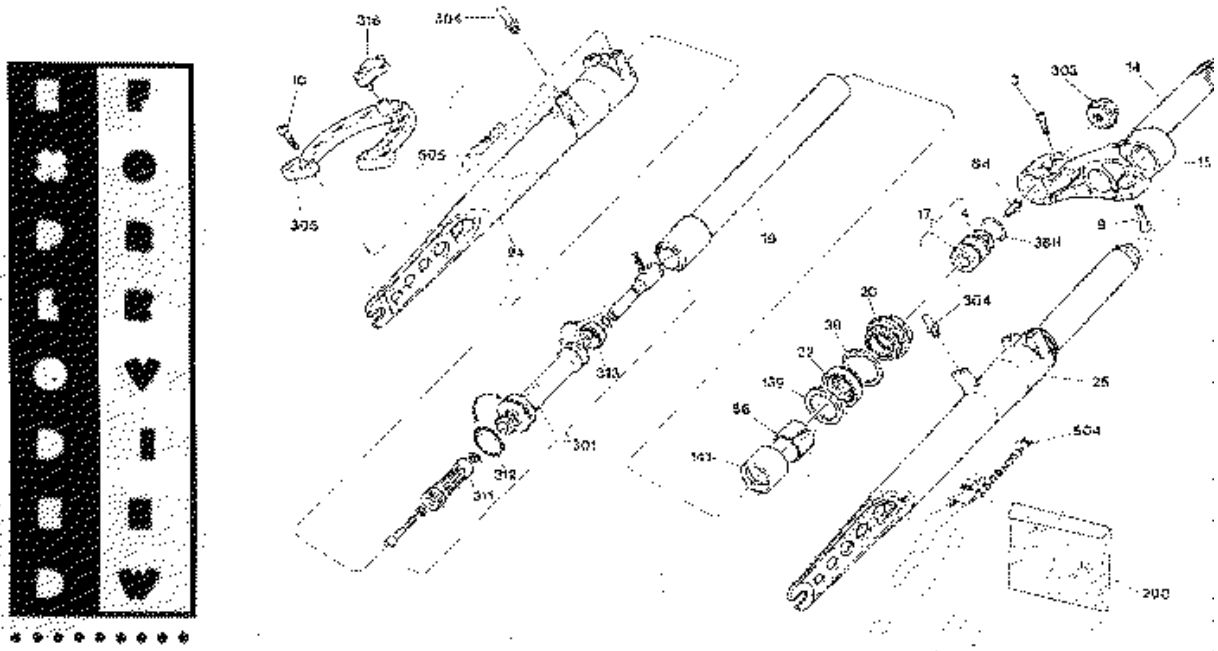


The reference numbers given in this section relate to the components shown in the exploded fork drawings.

XC 600 PARTS LIST

1. (14) Steer Tube
2. (15) After Market Style Crown
3. (303) Plastic Air Cap
4. (9) Crown Bolts
5. (7) Steer Tube Crown Bolt
6. (84) Schrader Air Valve
7. (38H) Stop Ring
8. (4) Rubber O-Ring
9. (17) Air Cap Assembly
10. (20) Dust Seal
11. (38) Snap Ring
12. (22) Oil Seal
13. (139) Lower Retaining Cup
14. (56) Sintered Bushing
15. (141) Bushing Holder
16. (19) Stanchion Tube
17. (321) Spring Loaded Ball Bearing
18. (314) Inner Valve Cylinder
19. (313) Conic Seal Valve
20. (301) Adjustable Foot Valve Assembly (323) Valve Body
21. (312) Adjustable Valve Body Rubber O-Ring
22. (317) Lock Washers for Adjuster Knob Fixing Bolt
23. (311) CNC Adjuster Knob
24. (315) Fixing Bolt for Adjuster Knob
25. (25) Right Slider (24) Left Slider
26. (304) Brake Boss
27. (504) Right Decal
28. (505) Left Decal
29. (305) Brake Arch
30. (322) Brake Cam Bolt
31. (316) Brake Cam
32. (10) Brake Arch Bolts
33. (200) XC 600 Seal Kit

XC 300 Disassembly Procedures

General Procedures to Follow When Servicing a Marzocchi Air / Oil Fork

Please follow these guide lines to ensure that your fork will stay in excellent working condition before and after you work on it.

