

Spreader Calibration Procedure

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Calibration is simply calculating the pounds per mile discharged at various truck speeds by first counting the number of auger or conveyor shaft revolutions per minute, measuring the salt discharged in one revolution, then multiplying the discharge rate by the minutes it takes to travel one mile. With hopper types or spreaders with adjustable discharge openings you must calibrate for specific gate openings. Measure from floor of conveyor to edge of gate. Each spreader must be calibrated individually; even the same models may vary widely at the same control setting.

Equipment needed:

1. Scale to weigh salt
2. Salt collection device
3. Marking device
4. Watch with second hand

Calibration steps:

1. Remove, bypass or turn off spinner.
2. Warm truck's hydraulic oil to normal operating temperature with spreader system running.
3. Put partial load of salt on truck.
4. Mark shaft end of auger or conveyor.
5. Dump salt on auger.
6. Rev truck engine to operating RPM.
7. Count number of shaft revolutions per minute at each spreader control setting; record.
8. Collect salt for one revolution, weigh, deducting weight of container. (For greater accuracy, collect salt for several revolutions and divide by this number of turns to get weight for one revolution.)
9. Multiply shaft RPM (Column A) by Discharge per Revolution (Column B) to get Discharge Rate in pounds per minute (Column C), then multiply Discharge Rate by Minutes to Travel One Mile at various truck speeds to get Pounds Discharged per Mile.*
*For example, at 20 MPH with 30 shaft RPM and 7 lbs. Discharge – $30 \times 7 = 210 \times 3.00 = 630$ lbs. per mile.

Calibration of Automatic Controls

Automatic controls may be calibrated using the following steps:

1. Remove, bypass or turn off spinner.
2. Set control on given number.
3. Tie sack or heavy canvas under spreader discharge area.
4. Mark specific distance, such as 100 or 1,000 feet.
5. Drive that distance with spreader operating.
6. Weigh salt collected.
7. Multiply weight of salt by 5.2 (in case of 1,000 feet or 52.8 (in case of 100 feet).
Answer will be salt discharged per mile, which remains constant regardless of speed, but calibration must be done for each control setting. Some automatic control manufacturers have "simulators" which eliminate need for on-road operation for calibration.