Hydraulic Problems for Standard Series Single Pump

1 CHECK PTO SYSTEM

Manual PTO

- Check the cable. If broken, worn or frozen up, replace the cable

Air Shift PTO

- Check the lines are not kinked or leaking
- Do you have 90 PSI? This pressure is the minimum necessary to activate the PTO

Your PTO must work for your hydraulics to work. The PTO turns to activate the pump. If your PTO is still not working properly, see step 2

2 CHECK PUMP

Pump has slow RPM's or does not work at all

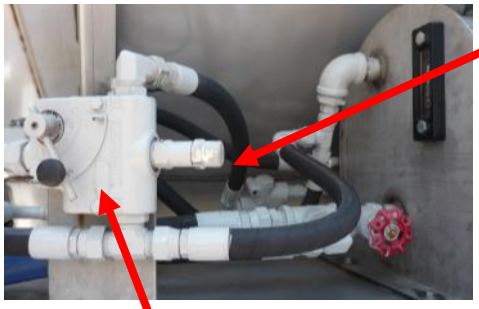
- Disconnect the pump from the PTO
- Check splines in both pump and PTO for wear

Replace the shaft in your PTO or replace the shaft in the pump as necessary.
If your problem is in your pump, it may be cheaper to replace the entire pump.

3 CHECK FLOW METER

GPM - gallons per minute

- Verify GPM for your truck. Is it set for 16 or 32 GPM
- Crank truck and rev it up to your working RPM's
- On flow control valve, crank needle valve down clockwise



Pressure relief valve

Flow Control Valve

- Pressure relief valve should be between flow meter and pump

- On flow control valve, crank needle valve down clockwise
- While checking both flow control valve and pressure relief, start increasing pressure by turning needle valve clockwise

If your GPM decrease rapidly, then you have a worn pump. Replace pump.

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4 Check flow control valve.

There are two different types of flow controls. Every spreader with hydraulic spinners uses one of them:

HV-FC5134 or HV-FCB5112SAE: Move the lever to a smaller number to slow the spinners; the higher the number, the faster the spinners will run. Lubricate the stem moving the handle: both sides weekly.

HV-CFDAL75: Turn the knob on the top clockwise to slow the spinners, counter clockwise to speed the spinners up. (Loosen the lock knob before attempting to turn the top adjusting knob.)

Gresen
HV-CFDAL75

- Older type valve.
- May seize—meaning it won't slow down or speed up

Take needle valve out and polish it. Sometimes this will correct the problem. If the FCV is still frozen, replace it.

Parker
HV-FC5134
(has NPT thread)
or
HV-FCB5112SAE
(has O-ring fittings)

- Newer type valve
- When it seizes, it is on the side where speed is increase
- Fertilizer will cause it to lock up

Clean and grease valve.

When your hydraulics are working properly, set your RPM's for your swath width:

- 40 foot swath = 450 RPM's
- 50 foot swath = 550 RPM's
- 60 foot swath = 650 RPM's

GENERALIZATIONS ABOUT HYDRAULIC PROBLEMS

Check the oil level in the tank and be sure the valve under the tank is open and oil is flowing.

Spinner speed dropping off at high application rates:

The main pump is worn out, the oil usually heats up also.

One or both spinner motors need rebuilding.

The pressure relief valve is defective.

On older units the wheel control valve could be out of adjustment.

> Spinner speed cannot be set at correct RPM:

Flow control valve is stuck.

The power unit rpm's are not high enough.

The pump is too small.

The PTO is too slow.

The oil is too thick and will not flow in the pump.

The unit is below its working range.

> The spreader works for a while, quits, then works again:

The pump is not getting enough oil, there is something blocking the oil flow to the pump.

> The drive wheel does not move and the spinners don't turn:

The PTO is not engaged.

The pump shaft is broken or the splines have worn off.

No oil is reaching the pump.

The wheel control is worn allowing by-pass.

Hydraulic oil

A high quality hydraulic oil is recommended. A completely empty system requires 22 gallons for 20 gallon tank or 40 gallons for a 40 gallon tank to bring the level half way up the sight gauge. For units without a sight gauge, the oil level should be 9 inches deep. Over-filling will cause the oil to "blow" out the breather during operation. A 15 weight oil should be used; 20 weight can be used during the hot summer months, but will cause cavitations problems when the overnight temperature drops below 40 degrees. Use Citgo A/W 46 or equivalent. The oil should have rust and oxidation inhibitors and non- foaming characteristics. The oil should be changed annually along with changing the suction filter, part number HF-K23001. The return line filter, part number HF-FSP2121EFNN should be changed after 50 hours than every six months or 250 hours. Repair oil leaks when you notice them. Check the pressure line from the pump to the body, for wear spots, periodically. A leak in this line could spray oil on the hot exhaust pipes and cause a fire. Always use 100R2 hose when replacing this line. All hydraulic lines should be checked frequently for signs of rubbing. Any point where the hoses touch a metal corner should be padded. NEVER stop oil flow to the return side. Blocked line will cause motor failure.

HYDRAULIC PROBLEMS & SOLUTIONS

Erratic Operation of Conveyor and/or Spinners

CAUSE	CORRECTION
Low oil	Fill reservoir to a ¾ full level or proper level
Worn or defective motor	*Repair or replace motor
Dirty, worn, or defective flow control valve	*Clean, repair, or replace flow control
Plugged filter	Replace filter element and clean filter
Relief valve setting too low	Check relief valve for correct PSI
Pump cavitation	Check pump, PTO, transmission require-ments
Air vent on reservoir tank is blocked	Clean or replace vent cap to admit at-mospheric pressure to inside the tank
Rate control	Review all Controller settings – Basic 6
Hydraulic valve	Remove electric drive – clean, free up and grease. Reinstall correctly – check battery connections

Conveyor and/or Spinner(s) Will Not Operate

CAUSE	CORRECTION
Connections are dirty, damaged, or improperly connected	Check electrical connections, clean with spray. Test with Volt Meter ONLY
Hose connections wrong	Hoses reversed
Foreign material in valves	Clean valve
Rate control	Review all Controller settings

NOTE:
Conveyor refers to all hydraulic units

**Newton Crouch Inc. warranty does not cover unauthorized disassembly of hydraulic or electric components*

HYDRAULIC PROBLEMS & SOLUTIONS

Pump Cavitations (Recognized by Excessive Noise)

CAUSE	CORRECTION
Air entering system through suction lines	Check line from reservoir for possible leaks
Suction line kinked, twisted, or too long	Install suction line as short and straight as possible
Inadequate sized suction line	Increase suction line size
Oil too heavy	Drain and replace with a low viscosity non-detergent oil
Excessive pump speed	Check PTO/Pump combination. Pump capacity varies. Check Operation Window
Plugged suction filter or filter not installed correctly	Let oil cool, clean internal filter, reinstall

Slow Operation of Spinners or Conveyor

CAUSE	CORRECTION
Worn or defective pump	*Repair or replace pump
Worn or defective motor	*Repair or replace motor
Pump Cavitation	Check pump capacity and truck revolutions per minute
Insufficient pump speed	Increase truck revolutions to Operation Window, or change PTO
Wheel control	Correct cable or ware
Oil viscosity incorrect	Change oil
Improper setting Controller	Review all Controller settings

Before you call NCI for technical assistance, know the serial number from your equipment located on the left side rail on the unit.

1-800-241-1350

NEWTON CROUCH
The Spreader *of* Choice