6000 and 7000Series Granular Applicator

7030 Granular Applicator

Specifications and Options

Fits on Air Seeder Model	7130	7180
Capacity	30 cu. ft.	30 cu. ft.
Meter shut-off	Electric	Electric
Zapper clutch	Standard	Standard
Working width	26 ft. to 64 ft.	26 ft. to 64 ft.
Hopper Screens	Optional	Optional
Metering System - Ground Driven	Standard	Standard
Number Secondary Runs	14 to 30	14 to 30
Primary Hose - Diameter	2 1/2"	2 1/2"
Secondary Hose - Diameter	15/16"	15/16"
Tank Walk-Way	Standard	Standard
Easy Clean Out System	Standard	Standard
Monitor - (Shaft Motion and Bin Level)	Quick couples to Air Seeder Monitor Standard	Quick couples to Air Seeder Monitor Standard

7040 Granular Applicator

Specifications and Options

Fits On Air Seeder Model	7240	7300
Capacity	40 cu. ft.	40 cu. ft.
Meter shut-off	Electric	Electric
Zapper clutch	Standard	Standard
Working width	26 ft. to 64 ft.	26 ft. to 64 ft.
Hopper Screen	Optional	Optional
Metering System - Ground Driven	Standard	Standard
Number Secondary Runs	14 to 30	14 to 30
Primary Hose - Diameter	2 1/2"	2 1/2"
Secondary Hose - Diameter	15/16"	15/16"
Tank Walk-Way	Standard	Standard
Easy Clean Out System	Standard	Standard
Monitor - (Shaft Motion and Bin Level)	Quick couples to Air Seeder Monitor Standard	Quick couples to Air Seeder Monitor Standard

General Operation

The Morris 6000 and 7000 Series Granular Applicator can be used for applying all forms of granular chemical plus fine seeds such as Canola, alfalfa or clover. The unit when combined with the 6000 and 7000 Series Air Seeder allows a number of application options.

1. Granular chemicals or fine seeds can be applied alone.
2. Fine seeds can be broadcast and fertilizer can be banded simultaneously.
3. Undercover crop such as clover can be broadcast and seed and fertilizer applied in one operation.
4. Granular chemicals can be applied and fertilizer can be banded simultaneously.
5. Granular chemicals can be broadcast and seed and fertilizer alone, or seed and fertilizer together can be applied in a single pass.

In all of these options the amount of air required to carry the material varies with the amount being applied and the ground speed of the unit.

In certain applications horsepower requirement for the fan can be dramatically reduced. This helps to optimize the tractors fuel efficiency while reducing the air volume requirements for the system.

In application (1) above optimum efficiency can be simply attained by inserting the blank off plates (supplied) at the primary hose coupler(s) on the rear of the cultivator.

The hoses to be blanked off would be the ones carrying no product, in this case the seed and fertilizer hoses.

Similarly in application (6) the hoses to be blanked off are the ones that would normally be carrying the granular chemical. In this case it is strongly recommended that the Granular Tank be empty of all product.

When changing the application option to either 2, 3, 4 or 5 ensure the blank off plates are **removed** from the primary hose coupler(s).

IMPORTANT

Products such as fertilizer and or coarse grains such as wheat, barley etc. *cannot* be metered by the granular metering system.

Operating Overlap

The granular deflectors are spaced across the cultivator for the maximum coverage for that particular size of machine.

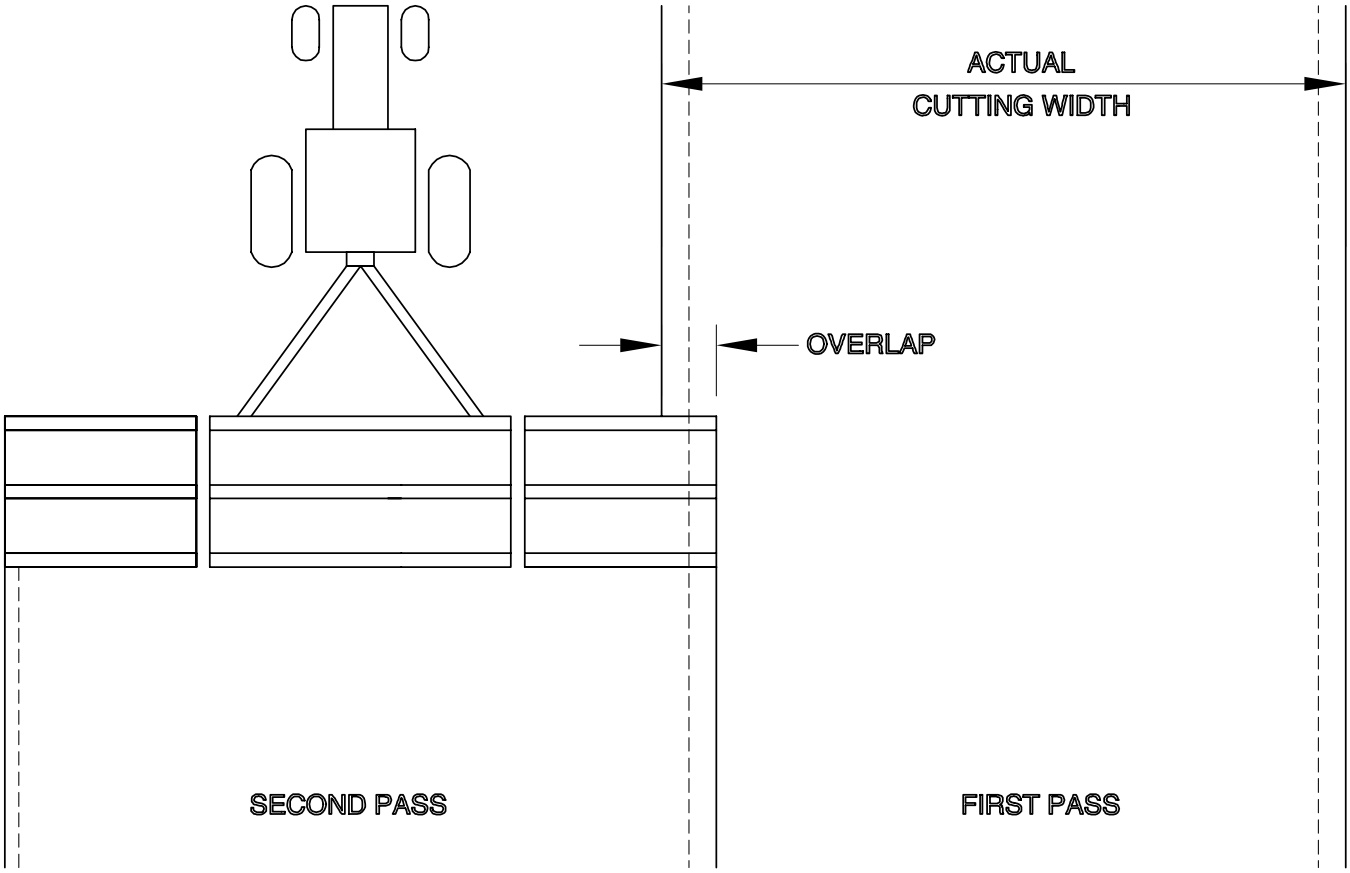
For correct chemical coverage it is required that the chemical spread patterns overlap. To ensure this, there is a specific distance the machine must be run over the first pass on the second pass.

For example, from the tables on page 5.9 the working overlap for a 35 ft. machine is 16". So on the second pass the cultivator must overlap the first pass by 16" to ensure the correct chemical coverage.

Note: The application rate of the Air Seeder will be doubled in the overlap area required by the Granular Applicator.

