

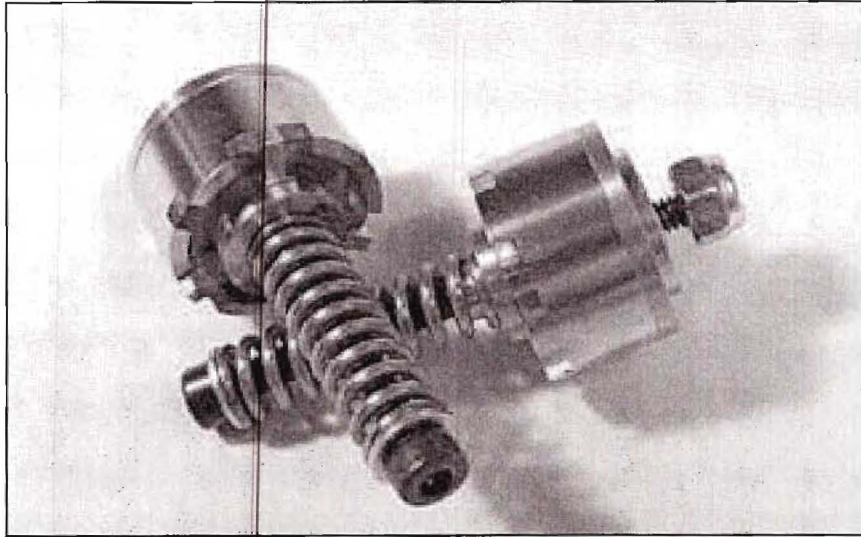
XSperformance Damper Valves for 77-84 XS650's, with factory 35mm. forks

Improves handling - Adjustable compression damping with blow off capability.

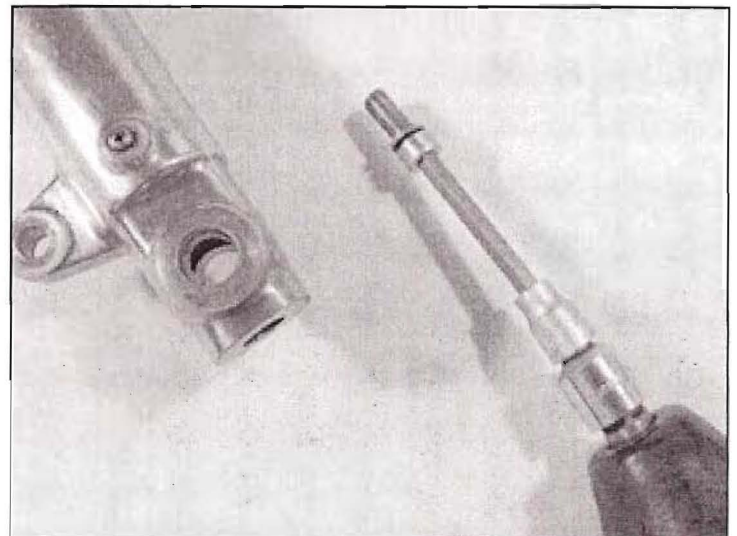
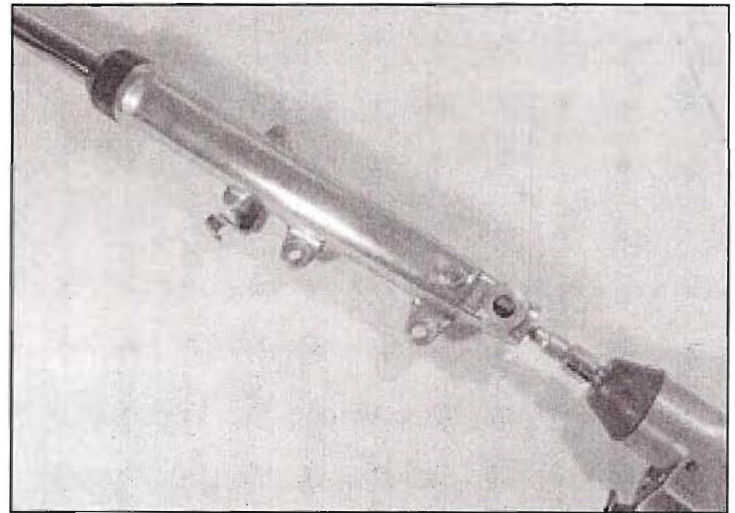
The best suspension modification for the XS650.