1. For disassembly, only use the tools specified by Marzocchi.
2. After a complete disassembly, use new seals and O-rings (if needed) when reassembling.
3. Clean all parts, especially seals and O-rings, with non-flammable, biodegradable solvent (ie: Finish Line).
4. Apply a thin coating of a teflon-based grease to the O-rings as well as the inner lip of the oil seal when reassembling.
5. If your bike is subject to rainy, wet and/or muddy conditions, dip the bolts in a teflon-based grease to prevent any corrosion or seizing.
6. Only use metric sized tools.

Note: The air-cap assembly removal / installation tool, seal seater and snap-ring pliers can be used on the XC 500, XC 600 and XCR forks.

TOOLS For The XC 500 & XC 600

REF.	ITEM	DESCRIPTION	USEAGE
A	104	Air cap extracting tool.	To remove & install the air cap assembly.
B	R5043	Snap Ring Pliers.	To remove & install the oil seal snap ring.
C	R5047	Oil Seal Insert Tool.	Installs the oil seal into the slider.

OTHER PARTS YOU'LL NEED

1. The above items...
2. A metric ruler.
3. 2-3 shop rags.
4. Teflon-based grease.
5. 4 mm & 5 mm hex tools.
6. 20 weight oil; either Marzocchi or Finish Line.

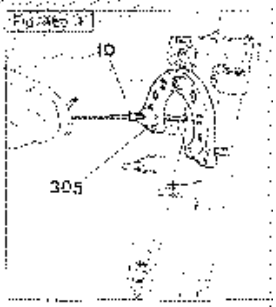
TORQUE SETTINGS

THREAD DIAMETER	TIGHTENING TORQUE	
1. M5	Nm 9 "Newton Meters"	6.6lb. "Foot Pounds"
2. M6	Nm 10 "Newton Meters"	7.5lb. "Foot Pounds"

The reference numbers given in this section relate to the components shown in the exploded fork drawings.

XC 600

FIG.1 Air Cap and Air Pressure Removal:
Before carrying out any maintenance or replacement work, remove the plastic air caps (303) and release all the pressure in both the legs through the air valves(84). Loosen the bolts (10) which lock the brake arch (305) to the sliders (24&25).



Note **Use a new hex tool to remove the bolts, if you have one stripped bolt head and were able to remove the three remaining bolts, you can spin the arch around to loosen the remaining bolt.**

FIG.2 Fork Leg(s) Removal:
Remove the stanchion tubes (19) from the crown (15) by loosening the four bolts (3) (two on each side of the crown) and sliding the top of the stanchion tubes (19) out of the crown (15).

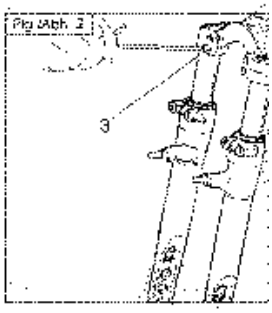


FIG.3 Air Cap Assembly Removal step 1:
Screw the air cap removal tool (item 104) onto the air cap assembly (17). Push the air cap assembly (17) into the stanchion tube (19) deep enough to access the stop ring (38H). Loosen and remove the air cap tool, then remove the stop ring (38H) by pushing down on one side of the stop ring and lifting it out from the other.

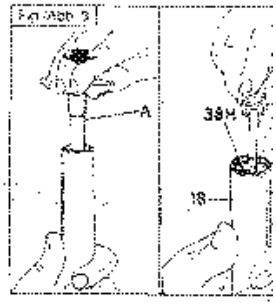
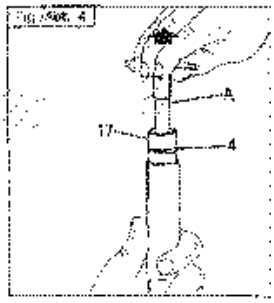


FIG.4 Air Cap Assembly Removal step 2:
Fasten the air cap tool (item 104) and pull out the air cap assembly (17) making sure to pull straight out to avoid breaking off the schrader air valve piece (17).

Note *There may be some resistance to the air cap removal due to corrosion between the stanchion/air cap assembly or if the stanchion tubes are crimped or ovalized. You must also overcome the resistance of the O-ring (04) when removing the air cap assembly.*



After air cap (17) is removed, invert the leg and drain the oil contained in each fork leg by plunging the stanchion tube (19) into the slider (24&25) making sure all the oil is completely drained.

FIG.5 Dust Seal Removal:
Remove the dust seal (20) from the top of the slider/fork leg (24&25) by exerting an upward pressure by means of a small screwdriver.