The granular deflectors are spaced on the Maxim Air Drill to provide no overlap in seeding or zero-till applications.

IMPORTANT: The Maxim Air Drill DOES NOT have any operating overlap.



Metering System

The 6000 and 7000 series Granular Applicator uses a combination of metering wheels and spacers shown below. The metering wheels are individually sized to correspond with the number of outlets at the connected secondary divider. A spacer is installed, depending on the size of wheel, to make up the distance between the metering wheel and the body.

It should be noted that although the system looks identical to the one in the Air Seeder it is not. The metering wheels, in this case, are manufactured to extremely high tolerances to ensure that the fine granular product is metered to the highest degree of accuracy.

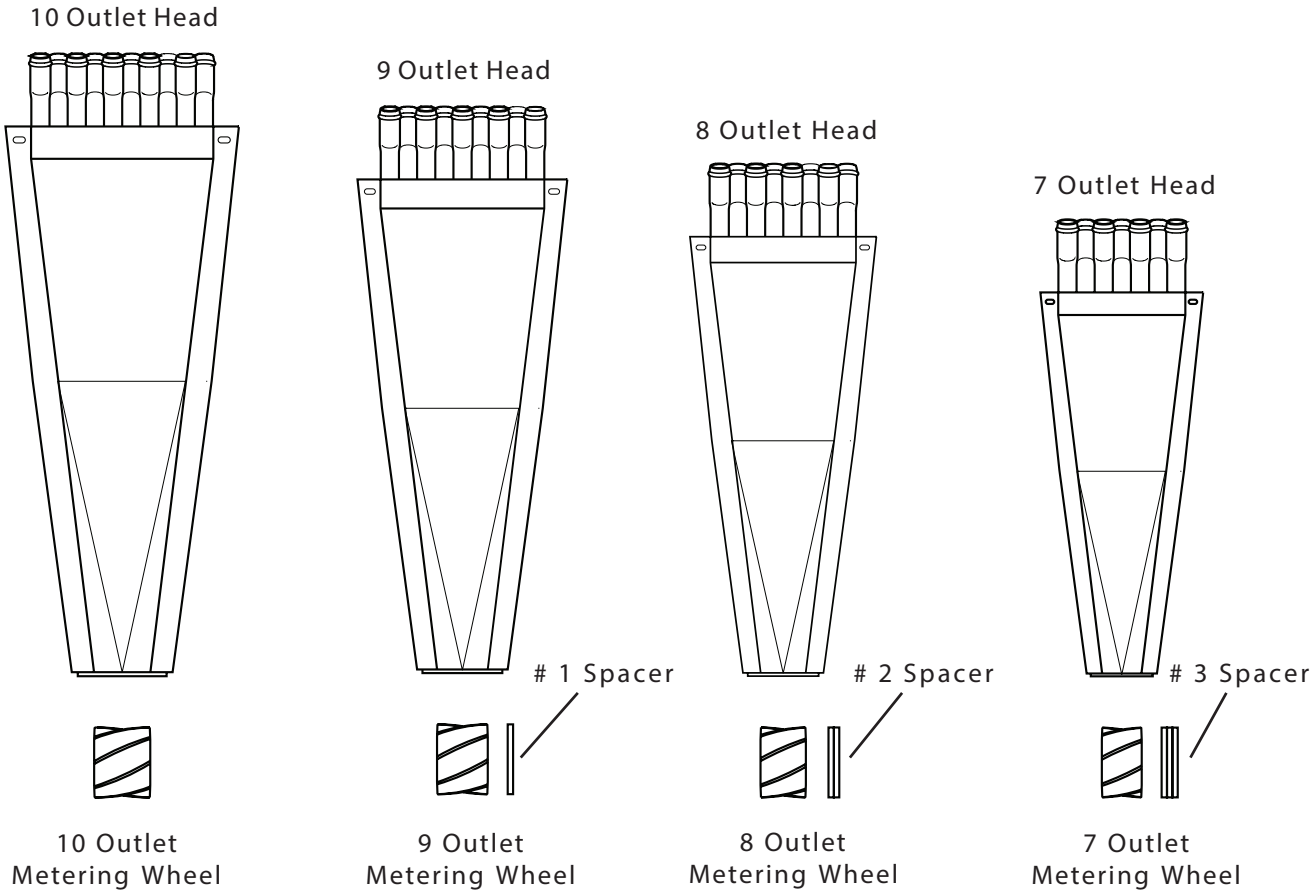
The 6000 and 7000 Series Granular Applicator can meter all types of granular chemical both clay and limestone based, Canola, mustard, alfalfa and clover without any internal metering adjustments.

Different rates are easily obtained by interchanging the quick change sprockets supplied with the Air Seeder.

Note: Before putting product in the tank ensure that:

(a) The cleanout doors are fully closed and sealed.

(b) The plastic bag covering the fan is removed.



Filling Tank

The **6000 Series** Granular Applicator comes in two sizes:

(1) 6028 Granular Applicator fits the 6130 and 6180 Air Seeders. It has a capacity of 28 cu. ft. which translates to 2300 lbs. of Treflan or 1000 lbs. of Avadex.

(2) 6040 Granular Applicator fits the 6240 and 6300 Air Seeders. It has a capacity of 40 cu. ft. which translates to 3286 lbs. of Treflan or 1429 lbs. of Avadex.

The **7000 Series** Granular Applicator comes in two sizes:

(1) 7030 Granular Applicator fits the 7130 and 7180 Air Seeders. It has a capacity of 30 cu. ft. which translates to 2464 lbs. of Treflan or 1071 lbs. of Avadex.

(2) 7040 Granular Applicator fits the 7180, 7240 and 7300 Air Seeders. It has a capacity of 40 cu. ft. which translates to 3286 lbs. of Treflan or 1429 lbs. of Avadex.

- Open the tank lid or remove lid when using mini bulk bags.
- Remove the screen, check the tank for debris, replace the screen.
- If using auger, run auger slowly. Granular product will not auger at high auger speeds.

Warning! Ensure that all auger and tank screens are in place. Always use screen to filter when filling.

- Remove the plastic bag covering fan.
- Once tank is filled, clean lid seal and ensure lid seal is positioned correctly. Ensure all auger and tank screens are in place.
- After a rain or dew the fan should be run for 2 minutes to purge the moisture from the system before operation.
- Check lids for air leaks with your hands once the Air Seeder fan is operational. Pull up on the corner of a lid, if air escapes, tighten lid latch. (See *"Tank Lid Adjustment"* in Maintenance Section)
- Check metering body for air leaks.

Important: When the Granular Applicator is filled with Treflan or Heritage (2300 lbs.) the Air Seeder Tanks on the 6130 and 6180 should only be filled 1/2 full.

Important: When the 7040 Granular Applicator is filled with Treflan or Heritage (4400 lbs.) the 7240 Tow Between Air Seeder *FRONT TANK* should only be filled 1/2 full.

⚠ Warning

Do not enter tank unless another person is present.

Important

The Granular Tank *MUST BE EMPTIED* at the end of each operating day.

This prevents possible condensation forming inside the tank which can cause problems in metering should the chemical or seed become moist and cake together.

Note: The Fertilizing Banding Kit *CANNOT be used* with the Granular Applicator. When a Granular Applicator is installed the banding kit must be removed.

