

BASIC SYSTEM PERFORMANCE CHECKLIST FOR CENTRE-PIVOTS

SAFETY TIP

Safety first - many items can be fixed on-farm, others require specialist skills and equipment. Know your limits and obligations.

Step 1

Performed when system is
OFF

- Inspect the power supply from the ground exit point to the pivot
- Inspect control cable for damage (if applicable)
- Check centre point hydraulic control valve & control tubing/wiring
- Check air valve at the centre point (if applicable)
- Inspect anchor bolts at centre point
- Grease pivot point
- Inspect control panel – looking for obvious damage, insect nests, water and corrosion
- Walk the pivot and look for any obvious damage, loose wheel nuts, bent steel work, damaged drop tubes and sprinklers
- Visually inspect span and motor cables for damage – chewed cables, cables pulled from glands, etc
- Inspect gear boxes for correct oil level, and leaks
- U-joints – check for worn u-joint inserts and ensure driveshaft shields are in place for safety
- Ensure part-circle sprinklers (if fitted) are orientated correctly
- Check that sprinkler packages match nozzle chart
- Check that sprinkler packages are not at end of life
- Check tyres for correct operating pressure and general condition. Correct pressures are:

Tyre size	Suggested running pressure (PSI)*
16.9 x 24	11.5 to 14
14.9 x 24	16
11.2 x 38	17

*The suggested pressure does vary between manufacturers therefore it is best to check what is recommended for your brand machine.

Step 2

Performed when system is
ON

SAFETY TIP

Walk the irrigator track before turning on the system to check for obstacles that the machine may collide with (fallen trees, machinery, damaged pivot bridges etc)

- Start and run pivot
 - Check forward and reverse operation
 - Visual check of machine alignment
 - Test safety circuit is working (out of alignment circuit)
- Test pump start system from the pivot centre
- Flush the pivot by running with the sand trap cap removed, run until clear water is evident
- Replace sand trap cap and run pivot up to pressure
- Inspect sprinklers and pressure regulators, ensure they are all working (look alive)
- Look for leaks, and repair as required

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Step 3 Pump maintenance checklist

SAFETY TIP

Before completing any checks at the pump station ensure all electrical isolator switches are **OFF** (tagged/ locked) in the switch board

Electrical

- Visually inspect all wiring for damage and condensation. This should include both wiring in cable trays and in cabinets
- Check for any sign of shorting, burnt cables, hot terminals
- Test starters / drives, ensure they are working
- Test priming system – reprime priming pump if applicable
- Test pump protection system i.e. pressure switches by shutting valves, etc

Mechanical

- Clean and inspect foot valve (if applicable)
 - Check adequate submergence of foot valve to ensure that vortexing/cavitation is not occurring
- Inspect suction and discharge piping for corrosion and leaks
- Fully close and open all valves to ensure they are still functioning
- Ensure air valve on discharge is functioning and sealing
- On systems drawing from a water source below the pump, ensure the suction assembly rises to the pump flange i.e. ensure there is no high point above the pump flange, this includes the fitting bolted to the pump flange
- Ensure system is primed / priming pump or system working if applicable
- Ensure pump is rotating in correct direction
- Spin the pump by hand if possible to ensure it is free
- Run the pump
- General check over the pump and motor to detect any visible issue, leaks, cracks, etc
- Grease pump and motor as per the manufacturer's guidelines (Important)
- Check flow metre and pressure gauges are working
- Check belt drive is tight (as applicable)

*Healthy pumps and motors should be running cool and quiet, if there are strange mechanical noises and excess heat generation this warrants further investigation by a trained technician.