Note: Damper rod drilling is required.

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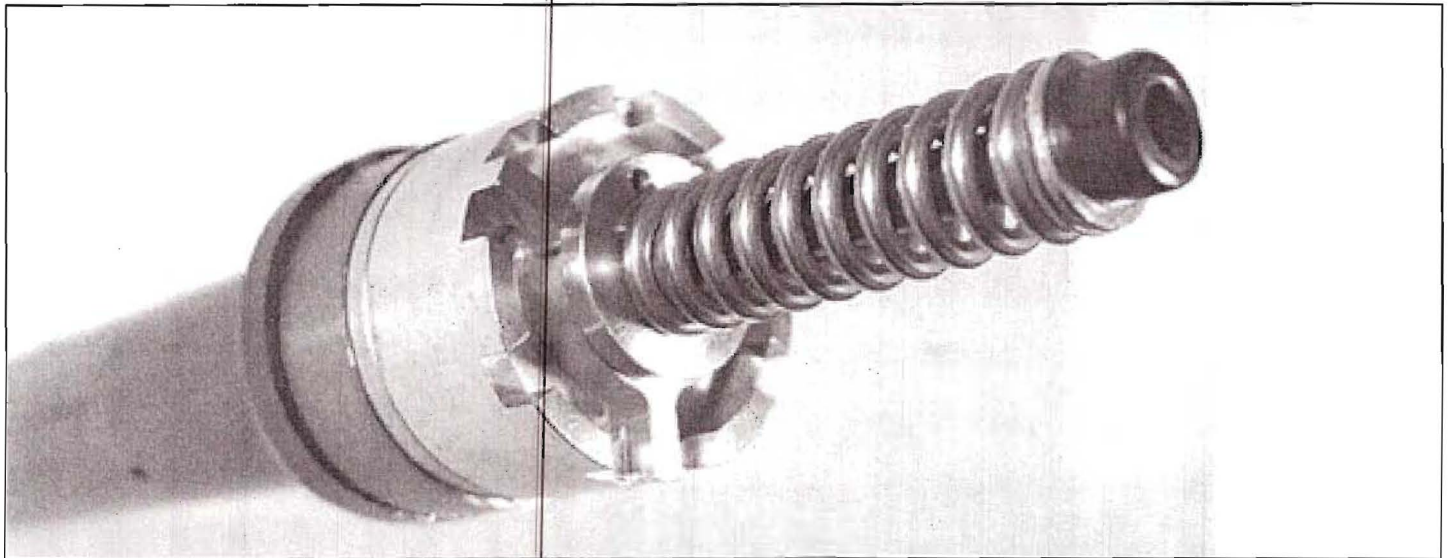
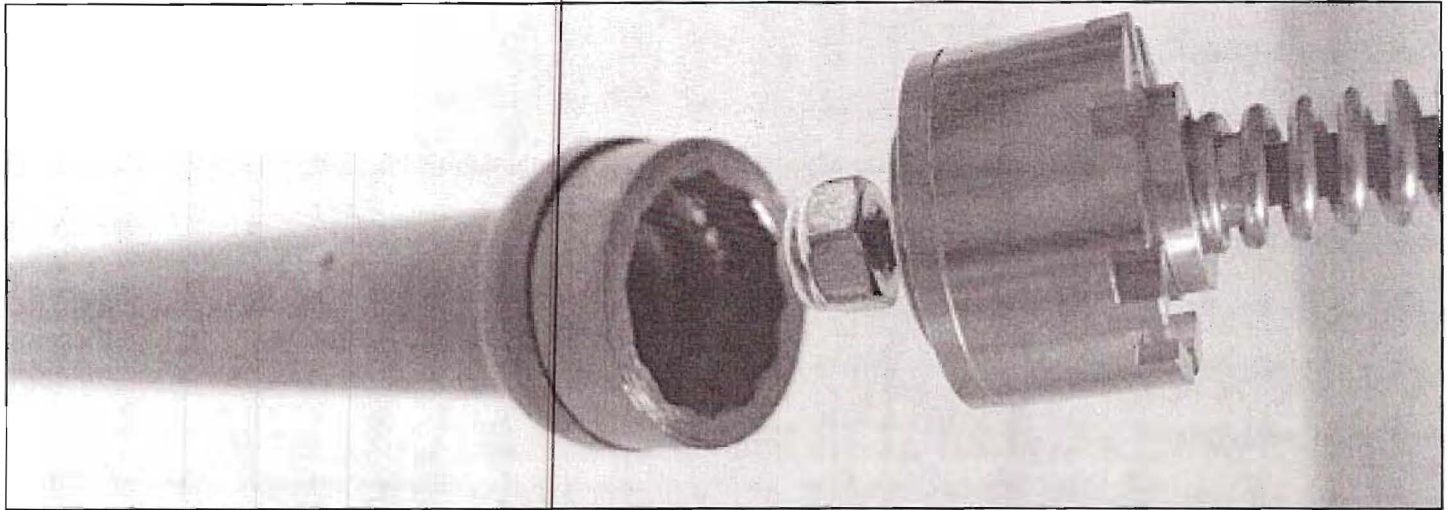