Metering Rate Adjustment

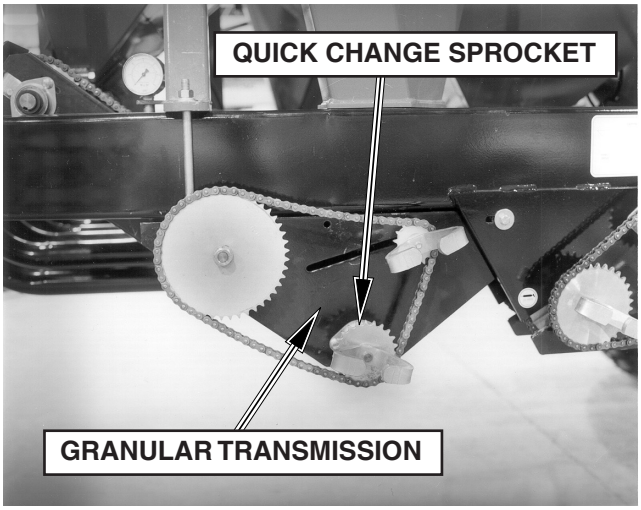
The metering rate adjustment is the same as the Air Seeder. The rate varies with the speed of the metering wheels. A new rate is achieved by changing a sprocket on the Posi-Drive Transmission for the Granular Applicator.

Refer to the rate charts for desired application rate and sprocket selection.

Note: The Rate Charts should only be used as a guide. Even though actual product was used to determine the chart variation in product size, density, shape, tire pressure and wheel sinkage are all factors that influence the meter rate.

- Loosen metering chain on posi-drive transmission, by loosening the idler.
- Spin off the wing nut and remove the rate change sprocket.
- Install the desired rate change sprocket and tighten the wing nut.
- Tighten the chain by adjusting the idler.

Note: Do not over tighten chain, just take slack out of chain.



Rate Calibration

The practice of doing a rate calibration is strongly recommended as it will confirm the actual amounts of product being put onto the ground.

The following procedure is one that should be followed for every rate calibration or change of product.

For all Granular Chemicals and Fine Seeds it is recommended to take a larger sample, typically, to take a sample for a 1/2 acre or 1 acre.

The sample collector only holds product sample for 1/4 acre. The collector **must be** emptied into a larger container for accurate samples.

Note: The fan must not be running when a rate check is performed.

Note: For samples greater than 1/4 acre, empty rate check box into a larger container, then collect additional samples as required. Remember to subtract the weight of the container used from the total sample weight.

Rate Calibration - Continued

For a 1/2 acre sample for a 31 ft. wide cultivator on 12" spacing with a 7180 Air Seeder.

- From the table on page 5-12 the spread width for a 31 ft. 12" spacing 8900 is 360 inches (30 ft).
- Turns required for 1/2 acre sample = 77.44 turns from the chart on page 5-10.

Rate = lbs/acre = 1/2 acre sample weight (lbs.) x 2

For a 1 acre sample for a 31 ft. wide cultivator on 12" spacing.

- The number of crank turns required for 1 acre is the number of turns required for 1/2 acre for a specific spread width x 2 (See above)
- Turns required for 1 acre = 77.44 x 2

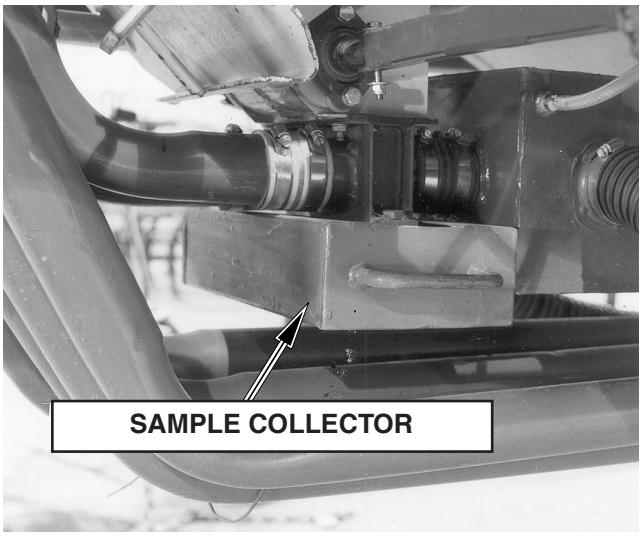
Rate = lbs/acre = 1 acre sample weight (lbs.) x 1

Calibration Procedure

- Remove the Wing Nuts.
- Remove the bottom of the collector.
- Check that the desired rate change sprocket is installed in the transmission. (See Rate Charts)
- Engage the Granular Primary Clutch as indicated by the switch in the tractor cab.
- Turn the crank until material begins to fall through the collector body.
- Slide rate check box on the collector body.
- Turn crank in the direction of the arrow (counter clockwise) the required number of turns for the overall granular spread width. See *Working Width* tables.

Note: Incorrect rates will occur if crank is rotated Clockwise.

- Weigh the sample by pouring the contents of the rate check box into a larger container such as a 5 gallon pail.
- Check this rate against the rate required. If a different rate is required then increase or decrease the size of the rate change sprocket. Increasing the sprocket size will increase the rate and vice versa.
- Replace the bottom of the collector.



Rate Calibration Chart - 6000 Series Only

Calibration Chart based on 1/2 of a Acre.

W = Machine Spread Width (inches)

F = Optional Mechanical Acre Tally Factor = 56/R

R = Crank Rotation - turns
for 1/2 Acre = 42,168/W for 6130
for 1/2 Acre = 37,170 /W for 6180
for 1/2 Acre = 27,876/W for 6240 & 6300 with All Weather Tires.
for 1/2 Acre = 25,344/W for 6240 & 6300 with Rice Tires.

