

CALIBRATION CHART (US)

Agency: _____
 Location: _____
 Truck No: _____ Spreader No: _____
 Date: _____ By: _____

Gate Opening _____ (inches) (Hopper Type Spreaders)				DISCHARGE RATE (pounds discharged per mile)								
				TRAVEL SPEED AND COMPUTATION MULTIPLIER ()								
Control Setting	A Shaft RPM (Loaded)	B Discharge per Revolution (pounds)	C Discharge per Minute (lb) (A x B)	5 mph (x 12.00)	10 mph (x 6.00)	15 mph (x 4.00)	20 mph (x 3.00)	25 mph (x 2.40)	30 mph (x 2.00)	35 mph (x 1.71)	40 mph (x 1.50)	45 mph (x 1.33)
1			-	-	-	-	-	-	-	-	-	-
2			-	-	-	-	-	-	-	-	-	-
3			-	-	-	-	-	-	-	-	-	-
4			-	-	-	-	-	-	-	-	-	-
5			-	-	-	-	-	-	-	-	-	-
6			-	-	-	-	-	-	-	-	-	-
7			-	-	-	-	-	-	-	-	-	-
8			-	-	-	-	-	-	-	-	-	-
9			-	-	-	-	-	-	-	-	-	-
10			-	-	-	-	-	-	-	-	-	-
11			-	-	-	-	-	-	-	-	-	-

**THE ACTUAL APPLICATION RATE (POUNDS PER LANE MILE) ON THE HIGHWAY
IS THE DISCHARGE RATE DIVIDED BY THE NUMBER OF LANES BEING TREATED**

SPREADER CALIBRATION PROCEDURE

Calibration is simply calculating the pounds per mile discharged for each control setting at various travel speeds by first counting the number of auger or conveyor shaft revolutions per minute, measuring the weight of salt discharged in one revolution, then multiply the two to obtain discharge per minute, and finally multiplying the discharge per minute by the time it takes to travel 1 mile. Most spreaders have multiple gate openings; so you must calibrate for specific gate openings.

Equipment needed:

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

Calibration steps:

1. Remove, by-pass 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 discharged for one revolution, weigh it and deduct the weight of the container. (For greater accuracy, collect salt for several revolutions and divide by that number of revolutions to get the weight for one revolution.)
9. Multiply Column A by Column B to get Column C; then multiply Column C by the number of minutes to travel one mile () at various truck speeds to get pounds Discharged per mile.*

*example : at Control Setting 2, w/ a shaft RPM of 3, a discharge of 18 lbs. per revolution and a speed of 20 mi/hr, the computation is: 3 x 18 x 3.00 = 162 lb/mi.

CALIBRATION OF AUTOMATIC CONTROLS

Automatic controls may be calibrated using the following steps:

1. Remove, by-pass or turn of spinner.
2. Set control on given number.
3. Tie sack or heavy canvas under spreader discharge area.
4. Mark specific distance on a highway or other paved area, such as 1000 ft. .
5. Drive that distance with spreader operating.
6. Weigh salt collected.
7. Multiply weight of salt by 5.28 (in case of 1000 ft.).

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.