

## IMPORTANT NOTE

A 'SPORTS VALVE' CAN USUALLY BE FITTED BY THE USER IN THEIR OWN HOME WORKSHOP. SOME BASIC MECHANICAL SKILLS ARE REQUIRED. IF YOU ARE UNSURE OR NOT CONFIDENT ENOUGH TO CARRY OUT THE TASK YOURSELF, THEN PLEASE SEEK ADVICE OR ASSISTANCE FROM SOMEONE WHO IS.

THESE INSTRUCTIONS ARE INTENDED TO BE USED ONLY AS A GENERAL GUIDE TO ASSIST INSTALLATION BY THE USER. AS SUCH, UNFORTUNATELY, WE CANNOT ALWAYS CATER FOR SPECIFIC DESIGNS AND THE RARE EVENT OF A MANUFACTURER WHO CHOSE NOT TO USE A SIMILAR DESIGN OF PISTON DAMPER ROD DESIGN AS IS NORMALLY FOUND.

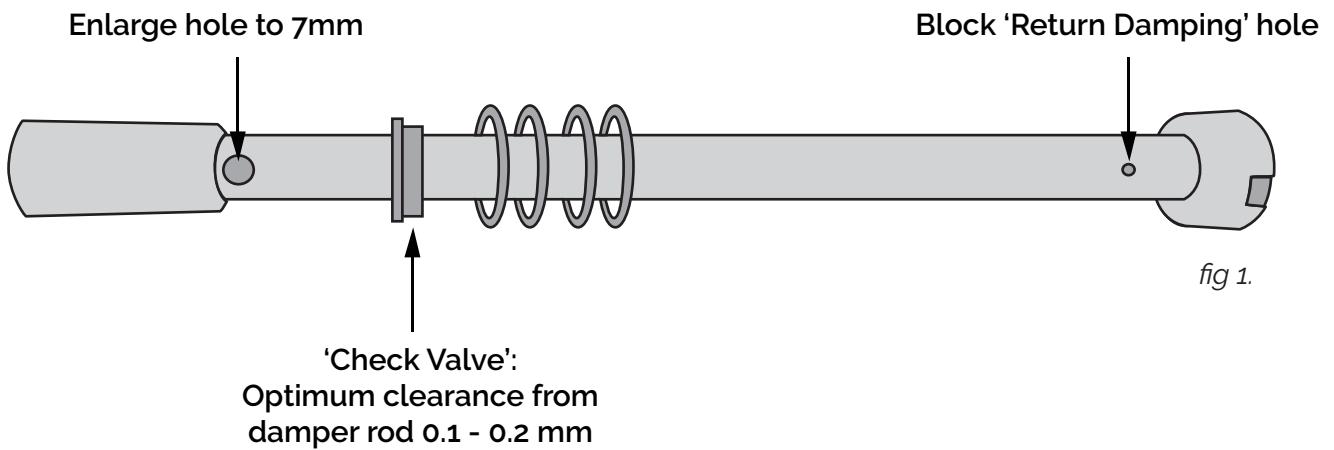
### THE FOLLOWING GUIDE APPLIES TO BOTH FORK LEGS :

- Remove the fork leg drain screw and empty the fork assembly of any existing oil content
- Remove the fork cap, any spacers/washers and main spring.
- Remove dust seal, circlip etc.
- Unfasten and remove the damper retaining bolt located within the underside of the fork lower.
- Separate the stanchion from the lower leg.
- Remove all remaining seals/guide bushes, etc.
- Wash all above parts thoroughly and inspect for wear or damage. Order any necessary parts to render the assembly to a serviceable order.
- Ensure the Check Valve (*see fig 1 on page 2*) is not worn and has the correct running clearance from the diameter of the damper rod. 0.1 - 0.2 mm gives the best results when using a Sports Valve. The flow of oil through this passage dictates the fully firm rebound setting when the Sports Valve is closed. Less clearance equals a stiffer base rebound setting. More clearance equals a looser base rebound setting.

