

CALIBRATION INFORMATION

1. Take Band Width – In Feet or Inches, Multiply by Test Length-in Feet, That equals Square feet of Test Plot.
2. Divide Square Feet of Test Plot By: 43,560 (which is square feet in an acre), this equals % of an acre the test plot represents.
3. Catch Material in Grams or Pounds, If measured in grams, multiply by .003527 to convert to ounces. Ounces divided by 16, (ounces per lb.), this equals pounds of material caught. Pounds caught divided by % of acre will equal number of pounds per acre.
4. Tractor Speed – Must be constant during test length. Increasing the tractor speed will decrease the amount of material caught over test plot.....Decreasing the tractor speed will increase the amount of material caught over the test plot.

CALIBRATION EXAMPLE

Tractor speed of 3 MPH for this example. Increasing the tractor speed will decrease the amount of material caught and the amount applied per acre. Decreasing the tractor speed will increase the amount of material caught and the amount applied per acre.

TEST PLOT

1. Suppose a band width of 20 inches which is 1.75 feet. Suppose a test length of 100 feet. Multiply test length of 100 feet by band width of 1.75 feet to equal 175 square feet.
2. Divide square feet of test plot, which is 175 by 43,560, (number of square feet in an acre), this equals .004, (rounded off), which is the percentage of an acre our test plot would be.

MATERIAL CAUGHT DURING TEST

3. Suppose you caught 8 ounces of material after driving 100 feet in our test length. Now divide the ounces caught by 16 ozs. in a pound which equals .5 pounds caught in our example. Divide .5 lbs by .004 percentage of acre which equals 125 lbs of material this gate setting would apply per acre.

*Note: it would take 23 seconds to travel 100 ft. at 3 MPH, therefore you could catch the material you want to spread in a bucket for 23 seconds and get the same results. However, make sure you run the engine speed or PTO speed at the proper speed to obtain the proper band width you are figuring.

SPEED IN MPH

TIME TO TRAVEL 100 FT.

2	34 Seconds
3	23 Seconds
4	17 Seconds
5	13.6 Seconds
6	11.4 Seconds
7	9.7 Seconds
8	8.5 Seconds
9	7.6 Seconds
10	6.8 Seconds

Herd Seeder Co., Inc.
2383 South U. S. 35, P.O. Box 448
Logansport, IN 46947
Phone: 574-753-6311 Fax: 574-722-4106
www.herdseeder.com info@herdseeder.com

IMPORTANT!

DO NOT DESTROY!

PLEASE READ!

Herd

**225 HYDRAULIC CONTROLLED
BANDING KIT**

**FOR HERD MODELS 2440,
1200C AND 750 WITH
HYDRAULIC KITS 1000 OR 232**

**INSTRUCTIONS FOR
ASSEMBLY, MOUNTING,
AND OPERATING**



REPAIR PARTS LIST

HERD SEEDER CO., INC.

2383 SOUTH U.S. 35

LOGANSPORT, IN 46947

574-753-6311 FAX: 574-722-4106

WWW.HERDSEEDER.COM **INFO@HERDSEEDER.COM**

INSTRUCTIONS FOR INSTALLING #225 BANDING KIT ON HERD BROADCASTERS

For Model 2440, use all instructions below except No. 2 and No. 12. For Model 1200C and 750, to be equipped with #1009 main frame, #1003, 1" pin, #1004, 3" hairpin cotter and #1006, hexhead capscrew of #1000 hydraulic kit, use all instructions below.

1. Install tumbling shaft on shaft of gearcase of broadcaster and secure with spring pin, (furnished), for extra precaution, a wire may be run through the spring pin and be secured.