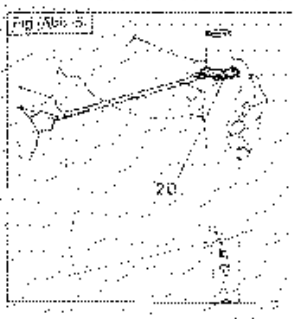


FIG.6 Seal Removal step 1:
Using the snap ring pliers (B), remove the snap ring (38) located under the dust seal (20).

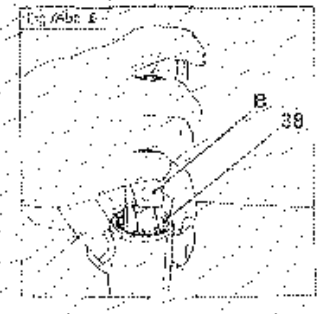


FIG.7 Seal Removal step 2:
Reinstall the air cap assembly (17) into the stanchion tube(19) without securing it, to prevent the stanchion tube (19) from ovalizing or crimping when the stanchion tube is locked in the vice. Using a vice with protective aluminum jaws, lock the upper end of the stanchion tube and pull the slider (24&25) away from the stanchion tube (19). Repeated pulls may be needed to dislodge the seal (22) from the slider (24&25).

Note: ***The seal is lightly press-fit into the slider and once the snap ring is removed the only step needed to remove the seal is to pull the slider away from the stanchion tube.***

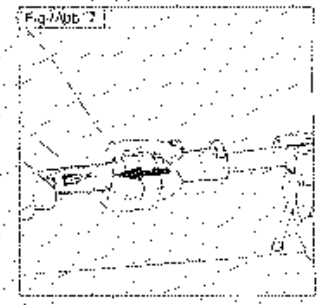


FIG.8 Stanchion Tube Assembly:
Remove the stanchion tube (19) from the slider (24&25). Slide the oil seal (22), the lower retaining cup (139) and the pilot holder (141) off the stanchion tube (19) and inspect the parts for wear. If they are worn, replace them.

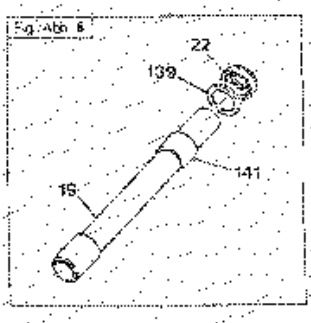


FIG.9 Lower Adjustable Valve Removal:

Note: *Remove lower adjustable valve (311) only when necessary, i.e., when there is leaking oil or when adjuster is not functioning.*

Using a screwdriver as a lever, push on the edge of the adjuster knob (311) to take out the foot valve assembly (301) from the slider (24&25). To facilitate the removal, lightly slap the open end of the slider onto a shop rag to knock the adjuster out. Be careful not to damage the slider.

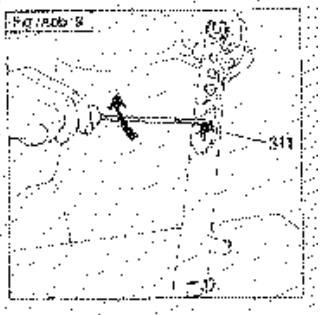
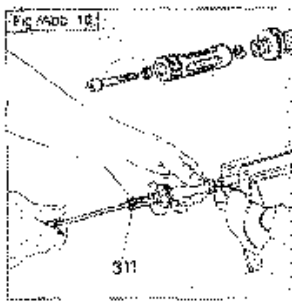


FIG.10 Lower Valve Set:
The lower valve set (301) consists of various parts that should be disassembled only when necessary. To remove the adjuster knob (311) you must lock the inner valve cylinder (314) to prevent spinning. This is done by means of inserting a flat-head screwdriver into the inner valve, which is integrated with the knob. Caution: When removing the inner valve cylinder (314) from the adjustable valve body (323) you must be careful not to lose the spring loaded ball bearing (321). Use a shop rag or your hand to keep the ball bearing from becoming airborne. The valve body (323) has an O-ring (312) and a conic seal valve ring (313) that should be replaced after every overhaul.



XC 500
REASSEMBLY PROCEDURES

WARNING: Before reassembling, all components, including the lower adjustable valve, should be cleaned carefully and blown dry with compressed air.