1. Remove the front wheel and front fender. Loosen but do not remove the fork tube caps. Loosen the top crown pinch bolts. Remove the forks from the bike.
2. Using an impact gun remove the damper retainer socket head bolts from the bottom of the fork legs. Note: If you push the fork leg against a wall to compress the fork leg the pressure will hold the inner damper from spinning while you impact the socket bolt out. Damper Bolt Driver bit XS#35-5022 (8mm.) is the correct length to reach up into the fork leg to reach the Allen socket head damper retainer bolt.
3. Remove the fork top caps. Pull the fork springs out and remove the fork tubes from the lower legs.
4. Rinse the fork legs and all internal components with solvent as new fork oil will be required.
5. If the fork seals have been leaking or the dust boots are torn this is a good opportunity to replace them.

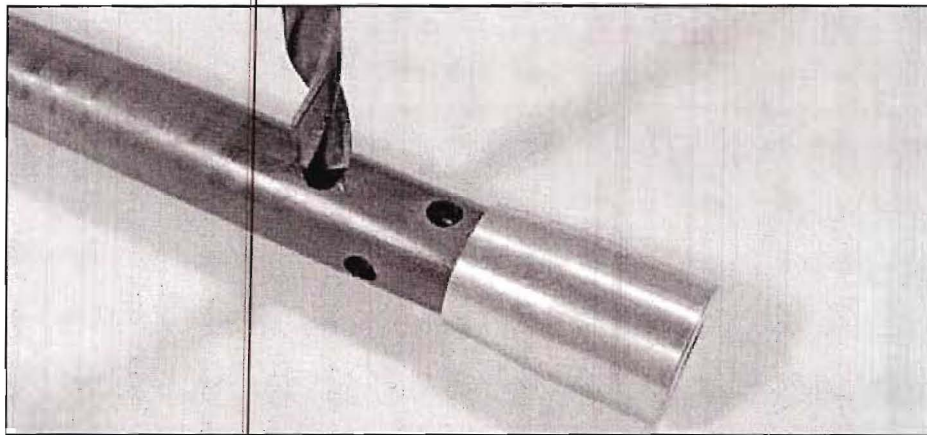


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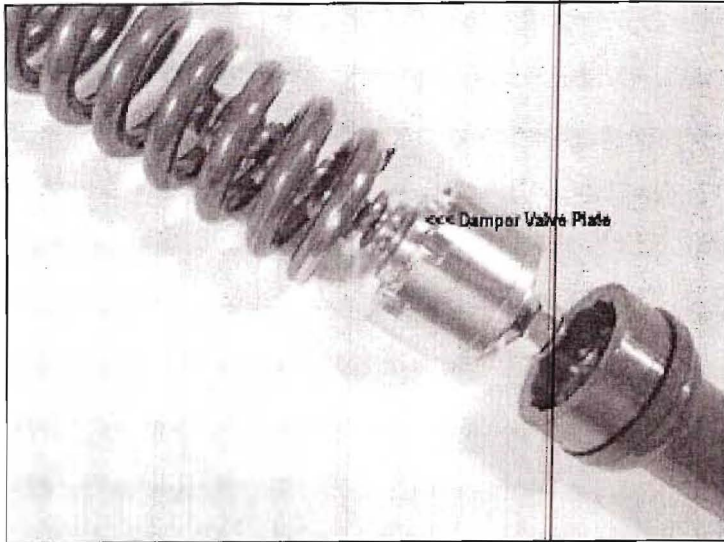
6. Check the fit of the Damper Valve to the damper rod, it should fit into the large hole in the top of the damper rod and completely cover it as shown.