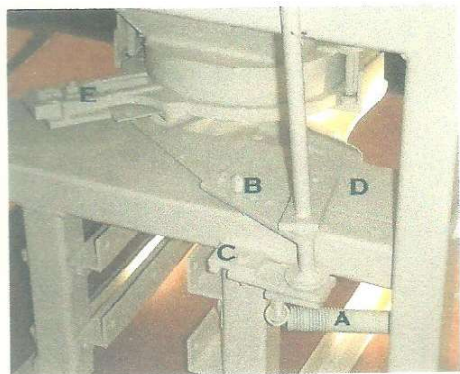


Figure 1

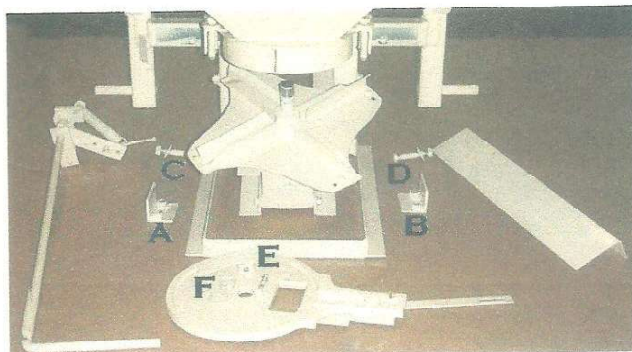


Figure 2

2. See Figure 1: Remove manual control handle as follows:
 - A. Remove tension spring (A) on handle by loosening eyebolt on spring.
 - B. Remove bolt (B) that runs through opening plate linkage and handle linkage.
 - C. Remove 5/16 X 1-1/4" capscrew that bolts handle to broadcaster. Rock handle down and out to remove. (C)
3. If you have a Model 2440 with hydraulic controls or have a 1200C or 750 with the 1000 hydraulic kit installed, you will need to remove the 48" Push-Pull Cable. To do this, remove pin through clevis at top, remove clevis, and remove nut and washer holding cable to bracket, and then remove cable through eyelet. Replace washer, nut, clevis and pin for future use.
4. Remove guard or deflector (D, in Figure 1) by: removing the two sheet metal screws that fasten the deflector plate to 2" square tubing.
5. See Figure 2: Remove the two lower 3" bolts (C & D). Remove the two "L" plates (A & B) that secure base plate to bottom of hopper. Loosen two upper 3" bolts that run through "L" angles. Rock down the gearcase, base plate and fan. Remove agitator (E) 1" washer (F) spring and base plate.



Figure 3



Figure 4

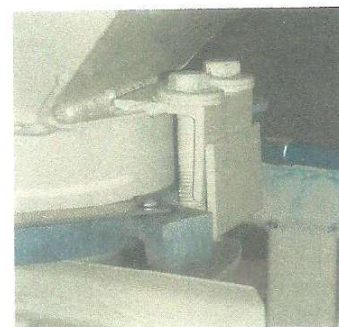


Figure 5

6. See Figure 3: Place dual-opening banding kit base plate (1111) on gearcase shaft with opening plates next to fan.
7. For fertilizer and material that needs agitation, place washer and spring on shaft, then agitator #220 that came with banding kit.
8. For spreading insecticide or herbicide granules, no agitation is needed. Therefore you do not replace an agitator, but do place second spring on top of first spring, then washer. Use agitator bolt to hold in place.
9. See Figure 4: Rock gearcase up (a short pry bar is good to use to hold gearcase up) to replace two lower 3" bolts, but DO NOT tighten the four 3" bolts yet.
10. See Figure 5: Bolt base plate to base of hopper, using "L" clamps and set in position as shown in Figure 5.
11. Place spacers provided between plate and fan and tighten four (4) 3" bolts.



