

Hydraulic fault finding - Main lift - All models with Position & Draught Control - PTO mounted pump

Fault Finding basics

When a hydraulic system fails to work correctly there are a number of 'Things' to do;

1. Stand back and assess the situation, don't rush in and start taking things to pieces have a cup of coffee, think about the situation!
2. Is there enough oil in the transmission?
3. Does the PTO shaft rotate? Is the PTO clutch disengaged? Is the engagement lever in the 'Hyd' position? Is the pump operating?
4. Is the implement too heavy?
5. Are the adjustments correct?
6. Did the fault suddenly happen or was it progressive?
7. Is there an unusual noise?
8. Are the filters OK, have they been changed / cleaned regularly?
9. Are the operating levers OK, do they actually move the linkage?
10. Is the lift latch engaged?
11. Is the 3 point linkage positioned / adjusted correctly?
12. If you require 'Position' control is the lever in position control?
13. If you are using a plough is the lever in 'Draught' control?

Fault finding is largely a state of mind, if a pump is pumping oil then that oil has to go somewhere! Think of a garden hose, if you turn the tap on water should come out of the other end, but if there is a kink in the hose it won't, if there's a split in the hose the water will escape! If the tap is only half turned on only a small amount will come out of the other end.

The pump, which is in two sections, operates either when the engagement lever is in the 'hyd' position and the PTO clutch is engaged or continuously when the PTO clutch is engaged depending on whether the early or later type of PTO drive is fitted. The pump draws oil from the transmission through the suction strainer.

The main (rear) pump section supplies high pressure oil to operate all hydraulic equipment. The front (secondary) pump supplies oil to the by-pass filter which constantly filters the transmission oil.

Oil from the main pump either flows directly to the internal control valve block or to the external valve inlet cover via internal piping and a hose connected to the lower port of the adaptor block on the rear face of the hydraulic case, depending on the model of tractor. If the external valve block is fitted the oil flows through internal passages in the external valve pack, supplying each valve, and out through the pressure beyond adaptor in the lower face. It then flows through a hose, connected to the upper port of the adaptor block, and internal piping to the main 'Position' and 'Draught' control valve block.

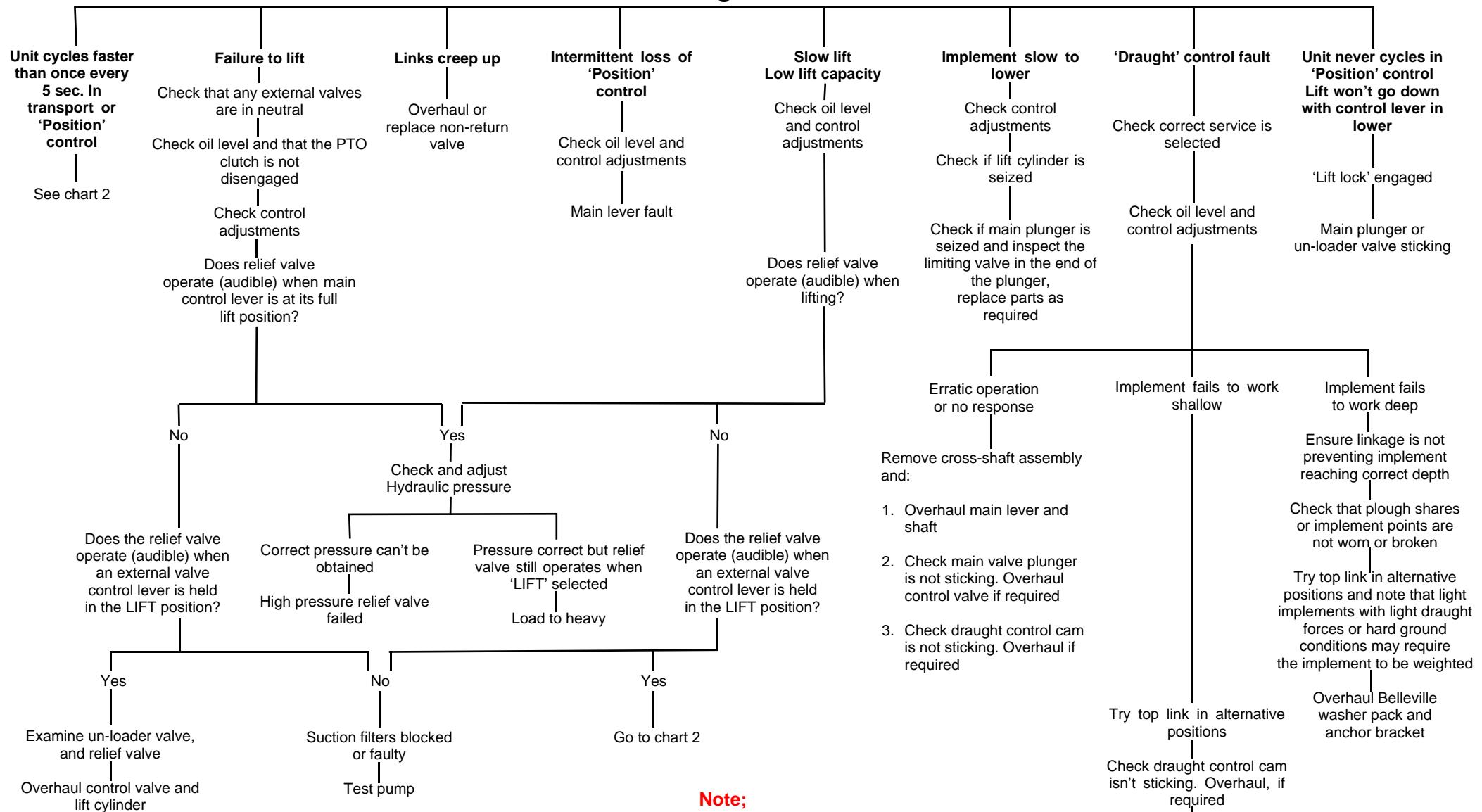
Note; the external valve(s) have priority over the main control valve. If an external valve is in a power flow position the main lift can be used to lower, or hold the lift arms, but not to lift.

When an external valve is in operation, exhaust oil from the valve pack passes out of the front port of the inlet cover, via a hose connected to the right hand side of the hydraulic case, to the transmission. A relief valve, in the inlet cover of the external valve pack, allows oil to pass directly from the inlet port to the exhaust port when the maximum oil pressure is exceeded.

Use the charts on the following pages to help fault finding.

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Chart 1
Position / Draught Control Fault



Hydraulic fault finding - Main lift - All models with Position & Draught Control - PTO mounted pump

Chart 2

