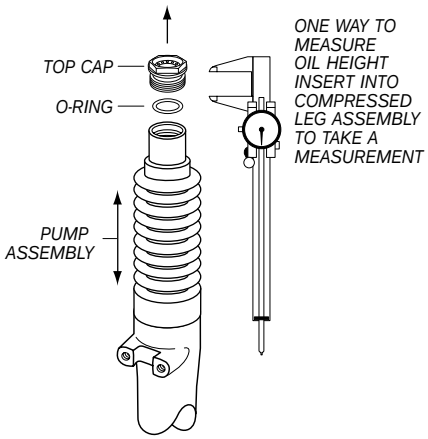
11 ASSEMBLY

BACK NEXT

Note: *Dropouts have a small hole leading to the inside of the lower legs. If the seal (bottom plate O-ring) fails, oil will leak through the hole, and a full disassembly (through step 5) is needed for gaining access to the O-rings to replace them.*

3 DISASSEMBLY

1 Remove top caps:
92 Mag 30, 93 Mag10 - Circlip type: Push cap down into tube to access clip. Pry out clip, then pull out cap using a 6mm hex wrench.
All other Mag - Threaded type: Unthread, typically with 19mm or 22mm wrench (8mm hex wrench for 94 Mag 10). Hold steady to avoid parts below cap.
2 Drain oil responsibly.
3 Check dropouts carefully, as they can break off when worn out.



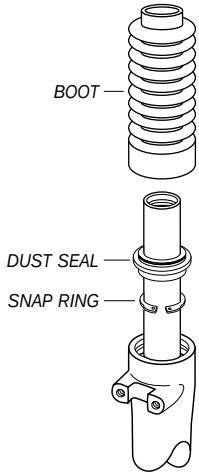
1 Add oil (per chart). *Slowly* pump assembly 10+ times through the *full* range to remove air pockets, without disturbing the bottom plate, and then set final oil height level. Note: If oil is visible in the dropout hole, the leg must be completely disassembled and the bottom plate reinstalled.
2 Before installing top caps be sure the O-rings are greased and that caps (most models) engage adjuster rod with bottom of adjuster head.
3 After caps are attached, pressurize legs to 80-100 psi to seat parts (one hour).

10 ASSEMBLY

Note: *some models may or may not have boots or dust seals. Both are recommended for maximum contaminant protection. The reduction in "stiction" by omitting the dust seal is minor in relation to protection this affords.*

4 DISASSEMBLY

1 Remove boots.
2 Pry out and remove dust seals.
3 Unclip and remove snap rings. Sometimes removal is easier with a flathead screwdriver than snap ring pliers.
4 Clean, inspect and replace as needed.



1 Install snap rings, sharp edge up. Make sure they are seated completely into the groove.
2 Grease and install the dust seals.
3 Grease boots (internally) and install.

9 ASSEMBLY

MAG SERIES ASSEMBLY & DISASSEMBLY

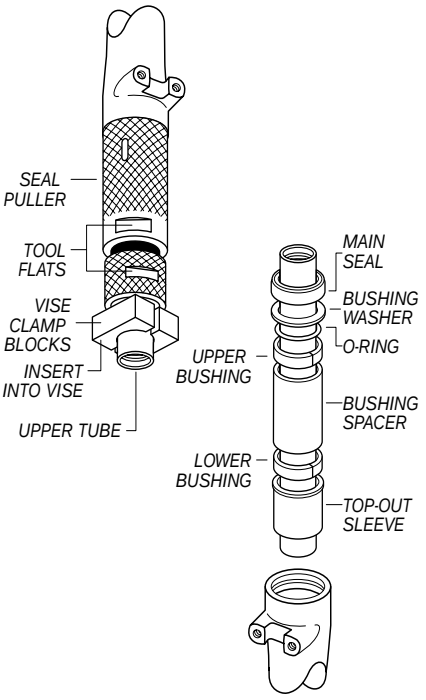
SEALS & BUSHINGS

Note: *See schematics for particular model parts differences. Also: upper bushings are bigger than lower ones on models from 1994. Don't mix.*

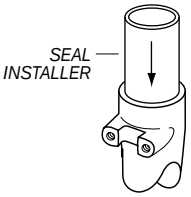
5 DISASSEMBLY

1 Telescope out upper tube in lower leg.
2 Slide on seal puller and clamp assembly in a vise using the vise clamp blocks.
3 Extract the upper tube assembly by hand, unthreading the seal puller.

Note: *if hand unthreading fails, use a hair dryer (no open flame) to heat parts. If that fails, use 32mm and 36mm wrenches on tool flats.* ***Sometimes****, under the pressure the top-out snap ring breaks and the upper tube will pull out, leaving the bushings, etc., stuck in the lower leg. If this happens, use the bushing removal tool following the Quadra Bushing and Seals procedure (page 5-12). Replace the broken snap ring.*



4 After removing the tools, slide parts off the upper tubes noting their position.
5 Clean, inspect and replace as needed.



1 Reassemble upper tube assembly in the correct order.
2 Install assemblies into lower legs and seat parts by gently pressing down with the seal installer.
3 Grease main seal all over and install with small spring side downward. Press into place with seal installer tool with its large bore side facing the seal.

8 ASSEMBLY

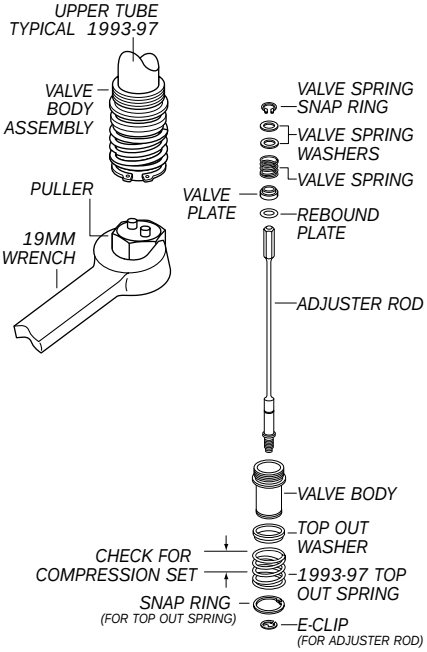
> ***Tip:*** *Alternative Bushing Assembly / Disassembly procedure shown, starting on page 3-16*

VALVE PARTS

Note: *See schematics for particular model parts arrangements. Tuning can be altered by changing some valve parts such as the body, valve plates, valve springs, and altering number of washers. See the tuning charts for assistance.*

6 DISASSEMBLY

1 Remove valve body with puller (clamp in vise with blocks).
2 Check top-out compression set (93-97 only) by removing snap ring, then top-out spring. Replace if length is less than 21mm.
3 Remove adjusting rod or bolt by taking off e-clip (thread rod deeper into body to expose e-clip if needed). If there is no e-clip (92 only) simply unscrew out. Remove valve spring snap ring (some models only).
4 Clean, inspect and replace as needed.



> ***Safety point:*** *make sure snap ring is completely seated upon reinstallation, or fork will come apart.*

1 Reassemble adjuster parts on valve body in the correct order and alignment. If in doubt, check with the schematics.
2 Reposition top-out spring and attach snap ring with sharp edge facing down on body.
3 Screw body assembly on to upper tubes using blue Loctite and 420 in-lb (47.4Nm).

7 ASSEMBLY