### MINIMUM TOOL REQUIREMENTS:

- Drill Press
- 7mm Drill Bit
- Welding Equipment or Soft Solder
- Small Hand File
- Craft Knife

**DAMPER ROD MODIFICATIONS**



If necessary, enlarge the lower (compression) holes in the damper tube using a 7mm or ¼ inch diameter drill to match *fig 1*.

Be careful not to drill any new holes which may be masked by the damper retaining bolt when re-fitted to the assembly. Also do not drill any new holes which may rise above the check valve within the stanchion when the fork assembly is operating under full compression. De-burr all holes internally and finish holes externally with a small 90 degree chamfer.

Fill in any upper (rebound) holes in the damper tube wall using either electrical solder or by careful welding, and carefully dress back to match the outer contour of the tube. Beware, any rough work here will result in a compromise of the damping action as the check valve passes over this area of the damper tube.

**IMPORTANT:**

**Remove and discard the external plastic sealing ring(s) on the piston head.** The oil must flow cleanly past the piston head to gain access to the 'Sports Valve' and permit the rebound stroke to operate correctly. Additional flow can be encouraged by machining the piston head down in size by maybe a millimetre or so.

At this stage, ensure the upper face of the piston head on the damper rod mates successfully to the underside of the 'Sports Valve' creating a good mechanical face-to-face seal to the **outside** of the three radial ports. It is important that the flow through these ports is not hindered by contact with the piston head.

**continued ...**

The valve should sit in such a way that oil is free to flow from the valve through the three radial ports to the inside of the piston head and gain entry into the damper tube. If the particular shape of your piston head should not permit this flow path, a small amount of machining to the piston head could assist, or maybe a small adaptor ring could be machined to correct this.

Check the 'Sports Valve' has external running clearance within the fork stanchion by removing it's external plastic sealing ring and guiding it down the fork tube towards the lower end and the check valve. It should have around 0.5mm clearance on diameter, allowing it free passage within the stanchion throughout its position of operation.

Repeat the procedure with the valve sealing ring fitted. A SMALL AMOUNT of resistance from the ring contact against the tube bore is acceptable. Any firm resistance means the sealing ring requires a slightly larger gap due to an under size tube. This is achieved by carefully shaving a VERY thin slice from the end of the sealing ring with a sharp craft knife until the desired light resistance within the tube is achieved.

**HELPFUL NOTE:**

Some forks will have passed through many hands before they found you so please don't assume they have been assembled correctly by any previous owner. Where ever possible use a reference manual for your particular model to assist with fitting the 'Sports Valve'.

Pay particular attention to the check valve at the bottom of the stanchion as many of these are fitted or assembled incorrectly. It is vital this check valve is in good order and working correctly for the 'Sports valve' to be of full benefit.

To allow easier access to adjust the 'Sports Valve', wherever possible the fork caps should be machined to accept removable blanking plugs so the valves can be accessed and adjusted without removing the caps themselves.

See *figure 2* for suggested machining details.



*fig 2.*

## REASSEMBLY

Slide the damper rod assembly downwards within the stanchion, through the check valve, and fit the tapered bump stop sleeve on the damper rod.

Slide the stanchion/damper rod assembly into the outer leg and secure the stanchion by tightening the damper rod assembly in position.

Fit new seals in position and secure in place.

Fill fork leg with correct amount of desired fork oil. \*NOTE\* The 'Sports Valve' is designed to be used with thinner oil than is usually found in piston rod forks. 5w is a good starting point in most cases.

Slide the 'Sports Valve' down into the stanchion until it sits in position against the piston head of the damper rod.

If a spacer is fitted within the assembly above the main spring, then reduce its length by 22mm to account for the inclusion of the valve body within the assembly. If not, then the main spring may be reduced in length to obtain a similar result.

Fit the main spring and spacers, etc, and secure the assembly by fitting and securing the fork cap.

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