D = Distance required for 1/2 Acre (Feet) = 261,360/W

6000 Series Granular Applicator
RATE CALIBRATION CHART

SPREAD WIDTH (ins)	AIRSEEDER MODEL 6130 [R]	6180 [R]	6240/6300 [R]	[R] Rice Tire	DISTANCE [D] (ft)	SPREAD WIDTH (ins)	AIRSEEDER MODEL 6130 [R]	6180 [R]	6240/6300 [R]	[R] Rice Tire	DISTANCE [D] (ft)
315	133.87	118.00	88.50	80.46	829.7	490	86.06	75.86	56.89	51.72	533.4
323	130.55	115.08	86.30	78.46	809.2	492	85.71	75.55	56.66	51.51	531.2
324	130.15	114.72	86.04	78.22	806.7	498	84.67	74.64	55.98	50.89	524.8
330	127.78	112.64	84.47	76.80	792.0	504	83.67	73.75	55.31	50.29	518.6
336	125.50	110.63	82.96	75.43	777.9	510	82.68	72.88	54.66	49.69	512.5
338	124.76	109.97	82.47	74.98	773.3	516	81.72	72.03	54.02	49.12	506.5
342	123.30	108.68	81.51	74.11	764.2	520	81.09	71.48	53.61	48.74	502.6
343	122.94	108.37	81.27	73.89	762.0	522	80.78	71.21	53.40	48.55	500.7
348	121.17	106.81	80.10	72.83	751.0	525	80.32	70.80	53.10	48.27	497.8
352	119.80	105.60	79.19	72.00	742.5	528	79.86	70.40	52.80	48.00	495.0
354	119.12	105.00	78.75	71.59	738.3	534	78.97	69.61	52.20	47.46	489.4
360	117.13	103.25	77.43	70.40	726.0	536	78.67	69.35	52.01	47.28	487.6
366	115.21	101.56	76.16	69.25	714.1	540	78.09	68.83	51.62	46.93	484.0
372	113.35	99.92	74.94	68.13	702.6	546	77.23	68.08	51.05	46.42	478.7
375	112.45	99.12	74.34	67.58	697.0	552	76.39	67.34	50.50	45.91	473.5
378	111.56	98.33	73.75	67.05	691.4	558	75.57	66.61	49.96	45.42	468.4
382	110.39	97.30	72.97	66.35	684.2	564	74.77	65.90	49.43	44.94	463.4
384	109.81	96.80	72.59	66.00	680.6	570	73.98	65.21	48.91	44.46	458.5
387	108.96	96.05	72.03	65.49	675.3	575	73.34	64.64	48.48	44.08	454.5
390	108.12	95.31	71.48	64.98	670.2	576	73.21	64.53	48.40	44.00	453.8
392	107.57	94.82	71.11	64.65	666.7	582	72.45	63.87	47.90	43.55	449.1
396	106.48	93.86	70.39	64.00	660.0	588	71.71	63.21	47.41	43.10	444.5
402	104.90	92.46	69.34	63.04	650.1	592	71.23	62.79	47.09	42.81	441.5
408	103.35	91.10	68.32	62.12	640.6	594	70.99	62.58	46.93	42.67	440.0
412	102.35	90.22	67.66	61.51	634.4	600	70.28	61.95	46.46	42.24	435.6
414	101.86	89.78	67.33	61.22	631.3	606	69.58	61.34	46.00	41.82	431.3
420	100.40	88.50	66.37	60.34	622.3	612	68.90	60.74	45.55	41.41	427.1
421	100.16	88.29	66.21	60.20	620.8	613	68.79	60.64	45.47	41.34	426.4
426	98.99	87.25	65.44	59.49	613.5	618	68.23	60.15	45.11	41.01	422.9
432	97.61	86.04	64.53	58.67	605.0	624	67.58	59.57	44.67	40.62	418.8
434	97.16	85.65	64.23	58.40	602.2	625	67.47	59.47	44.60	40.55	418.2
438	96.27	84.86	63.64	57.86	596.7	630	66.93	59.00	44.25	40.23	414.9
441	95.62	84.29	63.21	57.47	592.7	636	66.30	58.44	43.83	39.85	410.9
444	94.97	83.72	62.78	57.08	588.6	642	65.68	57.90	43.42	39.48	407.1
447	94.34	83.15	62.36	56.70	584.7	648	65.07	57.36	43.02	39.11	403.3
450	93.71	82.60	61.95	56.32	580.8	654	64.48	56.83	42.62	38.75	399.6
456	92.47	81.51	61.13	55.58	573.2	660	63.89	56.32	42.24	38.40	396.0
460	91.67	80.80	60.60	55.10	568.2	662	63.70	56.15	42.11	38.28	394.8
462	91.27	80.45	60.34	54.86	565.7	666	63.32	55.81	41.86	38.05	392.4
466	90.49	79.76	59.82	54.39	560.9	672	62.75	55.31	41.48	37.71	388.9
468	90.10	79.42	59.56	54.15	558.5	675	62.47	55.07	41.30	37.55	387.2
470	89.72	79.09	59.31	53.92	556.1	678	62.19	54.82	41.12	37.38	385.5
472	89.34	78.75	59.06	53.69	553.7	682	61.83	54.50	40.87	37.16	383.2
474	88.96	78.42	58.81	53.47	551.4	684	61.65	54.34	40.75	37.05	382.1
480	87.85	77.44	58.08	52.80	544.5	690	61.11	53.87	40.40	36.73	378.8
484	87.12	76.80	57.60	52.36	540.0	696	60.59	53.41	40.05	36.41	375.5
486	86.77	76.48	57.36	52.15	537.8	702	60.07	52.95	39.71	36.10	372.3

Rate Calibration Chart - 7000 Series Only

Calibration Chart based on 1/2 of an Acre.

See rear of book for Metric Calibration Chart.

W = Machine Spread Width (inches)

F = Optional Mechanical Acre Tally Factor = 56/R

R = Crank Rotation - turns
for 1/2 Acre = 31,626/W for 7130 with 16.5 x 16.1 All Weather Tires.
for 1/2 Acre = 27,877.5/W for 7180 with 16.5 x 16.1 All Weather Tires.
for 1/2 Acre = 22,134.7/W for 7180 with 18.4x 26 All Weather Tires.
for 1/2 Acre = 20,907/W for 7240 & 7300 with 23.1 x 26 All Weather Tires.
for 1/2 Acre = 19,008/W for 7240 & 7300 with 23.1 x 26 Rice Tires.