Figure 6

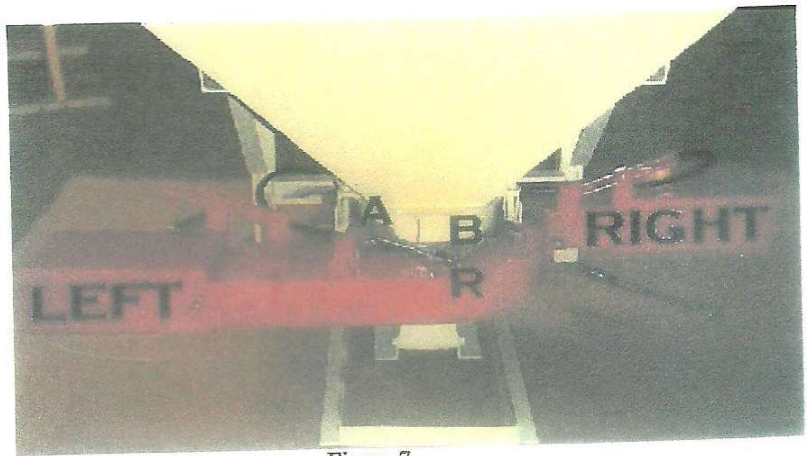
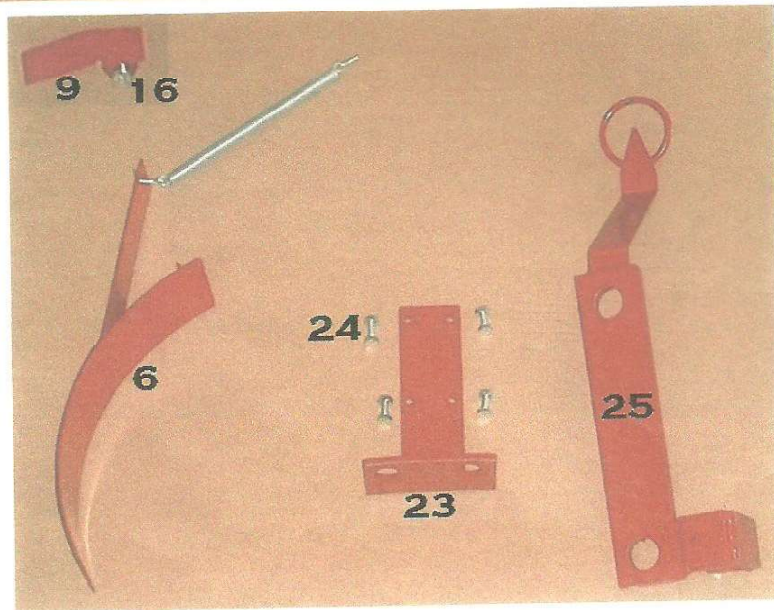
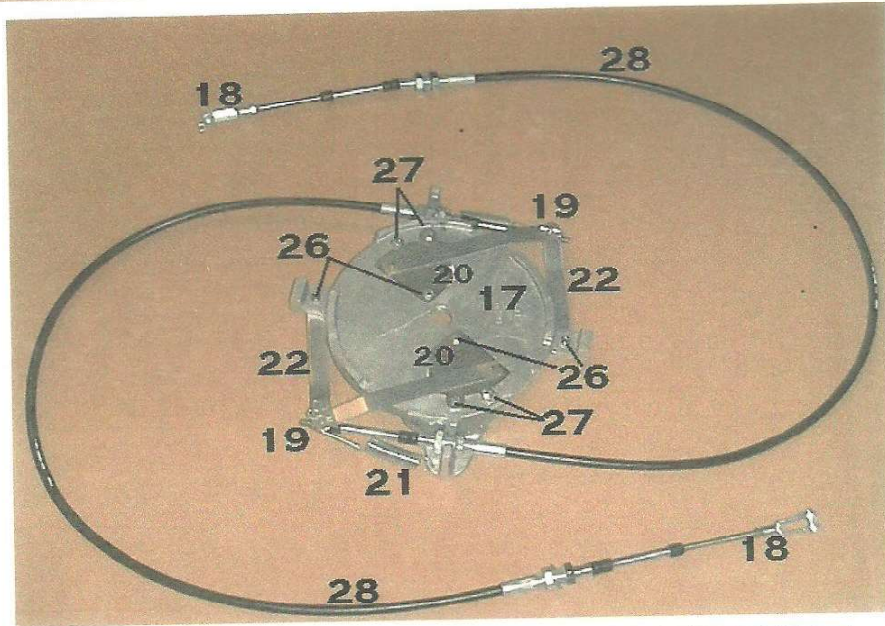
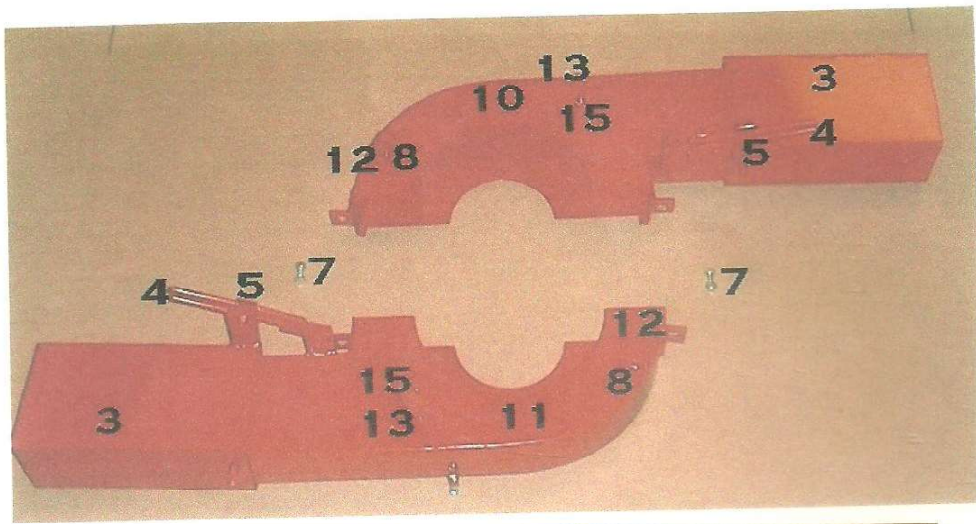