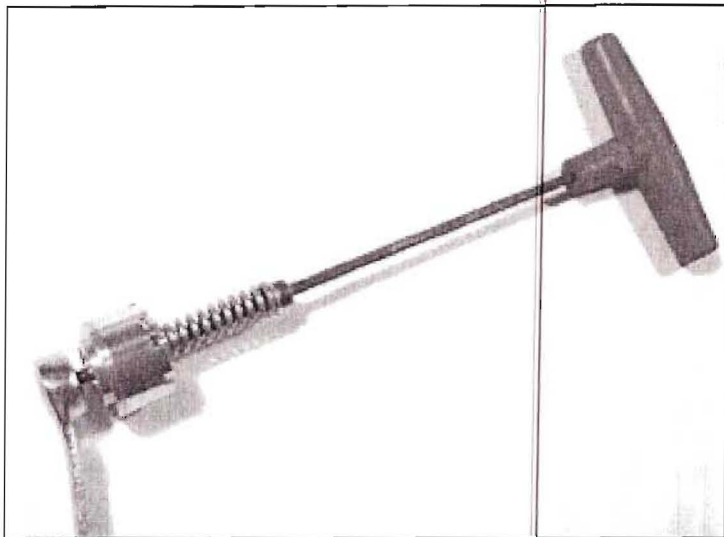
7. Enlarge the Holes in the Bottom of the Damper to 8.0mm. (5/16") diameter and drill additional holes as shown so that the damper rod has 6 holes (3 sets of 2) as shown. The holes will have to be deburred and chamfered inside and out after the drilling is complete. New holes must be spaced lengthwise at 10mm. (7/16") and must be at 180 degrees to the last set of holes so that the rod is not weakened. No other modifications are required.

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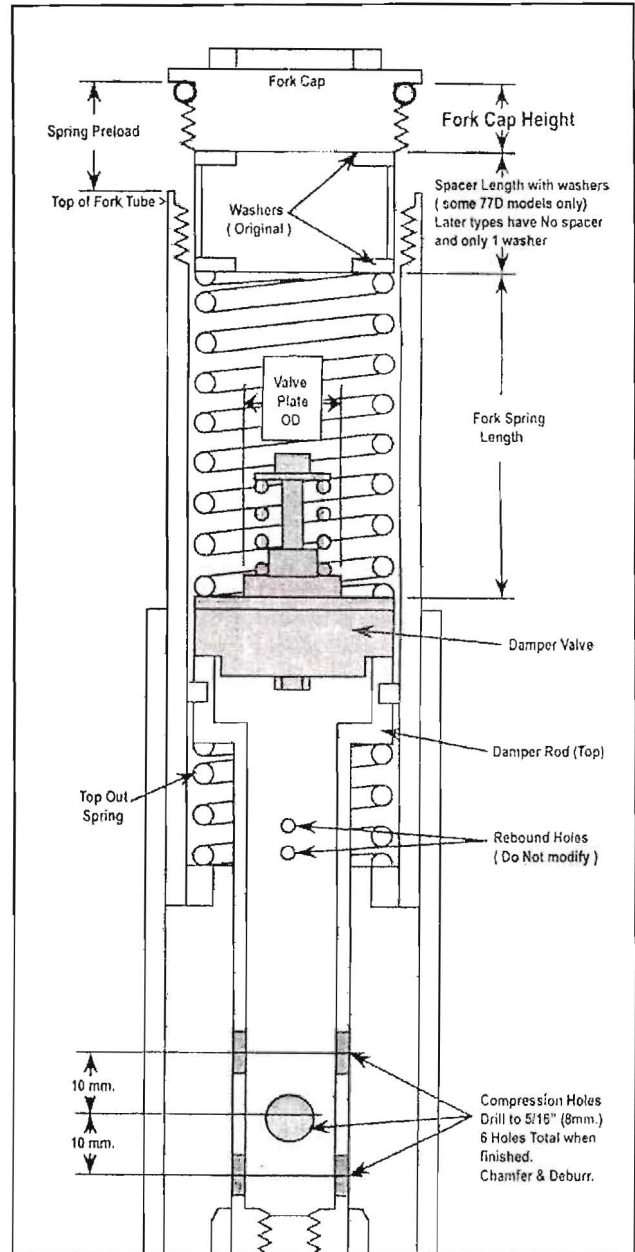
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8. Check that the Damper valve plate fits into the inside of the fork spring and that the ID of the Spring is at least 4mm. (0.157") larger than the OD of the Damper Valve plate.
9. Stock original springs are approx. 19" Long. Check your spring length as original springs can sag up to 1" after many years of being compressed.