D = Distance required for 1/2 Acre (Feet) = 261,360/W

7000 Series Granular Applicator
IMPERIAL RATE CALIBRATION CHART

SPREAD WIDTH	AIRSEEDER MODEL					DISTANCE [D]	SPREAD WIDTH	AIRSEEDER MODEL					DISTANCE [D]
	7130	7180		7240/7300				7130	7180		7240/7300		
	Tire 16.5 x 16.1	Tire 21.5 x 16.1	Tire 18.4 x 26	Tire 23.1 x 26	Rice Tire 23.1 x 26			Tire 16.5 x 16.1	Tire 21.5 x 16.1	Tire 18.4 x 26	Tire 23.1 x 26	Rice Tire 23.1 x 26	
(ins)	[R]	[R]	[R]	[R]	[R]	(ft)	(ins)	[R]	[R]	[R]	[R]	[R]	(ft)
315	100.40	88.50	70.27	66.37	60.34	829.7	490	64.54	56.89	45.17	42.67	38.79	533.4
323	97.91	86.31	68.53	64.73	58.85	809.2	492	64.28	56.66	44.99	42.49	38.63	531.2
324	97.61	86.04	68.32	64.53	58.67	806.7	498	63.51	55.98	44.45	41.98	38.17	524.8
330	95.84	84.48	67.07	63.35	57.60	792.0	504	62.75	55.31	43.92	41.48	37.71	518.6
336	94.13	82.97	65.88	62.22	56.57	777.9	510	62.01	54.66	43.40	40.99	37.27	512.5
338	93.57	82.48	65.49	61.86	56.24	773.3	516	61.29	54.03	42.90	40.52	36.84	506.5
342	92.47	81.51	64.72	61.13	55.58	764.2	520	60.82	53.61	42.57	40.21	36.55	502.6
343	92.20	81.28	64.53	60.95	55.42	762.0	522	60.59	53.41	42.40	40.05	36.41	500.7
348	90.88	80.11	63.61	60.08	54.62	751.0	525	60.24	53.10	42.16	39.82	36.21	497.8
352	89.85	79.20	62.88	59.39	54.00	742.5	528	59.90	52.80	41.92	39.60	36.00	495.0
354	89.34	78.75	62.53	59.06	53.69	738.3	534	59.22	52.21	41.45	39.15	35.60	489.4
360	87.85	77.44	61.49	58.08	52.80	726.0	536	59.00	52.01	41.30	39.01	35.46	487.6
366	86.41	76.17	60.48	57.12	51.93	714.1	540	58.57	51.63	40.99	38.72	35.20	484.0
372	85.02	74.94	59.50	56.20	51.10	702.6	546	57.92	51.06	40.54	38.29	34.81	478.7
375	84.34	74.34	59.03	55.75	50.69	697.0	552	57.29	50.50	40.10	37.88	34.43	473.5
378	83.67	73.75	58.56	55.31	50.29	691.4	558	56.68	49.96	39.67	37.47	34.06	468.4
382	82.79	72.98	57.94	54.73	49.76	684.2	564	56.07	49.43	39.25	37.07	33.70	463.4
384	82.36	72.60	57.64	54.45	49.50	680.6	570	55.48	48.91	38.83	36.68	33.35	458.5
387	81.72	72.03	57.20	54.02	49.12	675.3	575	55.00	48.48	38.50	36.36	33.06	454.5
390	81.09	71.48	56.76	53.61	48.74	670.2	576	54.91	48.40	38.43	36.30	33.00	453.8
392	80.68	71.12	56.47	53.33	48.49	666.7	582	54.34	47.90	38.03	35.92	32.66	449.1
396	79.86	70.40	55.90	52.80	48.00	660.0	588	53.79	47.41	37.64	35.56	32.33	444.5
402	78.67	69.35	55.06	52.01	47.28	650.1	592	53.42	47.09	37.39	35.32	32.11	441.5
408	77.51	68.33	54.25	51.24	46.59	640.6	594	53.24	46.93	37.26	35.20	32.00	440.0
412	76.76	67.66	53.73	50.75	46.14	634.4	600	52.71	46.46	36.89	34.85	31.68	435.6
414	76.39	67.34	53.47	50.50	45.91	631.3	606	52.19	46.00	36.53	34.50	31.37	431.3
420	75.30	66.38	52.70	49.78	45.26	622.3	612	51.68	45.55	36.17	34.16	31.06	427.1
421	75.12	66.22	52.58	49.66	45.15	620.8	613	51.59	45.48	36.11	34.11	31.01	426.4
426	74.24	65.44	51.96	49.08	44.62	613.5	618	51.17	45.11	35.82	33.83	30.76	422.9
432	73.21	64.53	51.24	48.40	44.00	605.0	624	50.68	44.68	35.47	33.50	30.46	418.8
434	72.87	64.23	51.00	48.17	43.80	602.2	625	50.60	44.60	35.42	33.45	30.41	418.2
438	72.21	63.65	50.54	47.73	43.40	596.7	630	50.20	44.25	35.13	33.19	30.17	414.9
441	71.71	63.21	50.19	47.41	43.10	592.7	636	49.73	43.83	34.80	32.87	29.89	410.9
444	71.23	62.79	49.85	47.09	42.81	588.6	642	49.26	43.42	34.48	32.57	29.61	407.1
447	70.75	62.37	49.52	46.77	42.52	584.7	648	48.81	43.02	34.16	32.26	29.33	403.3
450	70.28	61.95	49.19	46.46	42.24	580.8	654	48.36	42.63	33.85	31.97	29.06	399.6
456	69.36	61.13	48.54	45.85	41.68	573.2	660	47.92	42.24	33.54	31.68	28.80	396.0
460	68.75	60.60	48.12	45.45	41.32	568.2	662	47.77	42.11	33.44	31.58	28.71	394.8
462	68.45	60.34	47.91	45.25	41.14	565.7	666	47.49	41.86	33.24	31.39	28.54	392.4
466	67.87	59.82	47.50	44.86	40.79	560.9	672	47.06	41.48	32.94	31.11	28.29	388.9
468	67.58	59.57	47.30	44.67	40.62	558.5	675	46.85	41.30	32.79	30.97	28.16	387.2
470	67.29	59.31	47.10	44.48	40.44	556.1	678	46.65	41.12	32.65	30.84	28.04	385.5
472	67.00	59.06	46.90	44.29	40.27	553.7	682	46.37	40.88	32.46	30.66	27.87	383.2
474	66.72	58.81	46.70	44.11	40.10	551.4	684	46.24	40.76	32.36	30.57	27.79	382.1
480	65.89	58.08	46.11	43.56	39.60	544.5	690	45.83	40.40	32.08	30.30	27.55	378.8
484	65.34	57.60	45.73	43.20	39.27	540.0	696	45.44	40.05	31.80	30.04	27.31	375.5
486	65.07	57.36	45.54	43.02	39.11	537.8	702	45.05	39.71	31.53	29.78	27.08	372.3

Working Width and Deflector Spacing Tables

Concept 2000 - 12 inch spacing

Concept 2000 with 12 inch spacing						
Machine		Number of Deflectors	Actual Cutting Width (Inches)	Deflector Spacing (Inches)	Overall Spread Width (Inches)	Working Overlap (Inches)
Range	Size					
23 - 27	23'	* * * * *	280	* * * * *	* * * * *	* * * * *
	25'	* * * * *	304	* * * * *	* * * * *	* * * * *
	27'	14	328	23.00	322.00	6.00
29 - 33	29'	15	352	23.00	345.00	7.00
	31'	15	376	24.50	367.50	8.50
	33'	17	400	23.00	391.00	9.00
26 - 30	26'	14	316	22.00	308.00	8.00
	28	14	340	23.75	332.50	7.50
	30'	15	364	23.75	356.25	7.75
32 - 36	32'	17	388	22.50	382.50	5.50
	34'	17	412	23.75	403.75	8.25
	36'	19	436	22.50	427.50	8.50
38 - 42	38'	19	460	23.75	451.25	8.75
	40'	19	484	25.00	475.00	9.00
	42'	21	508	23.75	498.75	9.25
44 -48	44'	23	532	22.75	523.25	8.75
	46'	23	556	23.75	546.25	9.75
	48'	23	580	24.75	569.25	10.75
50 - 54	50'	26	604	23.00	598.00	6.00
	52'	26	628	23.75	617.50	10.50
	54'	26	652	24.75	643.50	8.50
56 - 58	56'	28	676	23.75	665.00	11.00
	58'	28	700	24.75	693.00	7.00
	60'	28	724	25.5	714	10.00

* Based on using 16” wide sweeps.

Working Overlap will **increase** with **wider** sweeps and **decrease** with **narrower** sweeps.

To determine working overlap with different sweeps use the formula’s below:

Actual Cutting Width = Spacing x Number of Shanks + (Sweep Width - Spacing)

Working Overlap = Actual Cutting Width - Overall Spread Width

Working Width and Deflector Spacing Tables

8900 - 12 inch spacing

8900 with 12 inch spacing					
Machine		Actual Cutting Width (Inches)	Deflector Spacing (Inches)	Overall Spread Width (Inches)	Working Overlap (Inches)
Range	Size				
25 - 35	29'	352.0	22.50	338.00	14.00
	31'	376.00	24.00	360.00	16.00
	33'	400.00	25.50	382.00	18.00
	35'	424.00	24.00	408.00	16.00
31 - 41	31'	376.00	24.00	360.00	16.00
	33'	400.00	25.50	382.00	18.00
	35'	424.00	24.00	408.00	16.00
	37'	448.00	25.50	434.00	14.00
	39'	472.00	24.00	456.00	16.00
	41'	496.00	25.50	484.00	12.00
43 - 47	43'	520.00	24.00	504.00	16.00
	45'	544.00	25.00	525.00	19.00
	47'	568.00	24.00	552.00	16.00
49 - 59	49'	592.50	25.00	575.00	17.00
	51'	616.00	24.00	600.00	16.00
	53'	640.00	25.00	625.00	15.00
	55'	664.00	24.00	648.00	16.00
	57'	688.00	25.00	675.00	13.00
	59'	712.00	24.00	696.00	16.00

* Based on using 16” wide sweeps.

Working Overlap will **increase** with **wider** sweeps and **decrease** with **narrower** sweeps.