Figure 7

12. See Figure 6: Install main frame, 1009 of 1000 hydraulic kit or 232 kit, using 1006 hexhead capscrew w/nut and washer, 1003, 1" pin and 1004 3" hairpin cotter.
13. Install "L" plate with dual holes on back of "L" plate, using four 1/4 X 3/4" capscrews.
14. If you have a model 2440 with hydraulic controls, or have the complete 1000 hydraulic kit or 232 kit on a 1200C, 1200B, or 750, you should now remove the pointer by removing hairpin cotter and 1" pin. Replace with pointer with dual-hangers that come with this banding kit.
15. Place cylinder with 8" stroke, in bracket and extend cylinder shaft full 8 inches. This is necessary.
16. Install pressure-sensitive gauge setting decal, #100, as follows:
 - A. Mark opening point on hopper, as you have your cylinder shaft extended.
 - B. Retract cylinder shaft and mark point on hopper.
 - C. Measure the distance between points and mark the center at top edge of hopper.
 - D. Place decal on hopper using center mark, which is 1" on decal. Top of decal should be approximately 1/2" from top of hopper.
 - E. After decal has been installed, extend cylinder full 8" again.
17. See Figure 6: Run one cable around to front of spreader. Remove clevis, nut and washer. Run cable through opening next to spreader. Replace washer and nut, leaving equal amounts of threads on each side of "L" clamp. At this point, it is easier to adjust opening with spring and cylinder removed. Replace clevis on cable and install on rocker bracket. Adjust cable clevis in or out so when pin is installed that opening is just closed.
18. See Figure 7: Replace spring on cable side by hooking coil end of spring at Point "A" and the long hook end at Point "B", just under cable threads. Opening should just close now. If not, re-adjust. **THIS IS VERY IMPORTANT.**
19. For other cable, repeat instructions No. 15 thru 17.
20. Remove pin on extended cylinder shaft and move pointer by hand, to check that all parts work freely. Do not use cylinder for checking, as it has too much power. Springs may be removed to check. Adjust if binding is found. Replace springs and then cylinder. Rock cylinder in and out several times.
21. With cylinder shaft extended, check opening plates. They should be the same, **BARELY CLOSING.** If not, re-adjust. **THIS IS IMPORTANT,** or amount they discharge from each side will not be equal.
22. See Figure 7: To install left and right chutes:
 - A. Remove 5/16" 'Jack' bolt, found on side of front half of chute and re-thread from opposite direction. Also, remove two "L" angle clamps from front half of chute.
 - B. Place front half of housing (chute) over fan. Then place back half of housing over fan, bolting front and back housings together. Clamp complete housing to base plate with four clamps, making sure that chutes are set at right angles to broadcast spreader.
 - C. Check to see if fan rotates freely and does not strike at any place. If it does strike, see instruction No. 23, as how to Correct this situation, for it is imperative that the fan rotates freely.
23. If fan strikes shield on top edge of blades, loosen four 1/2 X 3" bolts to allow the gearcase and fan to settle down as far as possible. (A few bumps with a hammer on "Z" bars will help.) Also, make sure that shields have been bolted together correctly, and also, be sure that clamps hold housing up against bottom of base plate.