Note: *Follow Proper Torque Settings when re-tightening the bolts as prescribed on page 8 of this manual.*

FIG.1 Conic Valve/Seal Ring:
Fit a new O-ring (312) into the seat of the adjustable valve body (323). Fit a new conic seal valve (313) from the opposite side of the O-ring (312) and lightly grease seals.

Note: *Take special care when fitting the conic seal valve (313). The flared side should face the bottom of the valve body (301). This is an important functioning part of the adjuster valve.*

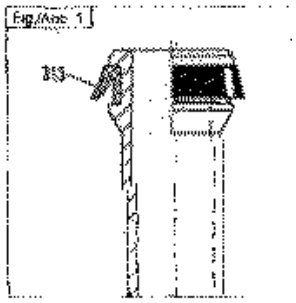


FIG. 2 Adjuster Knob Reassembly:
Fit lock washers (317) on either side of the adjuster knob (311) and insert the fastening screw (315) from the knurled side up. Insert the adjuster knob (311) onto the adjustable valve body (323) and line up position "1" with the largest oil valve hole. Hold the inner valve cylinder (314) with a flat head screwdriver and at the same time tighten the fastening screw (315) of the adjuster knob (311)

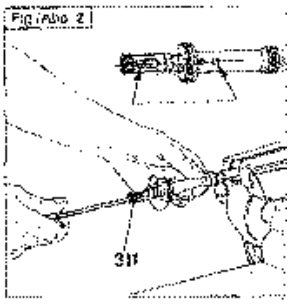


FIG.3 Adjuster Valve Slider Installation:
Index the largest valve opening with position "1" on the adjuster knob (311) and insert the adjustable lower valve assembly (301) into the slider. Line-up positions "1" on adjuster knob (311) with the raised mark on the lower adjuster area of the slider and push the valve assembly (301) all the way into the slider until the knurled adjuster knob (311) is fully visible.

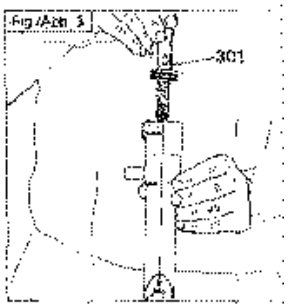


FIG.4 Upper Bushing/Pilot Boss Assembly:
Lubricate the Upper Bushing/Pilot Boss Assembly (141) and slide it onto the stanchion tube (19). Fit this assembly into the (24&25) slider.

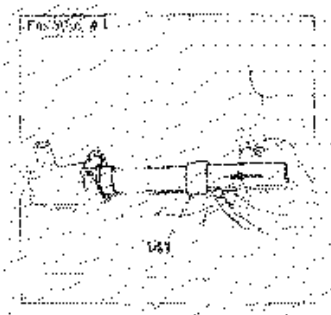


FIG.5 Retaining Cup:
Fit the lower retaining cup (139) onto the stanchion tube (19) and into the slider (24&25) with its rounded part facing upward.

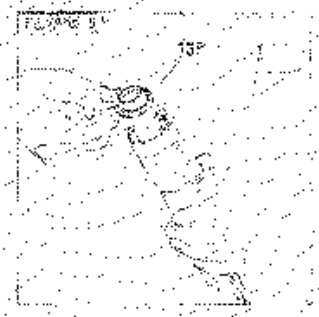


FIG.6 Oil Seal Installation:
Lubricate the oil seal (22) and slide it onto the stanchion tube (19) and into the slider(24&25). Using the seal seating tool "C" (item 55047) and a rubber mallet or hammer, hit the seal insert tool to seat the seal into the slider(24&25). Inspect the oil seal (22) to ensure seating is even and complete.

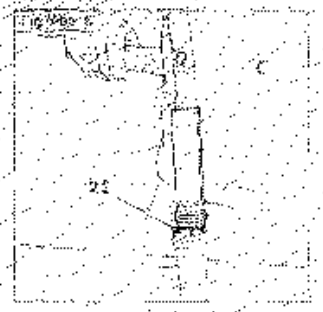


FIG.7 Snap Ring Installation:
Insert the snap ring (38) into the lowest retaining groove making sure that the snap ring is seated in all directions. If the snap ring is installed in the top groove or is not fully seated into the groove, oil will immediately flow out upon compression of the fork giving the impression of a seal failure. If this occurs pull the dust seal (20) up and inspect the seal area for the proper fit of the snap ring.