To determine working overlap with different sweeps use the formula’s below:

Actual Cutting Width = Spacing x Number of Shanks + (Sweep Width - Spacing)

Working Overlap = Actual Cutting Width - Overall Spread Width

Working Width and Deflector Spacing Tables

Magnum - 12 inch spacing

Magnum III Series Chisel Plow						
Machine		Number of Deflectors	Actual Cutting Width (Inches)	Deflector Spacing (Inches)	Overall Spread Width (Inches)	Working Overlap (Inches)
Range	Size					
	25'	* * * * *	304.00	* * * * *	* * * * *	* * * * *
	27'	14	328.00	22.50	315.00	13.00
	29'	14	352.00	24.25	339.50	12.50
CP-831	31'	16	376.00	22.75	364.00	12.00
	33'	16	400.00	24.25	388.00	12.00
	35'	18	424.00	23.00	414.00	12.00
	37'	18	448.00	24.25	436.50	11.50
CP-840	40'	20	484.00	23.50	470.00	14.00
	42'	20	508.00	24.75	495.00	13.00
CP-843	43'	22	520.00	23.00	506.00	14.00
	45'	22	544.00	24.25	533.50	10.50
	47'	22	568.00	25.25	555.50	12.50
CP-850	50'	24	604.00	24.75	594.00	10.00

Magnum I and Magnum II Series Chisel Plow					
Machine		Actual Cutting Width (Inches)	Deflector Spacing (Inches)	Overall Spread Width (Inches)	Working Overlap (Inches)
Range	Size				
CP-725	27'	328.00	22.50	315.00	13.00
	29'	352.00	24.00	336.00	16.00
CP-731	31'	376.00	24.00	360.00	16.00
	33'	400.00	24.00	484.00	16.00
	35'	424.00	24.00	408.00	16.00
	37'	448.00	24.00	432.00	16.00
CP-740	40'	484.00	23.50	470.00	14.00
	42'	508.00	24.50	490.00	18.00
CP-745	45'	544.00	24.00	528.00	16.00
CP-750	50'	604.00	24.00	588.00	16.00

* Based on using 16” wide sweeps.

Working Overlap will **increase** with **wider** sweeps and **decrease** with **narrower** sweeps.

To determine working overlap with different sweeps use the formula’s below:

Actual Cutting Width = Spacing x Number of Shanks + (Sweep Width - Spacing)

Working Overlap = Actual Cutting Width - Overall Spread Width

Working Width and Deflector Spacing Tables

Concept 2000 - 10 inch spacing

Concept 2000 with 10 inch spacing						
Machine		Number of Deflectors	Actual Cutting Width (Inches)	Deflector Spacing (Inches)	Overall Spread Width (Inches)	Working Overlap (Inches)
Range	Size					
23 - 27	24'	* * * * *	294	* * * * *	* * * * *	* * * * *
	26'	14	314	22.00	308.00	6.00
	27.5'	14	334	23.25	325.50	8.50
29 - 33	31'	15	374	24.50	367.50	6.50
	32.5'	16	394	24.25	388.00	6.00
	34'	16	414	25.00	400.00	14.00
26 - 30	27.5'	14	334	23.00	322	12.00
	29'	15	354	23.00	345.00	9.00
	31'	15	374	24.50	367.50	6.50
32 - 36	34'	17	414	24.00	408.00	6.00
	36'	18	434	23.75	427.50	6.50
	37.5'	20	454	22.25	445.00	9.00
38 - 42	41'	20	494	24.25	485.00	9.00
	42.5'	20	514	25.25	505.00	9.00
	44'	22	534	24.00	528.00	6.00
44 - 48	47.5'	23	574	24.50	564.50	10.50
	49'	24	594	24.25	582.00	12.00
	51'	24	614	25.25	606.00	8.00
50 - 54	54'	28	654	23.00	644.00	10.00
	56'	28	674	23.75	665.00	9.00
	57.5'	28	694	24.50	686.00	8.00
56 - 58	61'	30	734	24.25	727.50	6.50
	62.5'	30	754	24.75	742.50	11.5
	64'	30	774	25.5	765.00	9.00

* Based on using 14” wide sweeps.

Working Overlap will **increase** with **wider** sweeps and **decrease** with **narrower** sweeps.

To determine working overlap with different sweeps use the formula’s below:

Actual Cutting Width = Spacing x Number of Shanks + (Sweep Width - Spacing)

Working Overlap = Actual Cutting Width - Overall Spread Width

Working Width and Deflector Spacing Tables

Concept 2000 - 9 inch spacing

Concept 2000 with 9 inch spacing						
Machine		Number of Deflectors	Actual Cutting Width (Inches)	Deflector Spacing (Inches)	Overall Spread Width (Inches)	Working Overlap (Inches)
Range	Size					
23 - 27	23.5'	* * * * *	282	* * * * *	* * * * *	* * * * *
	25'	* * * * *	300	* * * * *	* * * * *	* * * * *
	27.5'	14	318	22.00	308.00	10.00
29 - 33	29.5'	15	354	23.00	345.00	9.00
	31'	15	372	24.25	363.75	8.25
	32.5'	15	390	25.25	378.75	11.25
26 - 30	26.5'	14	318	22.00	308.00	10.00
	28	14	336	23.50	329.00	7.00
	29.5'	14	354	24.75	346.50	7.50
32 - 36	32.5'	16	390	24.00	384.00	6.00
	34'	17	408	23.50	399.50	8.50
	35.5'	17	426	24.50	416.50	9.50
38 - 42	38.5'	18	462	25.25	454.50	7.5
	40'	20	480	23.50	470.00	10.00
	41.5'	21	498	23.25	488.25	9.75
44 - 48	44.5'	23	534	22.75	523.25	10.75
	46'	23	552	23.75	546.25	5.75
	47.5'	23	570	24.50	563.50	6.50
50 - 54	50.5'	26	606	23.00	598.00	8.00
	52'	26	624	23.75	617.50	6.50
	53.5'	26	642	24.50	637.00	5.00
56 - 58	56.5'	28	678	24.00	672.00	6.00
	58'	28	696	24.50	686.00	10.00
	59.5'	28	714	25.25	707.00	7.00

* Based on using 12” wide sweeps.

Working Overlap will **increase** with **wider** sweeps and **decrease** with **narrower** sweeps.

To determine working overlap with different sweeps use the formula’s below:

Actual Cutting Width = Spacing x Number of Shanks + (Sweep Width - Spacing)

Working Overlap = Actual Cutting Width - Overall Spread Width

Working Width and Deflector Spacing Tables

8900 and 9000 - 9 inch spacing

8900 & 9000 with 9 inch spacing					
Machine		Actual Cutting Width (Inches)	Deflector Spacing (Inches)	Overall Spread Width (Inches)	Working Overlap (Inches)
Range	Size				
25 - 35	29'	336	21.50	323	13
	31'	372	24.00	360	12
	33'	390	25.00	375	15
	35'	408	22.75	387	21
31 - 41	31'	372	24.00	360	12
	33'	390	25.00	375	15
	35'	408	22.75	387	21
	37'	444	24.75	421	23
	39'	462	23.50	447	15
	41'	480	24.50	466	14
43 - 47	43'	516	24.00	504	12
	45'	534	24.75	520	14
	47'	552	25.50	536	16
49 - 59	49'	585	25.00	575	10
	51'	603	23.75	594	9
	53'	621	24.25	613	15
	55'	657	24.00	648	9
	57'	675	24.50	662	13
	59'	693	25.25	682	11

* Based on using 12” wide sweeps.
Working Overlap will **INCREASE** with **WIDER** sweeps and **DECREASE** with **NARROWER** sweeps.

Challenger L2 Series Cultivator

Challenger L2 Series Cultivator					
Machine		Actual Cutting Width (Inches)	Deflector Spacing (Inches)	Overall Spread Width (Inches)	Working Overlap (Inches)
Range	Size				
L225	29'	355	24.50	343	12
L233	33'	403	24.50	392	11
	37'	451	24.50	441	10
L242	42'	499	24.50	490	9
L249	49'	579	23.50	570	9

* Based on using 11” wide sweeps.
Working Overlap will **INCREASE** with **WIDER** sweeps and **DECREASE** with **NARROWER** sweeps.