PARTS FOR 225 BANDING KIT SHOWN IN PHOTOS:

<u>NO.</u>	<u>PART NO.</u>	<u>NAME</u>	<u>NO. REQ.</u>
	100	Pressure-sensitive decal for hydraulic control chart (not shown)	1
1.	183	3/16" flat washers, stainless steel.	2
2.	184	3/16" X 3/8" flat head rivets, stainless steel.	2
3.	187	Side Chute.	2
4.	188	Chute adjuster w/welded clips.	2
5.	189	Chute adjuster clamps w/1-1/4" bolts.	2
6.	194	Curved blocking plate w/spring for blocking opening on either side.	1
7.	198	3/8" X 1" Bolt w/nut.	2
8.	198A	3/8" X 1" Bolt.	2
	199	Angle spacers (not shown).	3
9.	220	Agitator for banding kit, w/bolt & nut (422).	1
10.	227	Back half of fan shield for side deflection, with welded brackets.	1
11.	226	Front half of fan shield for side deflection, with welded brackets on side and with "jack" bolt welded on front edge.	1
12.	228	Short "L" clamps w/3/8" X 1" bolt (198A).	2
13.	229	Long "L" clamps w/3/8" X 2-1/4" hexhead capscrew w/ washer(231).	2
14.	230	1/4" Flat washer, stainless steel.	4
15.	231	3/8" X 2-1/2" hexhead capscrew w/washer.	2
16.	422	5/16" X 1-3/4" machine bolt w/nut-used in agitator.	1
17.	1111	Base plate w/dual openings.	1
18.	1112	Clevis complete with pin & clevis-pin (used in upper end of cable).	2
19.	1113	Pivot terminal with hairpin cotter - used with each cable	
20.	1114	Curved (Radius) opening plate w/linkage.	2
21.	1122	Pull-spring..runs from pivot terminal to eyelet hole in base plate and used to control end-play in cable.	2
22.	1116	Pivot linkage for right side and left side.	2
23.	1117	"L" plate for anchoring cables to hydraulic frame.	1
24.	1118	1/4" X 1" hexhead capscrew, w/nut, to fasten plate to hydraulic frame.	4
25.	1119	Hydraulic pivot arm w/pointer with dual yoke mounting bracket.	1
26.	1120	1/4" X 3/4" hexhead capscrew, stainless steel, w/nut.	4
27.	1121	1/4" X 1/2" hexhead capscrew, stainless steel, w/washer.	4
	1123	Stainless steel compression spring - used on shaft of gearbox (not shown).	1
28.	1172*	72" cable, including 4 nuts and 4 washers (*).	1

(* - Warranted against defects only)

Designs subject to change without notice.

