
TROUBLESHOOTING

a) Pump does not prime

- ◆ Trying to lift water too far up to pump (25' is a realistic maximum *at sea level - altitude will limit this*)
- ◆ Insufficient water in suction hose inlet
- ◆ Suction inlet or strainer blocked
- ◆ Suction line has a vacuum leak
- ◆ Collapsed suction hose
- ◆ Pump non-return valve is not closing due to wear / debris
- ◆ Air leak in pump assembly (check suction hose and front cover gaskets, ball valves open, dowty washers / bolts, mechanical seal)
- ◆ Compressor belt broken / not driven / compressor not rotating
- ◆ Compressor valve failure
- ◆ Pressure relief valve failed / missing
- ◆ Compressor pipe leaking air or plugged
- ◆ Engine and compressor speed too low for required lift
- ◆ If running with a flooded suction and a disabled priming system the volute may be airlocked

b) Pump appears to prime but nothing comes out of discharge line

- ◆ If pumping up and over an embankment the discharge piping may be airlocked
- ◆ Closed valve in the discharge line

Either fault is potentially very hazardous and the system should be shut down until the fault is found and rectified (See below)

c) Excessive milkiness in seal oil

- ◆ Mechanical seal damaged or worn - to be replaced (*PLEASE NOTE: minor contamination is normal*)

d) Excessive heat in volute

- ◆ Possibly pumping against a closed discharge - **this is a potentially dangerous situation and the system should be shut down until the fault is found.**

e) Failing Performance

Basic checks are as follows:

- ◆ Power unit defect (consult power unit handbook)
- ◆ Compressor problem / failure
- ◆ Restricted / blocked suction or delivery hose
- ◆ Air leak on suction hose
- ◆ Worn impeller and / or wearplates

f) Not enough liquid being pumped out of discharge piping

- ◆ Incorrect engine speed / engine problems
- ◆ Incorrectly sized pump for task
- ◆ Viscous liquid
- ◆ Trying to lift water too far up to pump
- ◆ Blockage in suction / discharge piping
- ◆ Incorrect sizing of suction / discharge piping (leading to excessive friction losses)
- ◆ Vacuum leak in suction piping
- ◆ Insufficient submergence of suction pipe
- ◆ Excessive internal pump wear

g) Pump takes excessive power to drive

- ◆ Engine speed too high
- ◆ Internal obstruction in pump
- ◆ Viscous liquid
- ◆ Altitude is limiting diesel performance

h) Excessive pump vibration

- ◆ Engine speed too high
- ◆ Obstruction in pump casing / impeller
- ◆ Damaged impeller
- ◆ Cavitation due to excessive suction lift

i) Premature bearing failure

- ◆ Misalignment / excessive crush
- ◆ Improper piping support
- ◆ Bent pump shaft
- ◆ Lack of / contaminated bearing lubrication

j) Oil coming forward into volute

- ◆ Mechanical seal damaged or worn - to be replaced
- ◆ Stationary seat holder O-ring damaged

k) Pumpage in oil reservoir / passing out of rear lip seal

- ◆ Mechanical seal damaged or worn - to be replaced