The First Forgotten \$ -Truck Probe Maintenance





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The First Forgotten \$ -Truck Probe Maintenance





Cody Levens

Authorized Grain Service

• Chief Operations Officer (COO)







"The First Forgotten \$"





Truck Probes

- Your first sample may mean the most!
- Accuracy: The whole purpose of using a truck probe is to obtain a sample that is graded in your lab. The grades given to that sample determines the value of the load coming in. Moisture, Damage, FM....



"You are losing money on every truck by not making sure you have an accurate sample"





 A few 1000 trucks a week with bad grades may add up to a major loss of \$\$\$

Speed and Accuracy

• Truck probes are a safe and efficient way to collect a sample.

• A proper probe of the load will show a very accurate representation of the commodity coming in.



Common Maintenance Issues

Hydraulic related

Vacuum related

Equipment related





<u>Hydraulic</u> <u>Maintenance</u>

- •Every good piece of machinery requires proper and timely maintenance!
- •Water & Oil do NOT mix

•It is important to ensure that the hydraulic cabinet lid is thoroughly sealed to prevent water from entering • Water in tank can cause <u>ice</u> build up in cold weather • Completely clean out your oil tank every other year









Oil Change Components

•Temp. sight gauge

•In-tank strainer

•Oil filter

•Filler/breather cap

•IS Blue Hydraulic Oil



Hydraulic Power Unit

- ✓ Noisy motor or bearings
 - Overheated motor or pump
- ✓ Check condition of oil (change at least once/year)
- ✓ Check oil level in reservoir (must be above red low level)
- Check oil pressure relief valve (750 PSI for 3 HP) (1250 PSI for 5 HP)
- ✓ Check hydraulic line connections
- Inspect oil filter cartridge (change if required)
- Grease ports
- Clean breather vent & suction filter
- Check hydraulic fluid temperature (110-135°F)



PM Checklist:

- Check in/out cylinder for leaks around piston and rod gland
- Check up/down cylinder for leaks around piston and rod gland
- Inspect chain on rotational motor
- Check rotational stops on sprocket
- Check telescoping boom for ease of movement
- Lubricate shafts & bearings





Checklist Cont...





Vacuum Maintenance

Clean lines Sample Lines sizes

Air flow

Strong vacuum

Balanced vacuum





Sample Tube & Vacuum System

All fasteners securely attached to the tubing
Tube checked at entrance through walls for leaks
Inspect for dents or kinks in tubing lines
Check suction on vacuum motor
Check wear on vacuum motor housing







Wear and Tear

All hoses free of cracks

Cross contamination





Vacuum Motor Box

•Grain dust can collect inside vac motor box and starve your motor

•Regularly check your vac motor box and remove unwanted grain dust



*The core probe is designed to be a balanced system such that air is neither being pulled into or pushed out of the sampling end of the tip.

Check for correct air balance as follows:

- **1.** Turn the vacuum motor ON.
- 2. Place a dollar bill over the sample opening

3. The dollar should stay in place, without being neither being sucked into the stinger, nor blown away.

4. To correct air imbalance, loosen the blowback hose where it connects to the probe stinger.

5. To increase suction slide hose up to expose some of the existing relief holes.

- 6. To decrease suction slide hose down to cover up some of the relief holes.
- 7. Check for proper balance again and re-adjust if necessary.





Collection Box

- Plexiglass okay
- Check and clean screen
- Gasketing okay
- Door seals properly
- Check for excessive dust in cabinet





Grain Return Systems

Mounted on truck probe

Stand alone

Direct Return



Safety and Efficient

Back Injuries

• Time and hassle

• All weather-related issues

• Spillage of grain

• Nonemployees over a truck

• Cleanness of grading lab



Which Probe Do Have???







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