Working Width and Deflector Spacing Tables

Maxim Air Drill

Maxim Air Drill						
Machine		Number of Deflectors	Actual Cutting Width (Inches)	Deflector Spacing (Inches)	Overall Spread Width (Inches)	Working Overlap (Inches)
Size	Trip Spacing					
29 Foot	7 1/2"	15	352.50	23.50	352.50	0.00
	10"	15	360.00	24.00	360.00	0.00
	12"	15	348.00	23.25	348.00	0.00
34 Foot	7 1/2"	17	412.50	24.25	412.50	0.00
	10"	17	420.00	24.75	420.00	0.00
	12"	17	420.00	24.75	420.00	0.00
39 Foot	7 1/2"	19	472.50	24.75	472.50	0.00
	10"	19	460.00	24.25	460.00	0.00
	12"	19	468.00	24.5	468.00	0.00
40 Foot	10"	19	460.00	25.25	460.00	0.00
41 Foot	12"	19	468.00	25.5	468.00	0.00
49 Foot	7 1/2"	23	592.50	26.00	592.50	0.00
	10"	23	600.00	26.25	600.00	0.00
	12"	23	588.00	25.75	588.00	0.00
55 Foot	10"	27	660.00	24.5	660.00	0.00
	12"	27	660.00	24.5	660.00	0.00
60 Foot	10"	30	720.00	24	720.00	0.00
	12"	30	732.00	24.5	732.00	0.00

The granular deflectors are spaced on the Maxim Air Drill to provide no overlap in seeding or zero-till applications.

IMPORTANT: The Maxim Air Drill **DOES NOT** have any operating overlap.

Alternative Rate Calibration

An alternate rate calibration method takes into account wheel sink-age and variations in tire circumference.

- All steps in the calibration procedure are the same except that a specific distance is marked out. Instead of turning the calibration crank, the metering drive clutch is engaged and a seeder is pulled through that distance.
- The sample collected will be for 1/2 acre. The distance to pull the unit is listed under “D” in the *“Calibration Chart”* in Operation Section.

Fan Speeds/Pressures

Adequate air volume is necessary at all times to carry the product in the air stream. Air volume can be controlled by adjusting hydraulic oil flow on hydraulic fan drive models or adjusting engine speed on engine fan drive models.

Note: It is recommended that after a rain or dew the fan be run two to three minutes to expel any moisture in the system.

Air volume hence air pressure requirements will vary with:

(a) Ground speed.
(b) Metering rate.
(c) Number of primary runs.
(d) Width of machine.
(e) Density and size of material.

The Table below lists initial fan pressures for certain products. **These pressures are critical and should be adhered to at all times.**

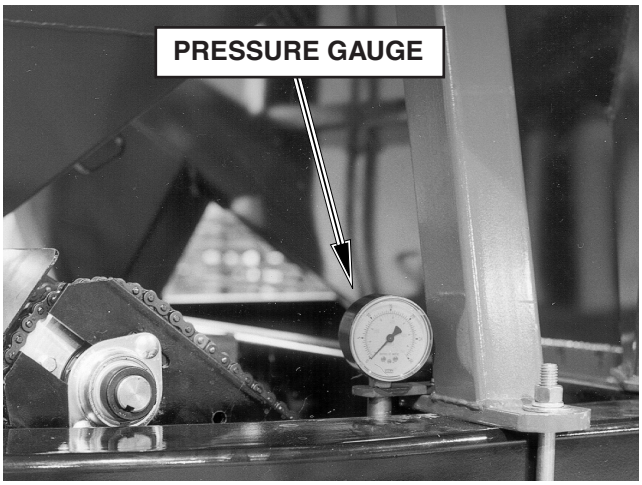
The pressure gauge is located on the Left Hand Side of the unit bolted to the support leg of the granular tank. Readings are given in Inches of Water.

Note: If the fan speed is adjusted be sure to adjust the monitor fan alarm setting accordingly. (See Air Seeder Manual)

To **increase** the pressure increase the fan speed.

To **decrease** the pressure decrease the fan speed.

Note: For High Rates in any situation the fan must be run at full RPM (See *General Operation*)

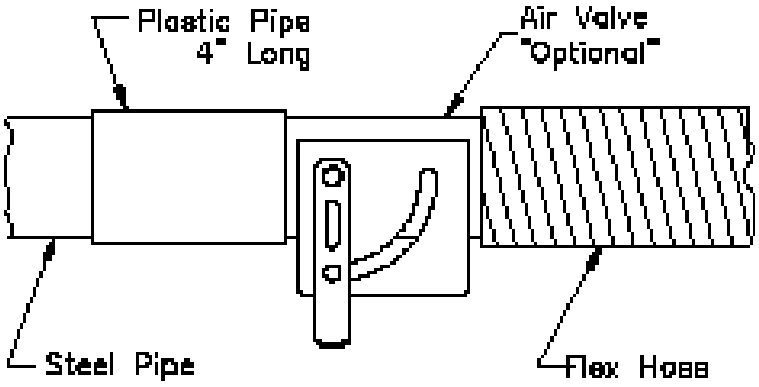


Pressure Requirements	
Low Rates Avadex 5 lb/ac. Treflan 10 lb/ac.	**Pressure = 13”- 17”**
Normal Rates Avadex 12 lb/ac. Treflan 20 lb/ac.	**Pressure = 13”- 17”**
High Rates Avadex 20 lb/ac. Treflan 35 lb/ac.	**Pressure = 18”- 22”**

Air Valve - Optional

An optional air valve is available, which is used to turn on/off the air supply to the granular tank.

- Open valve fully when granular tank is in use.
- Close valve completely when granular tank is not in use.



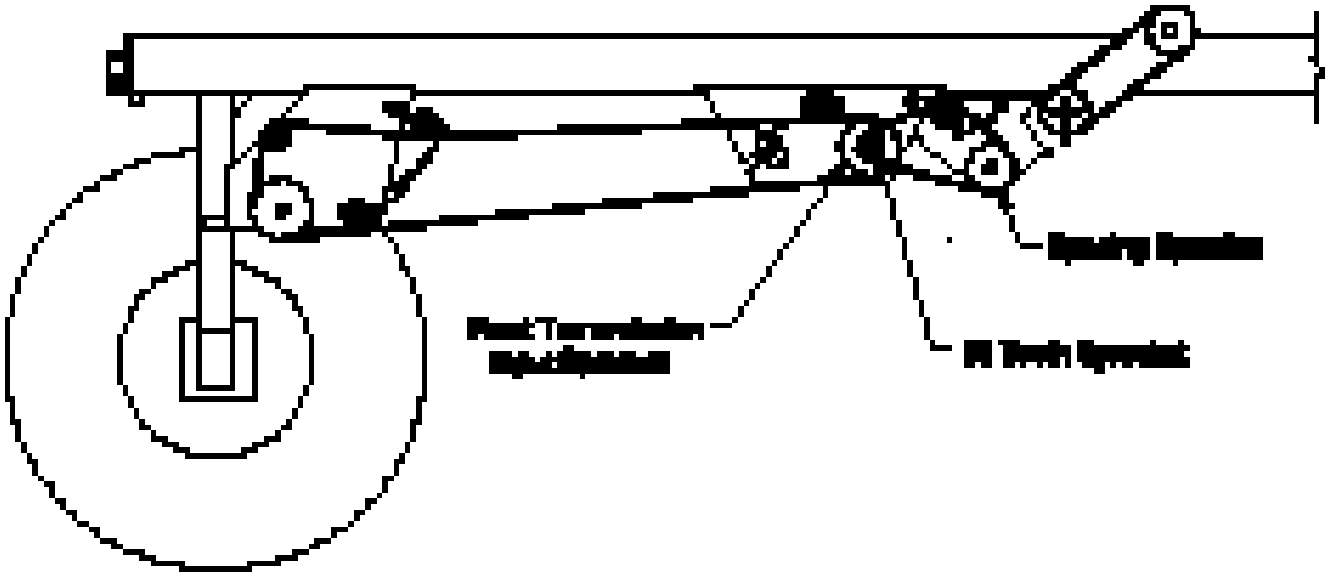
Rate Charts

The Rate Chart applies to all spacings listed below:

Note: Spacing sprocket refers to the machine trip spacing.

