

# Instructions for Maintenance and Repair CP3 /15 Classic Knapsack Sprayer

Always ensure the sprayer has been thoroughly cleaned with appropriate detergents and is safe to work on. Maintenance work is easy to carry out if the following procedure is followed:

1. Turn the machine upside down, pull out the wire 'R' clip (270581) and slide out the operating lever (72007300)
2. Slide out and remove the two black bearings (334719). The crank (334718) is now free and can be removed by swinging upwards to disengage the hooked end from the piston lower half (335722).
3. Loosen the seven screws (411061) holding the clamp ring (334701) about 15-20mm or until the clamp ring will lift out.
4. Lift out the diaphragm assembly and set aside for later examination, the upper (334721) and lower (334722) together with the diaphragm (334700) which is sandwiched between the two parts.
5. Remove the Cylinder liner (334717), this maybe to tight to with draw with your fingers, in which case turn the machine the right way up and with a suitable instrument press down on the 'L' shaped lugs projecting through the base of the sprayer tank on either side of the dome shaped compression chamber, one side followed by the other until the liner drops out of the bottom of the machine, the valves (334716) are then accessible in the cylinder liner.
6. If the valves are damaged or worn they should be replaced. Hold the cylinder liner in one hand, using a finger or thumb to steady the head of the in-let valve, which is sunk in a recess, carefully insert a flat bladed screwdriver though the valve opening on the side of the cylinder liner, turn the valve so one notched lug is central press inwards and downwards, the valve will tilt and then the other three lugs will follow down through the opening releasing the valve remove the outlet valve on the top of the cylinder in a similar way.
7. All components should now be cleaned and examined for signs of wear or damage.
8. The 'O' ring (242371) on the cylinder liner should be checked to ensure it fits properly into the groove on the cylinder liner and is not distorted or swollen, otherwise it should be replaced, prior to re-assembly this 'O' ring should be lightly greased.
9. If the diaphragm (334700) is swollen or damaged it should be replaced by separating the upper and lower parts of the piston (334721 and 334722) which are held together by a screw. The new diaphragm should be placed over the lower half of the piston/diaphragm holder with the

raised beads facing upwards. Put the screw back and tighten loosely to allow the diaphragm to spin around. Position the loose diaphragm assembly in place over the holes in the bottom of the tank, line up the holes on the diaphragm with those on the base of the tank, adding the crank (334718) and the bearings (334719) will help with this, then remove all the parts carefully so the diaphragm doesn't move then fully tighten the upper and lower halves of the piston which then fully seals the diaphragm in the correct place.

10. The machine and parts having been fully checked for wear tear, is now ready for re assembly.
11. Fit new valves (334716) to the cylinder liner and fit to the machine, note only fits in one position, locate by means of the two lugs, it will slide in easily up to the final 6 mm then firm pressure is needed to finally seat the 'O' ring in the compression chamber. Make sure the flange of the liner is firmly bedded on the base before continuing.
12. Replace the diaphragm assembly turn until the holes line up in the cylinder liner and the crank and bearings fit correctly.
13. Fit the clamp ring ensuring the two lugs fit into the recess in the housing at the rear of the sprayer. Tighten the screws diagonally to avoid distortion these screws should be reasonably tight but not excessively tight.
14. Replace the crank (334718) fit the bearings (334719) these should fit closely to the machine when pushed in.
15. Refit the operating lever (72007300), choose left handed or right-handed pumping, then fit the 'R' clip (270581).

## Pressure relief valve inspection

**Warning!!!** Ensure no residual pressure is in the compression chamber before removing relief valve, do this by operating the trigger mechanism until no liquid is being forced out.

1. Remove the screw cap and the strainer from the machine, the relief valve is now visible. To remove the relief valve (334715) push down and turn clockwise as far as possible it will then pull straight off.
2. The spring (220872) the valve holder (334720) and the valve disc (242364) will drop out if the sprayer is turned upside down.
3. Renew the valve disc if necessary and reassemble by following the above in reverse order.