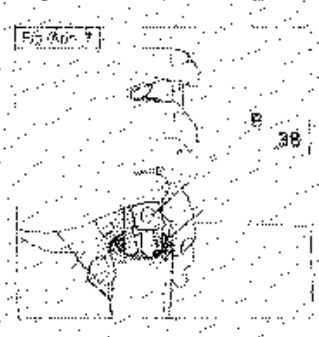


FIG.8 Upper Slider Cross Section.
This is a cross section of a properly assembled cam-shaped oil seal (22), upper bushing /pilot boss (141), snap ring (38), lower retainer cup (139) and the stanchion tube (19).

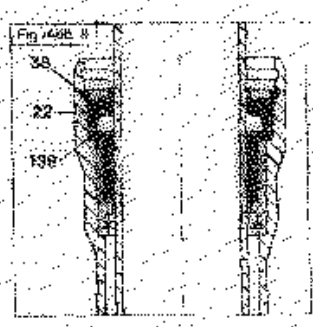


Fig. 9 Oil Fill Procedure:
Fully compress the stanchion tube into the slider. In a vertical position, pour the Approved Replacement Oil (see info. below for oil) into the stanchion tube, filling the stanchion tube to the top. Then plunge the stanchion up and down circulating the oil into the valve and chambers and compress the stanchion tube into the slider. The oil level will now be lower. Top it off to the correct level. Make sure you allow enough time for all the air bubbles to flow out of the oil after filling ie: 5 minutes. Slowly plunging the stanchion tube up and down will facilitate this process. See: "How to Measure the Oil Level", "Approved Replacement Oils", & "Oil Weights" information below for more details.

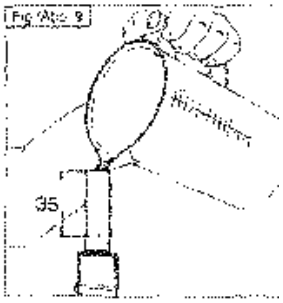
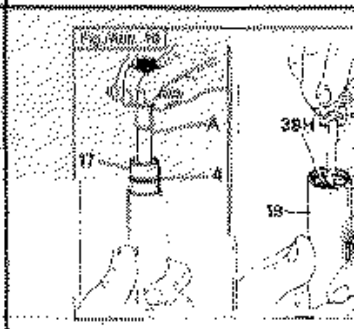


FIG.10. Air Cap Assembly:
Using tool A (item 304) thread it onto the air cap assembly (17). Grease the O-ring (4) and carefully insert the air cap assembly (17) into the stanchion tube (19) pushing it beyond the groove of the stop ring. Insert the stop ring (38H) and securely seat it into the groove and inflate the fork leg. As the fork is inflated, the air cap assembly will move upward and lock against the stop ring. Set air pressure according the air pressure guide located in this manual on page 6. Double check all steps to insure your fork is properly set-up!



Oil Tuning Tips

How to measure the oil level: Using a homemade dipstick or ruler, mark the measuring device to a specified length, ie. 40mm. Fill the stanchion tube with oil according to Fig. 9 and insert the dipstick. Measure the distance from the top of the oil level to the top of the stanchion tube. Remember to f the stanchion tube fully compressed. The standard oil level will vary depending on your fork model

35 mm _____
40 mm _____
45 mm _____

Tuning Note: A variance of 5 mm in oil level height is O.K. In general, a lower oil level, ie. 50 mm, will mak fork more responsive or livelier for lighter weight riders. A higher oil level, ie. 40 mm, will make the fork feel l responsive and is better for heavier riders. When the oil level is changed the air pressure will also need to b adjusted due to the change in volume area. Less oil means there is a larger air chamber, and a higher oil le means there is a smaller air volume.

Approved Replacement Oils:
Marzocchi oil item 52.5 or Finish Line Shock Oil are the **only** Marzocchi approved shock oils. Using other m tain bike suspension fork oils or motorcycle fork oil is *not* recommended and will void the warranty. Many m cycle oils contain seal additives that will damage the seals and O-rings causing seal failure and possible dar to the fork.

Oil Weights: Make sure to use the specified oil weight when replacing the stock oil. Marzocchi uses differe weights with different fork models. See oil weight chart and corresponding fork models in this manual to pro setup your fork. In general, a lighter weight fork oil will flow through the valving faster delivering a livelier, m responsive feel while offering less shock damping. This set-up could be better for lighter weight riders. Con versely, a heavier weight oil will flow through the valving slower, offering greater shock damping. This set-up could be better for heavier weight riders. With the use of the adjusters on the XC 500, XC 600 & XCR forks changing from one setting to the next is similar to changing to different weights of oils.