Check that the correct spacing sprocket is installed on the machine. This sprocket is located on the Granular Transmission input shaft.

Spacing Sprocket	
Opener Spacing	**Spacing Sprocket**
7.5” (191 mm)	18 teeth
8” (203 mm)	20 teeth
9” (229 mm)	22 teeth
10” (254 mm)	26 teeth
12” (305 mm)	30 teeth



Zapper Clutch

The Applicator comes with two clutches installed in the transmission. One clutch is the main clutch, the other is a Zapper Clutch.

Both clutches are engaged or disengaged from a switch in the tractor cab.

1. The Zapper Clutch, when engaged, will instantly increase the Applicator's meter rate by 20%. This is ideal for applying extra chemical in low spots.
2. Similarly if the Zapper Clutch is engaged and meter rate set with it engaged, then a 20% instant decrease is possible. This is particularly useful for applying less chemical on hill knolls.

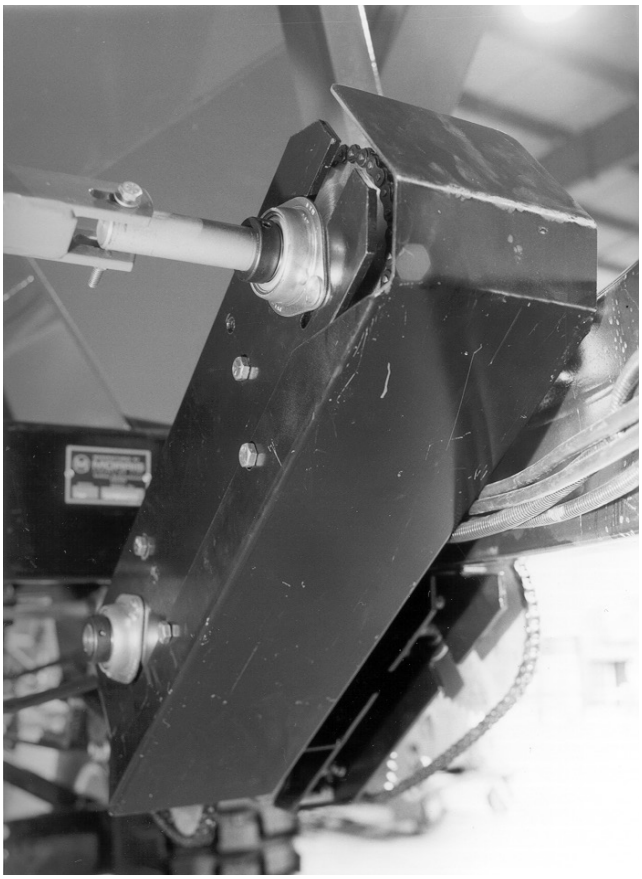
   To **engage** the Zapper Clutch simply switch the rocker switch in the cab to **SECONDARY.**

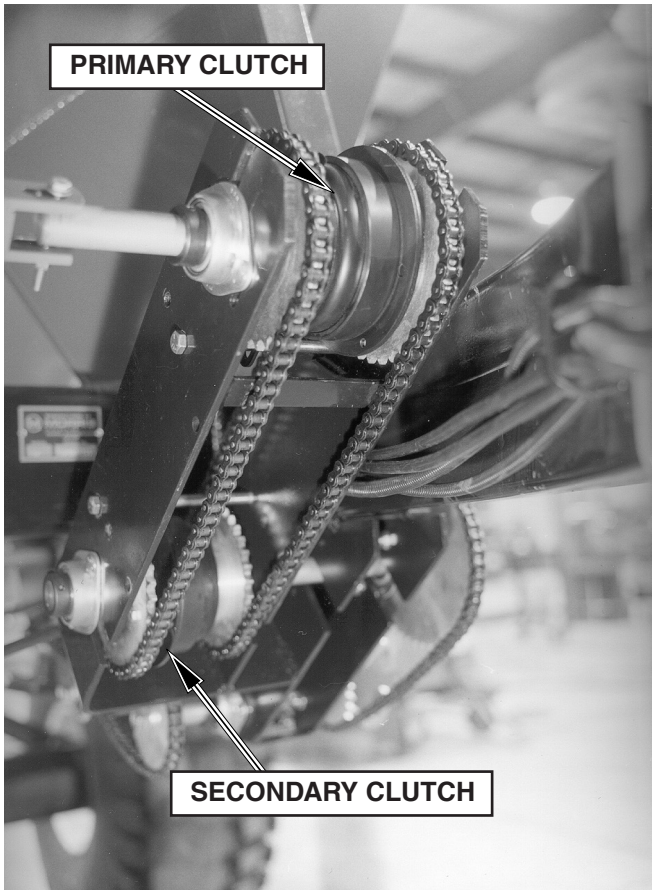
   To **disengage** the Zapper Clutch simply switch the unit to **PRIMARY.**

   The centre position disconnects both clutches so no product will be metered.

Note: The Rate Charts have been calibrated using the *PRIMARY CLUTCH.*

A sample must be taken and weighed if the product is to be applied with the Zapper Clutch *ENGAGED* as in case 2 above.





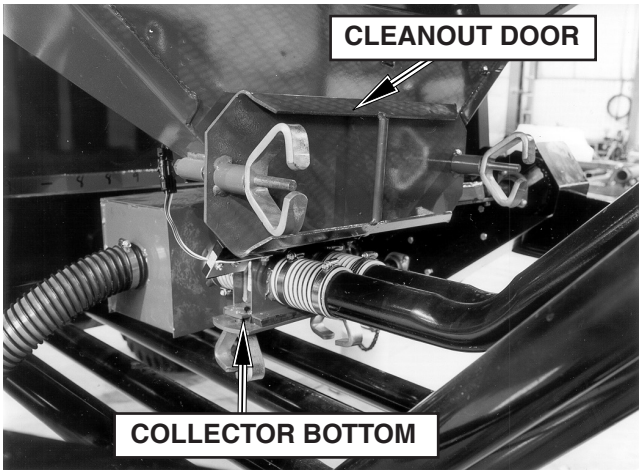
Unloading and Cleanout

To empty the Applicator Tank:

- Position auger under the tank to be emptied.
- Start auger. Run auger slow. The granular product will not auger at high auger speeds.
- Loosen front cleanout door on metering body.
- Regulate flow from the tank by loosening or tightening front cleanout door as required.
- Once all material stops flowing, remove cleanout door completely and brush out remaining material in the corners.

For complete cleanout:

- Remove the collector bottom.
- Remove the front cleanout door.
- Run fan.
- Wash the tank interior thoroughly to remove any chemical traces.
- Remove rear cleanout door then either blow or wash out any remaining material in the openings.
- Reinstall the collector bottom, front and rear cleanout doors.



DANGER

Keep all Shields in place. Keep hands, feet and clothing away from auger intake, failure to do so will result in serious injury or death.