10. Check the XPerformance Damper Valve settings. The Damper valve should be set with 2 turns of valve spring preload (typical base street setting) or 4 turns of valve spring preload for racing use (or for Heavy riders). Preload should be 1 turn minimum to 7 turns maximum. Both valves should be set at the same preload. Tighten the nylock jam nut at the bottom after setting the preload. Zero preload is found by backing off the adjuster bolt until the spring is loose and then tightening it until the spring just touches. If you adjust the Damper Valves, adjust the spring preload 1/2 turn at a time and always retighten the nylock jam nut. More valve spring preload will make the forks stiffer (more compression damping and a firmer ride).



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11. Check the condition of the fork damper bolts and the copper washers that fit under the damper bolt heads. If the washers, bolt socket heads or bolt threads are damaged, replace them as this can cause major problems in future disassembly.
12. Reassemble the forks.
13. Drop the Damper Valve down the fork tube with the spring facing up. Check that the Damper valve is sitting squarely on top of the damper rod.
14. Install the fork Oil. For the XS650 - 5 to 30wt. can be used, 15wt. Fork Oil is recommended. Stock 1977-84 XS650's normally use 169cc. (5.72oz.) of fork oil per fork leg. Verify that the Damper Valves will be submerged by checking that the fork oil level is 6" from the top of the forks when they are fully compressed (adjust the Oil level as needed).
15. Extend the fork tube all the way and insert the fork spring down the tube on top of the damper valve. If the spring has a larger end this end should face to the damper valve. Set the fork spring top washer on the fork spring and then set the fork tube cap on top of the washer. Measure the distance from the top of the fork tube to the sealing lip of the fork cap (see diagram) , this distance is the measurement of the fork spring preload. Fork spring preload measurement should be equal between each fork leg. On 77 models that have a spacer at the top of the spring you should shorten the spacer for each fork leg by 1/2" to compensate for preload added by the damper valves additional height. Remove the fork springs.
16. Rebound dampening is controlled by the fork oil viscosity and this should be set first and is dependant on the fork spring rate, rider weight and individual chassis design ("Standard" model verses "Specials" fork rake & frame configuration. It may be necessary to try different viscosity if you have too much or too little rebound speed. Use the fork oil Viscosity to set the amount of rebound damping, then adjust the compression dampening with the Damper Valves (Damper Valves control the speed that the front end dives when braking and overall front end firmness). The Damper Valves do not affect fork rebound, but the fork oil viscosity does. Reinstall the fork springs and check the preload height of each to make sure that the damper valves are properly seated.
17. Install the fork tube caps. Note: If late model caps with preload adjusters are used you must set these to the lowest possible setting (No preload). Use early 1977D model fork caps (No preload adjuster) if available.
18. Reinstall the fork legs and reassemble the other front end components. Be sure to check alignment, bolt tightness and brakes for function. Align the forks on the axel for minimum bind. Pump the forks to bleed them.
19. To adjust the fork Damper Valves you must remove them from the forks. To remove the Damper Valve use a parts grabber or magnetic rod. Always tighten the nylock jam nut at the bottom of the valve after you adjust the damper valves. When removing the fork springs rotate them as you pull them from the tubes to reduce oil drip.
20. Once set a substantial improvement over the original will result, Enjoy !