TO SPREAD ON ONE SIDE ONLY:

1. To spread to left side: Remove hairpin cotter that holds right or back opening plate to pivot end of cable on back of unit, (see point "R" in Fig. 7) and remove linkage to opening plate only. Replace hairpin cotter through pivot end, making sure that rocking linkage remains on pivot. A short wire may be run from opening plate to "L" clamps to hold plate closed. Blocking plate may also be used.
2. To spread to right side: Remove left or front opening plate and follow remaining instructions in No. 1, just above.
3. To install blocking plate:
 - A. Slide curved blocking plate with spring attached, (part #194) into chute on side that you desire to block. Slide until the welded notch catches front edge of chute and curved plate is on inside of fan housing.
 - B. Pull spring out and hook on outer edge of deflector chute. This will hold deflector plate in place so that it will not strike fan. Make sure that fan rotates freely. If it strikes, correct.
 - C. This may be used on either left or right hand side.
4. You can direct material to either side by using curved blocking plate and not removing opening linkage, but remember, if you decide to do this, twice the amount of fertilizer will come out the remaining opening.

TO OPERATE SPREADER WITH 225 BAND SPREADING KIT:

1. The chutes may be raised or lowered to throw the material the widths desired.
2. Set depth-block on cylinder shaft for opening. 4" of shaft movement equals 1" of opening movement and will show equal amount on gauge setting decal chart. 2" of shaft movement equals 1/2" of opening movement or 1" of shaft movement equals 1/4" of opening movement.
3. You are now ready to operate this 225 banding kit remotely from the tractor seat.
4. Following is a chart, to be used as your guide, which gives the amounts spread from different size openings and at different speeds.

CHART OF FERTILIZER SPREAD FROM BOTH SIDES – FOR BANDING KIT 225

MPH Tractor Speed	Time Req. to travel 1 mile	Time Req. to travel 80 Rod	1/2" Opening 32.50 lbs. per minute both sides. Amount both sides	3/4" Opening 75.50 lbs. per minute both sides Amount both sides	1" Opening 115.50 lbs. per minute both sides Amount both sides	1-1/4" Opening 155.50 lbs. per minute both sides Amount both sides	1-1/2" Opening 195.50 lbs. per minute both sides Amount both sides
4	15 Min.	3.75 Min.	121.88 LBS.	283.13 LBS.	433.13 LBS.	583.13 LBS.	733.13 LBS.
5	12 Min.	3 Min.	97.50 LBS.	226.50 LBS.	346.50 LBS.	466.50 LBS.	586.50 LBS.
6	10 Min.	2.50 Min.	81.25 LBS.	188.75 LBS.	288.75 LBS.	388.75 LBS.	488.75 LBS.
7	8.57 Min.	2.14 Min.	69.55 LBS.	161.57 LBS.	247.17 LBS.	332.77 LBS.	418.37 LBS.
8	7.50 Min.	1.88 Min.	61.10 LBS.	141.94 LBS.	217.14 LBS.	292.34 LBS.	367.54 LBS.
9	6.67 Min.	1.67 Min.	54.28 LBS.	126.09 LBS.	192.89 LBS.	259.69 LBS.	326.49 LBS.
10	6 Min.	1.50 Min.	48.75 LBS.	113.25 LBS.	173.25 LBS.	233.25 LBS.	293.25 LBS.

THE ABOVE TESTS WERE MADE WITH 6-24-24 FERTILIZER. TO DETERMINE THE AMOUNT OF FERTILIZER SPREAD ON EACH SIDE, DIVIDE ABOVE AMOUNTS BY 2.

CHART FOR SPREADING HERBICIDES & INSECTICIDES WITH ATTA-CLAY CARRIER

MPH Tractor Speed	Width of Spread	Time Req. to travel 1 mile	Time Req. to travel 80 rod	Total time per acre in minutes	1/4" Opening 2.375 Lbs. per min. Amount per side	5/16" Opening 4.375 lbs. per min. Amount per side	3/8" Opening 6.375 lbs. per min. Amount per side	7/16" Opening 8.375 lbs. per min. Amount per side	1/2" Opening 10.375 lbs. per min. Amount per side
4	24"	15 Min	3.75 Min	61.875	146.95 LBS	270.70 LBS	394.45 LBS	518.20 LBS	641.95 LBS
4	36"	15 Min	3.75 Min	41.25	97.97 LBS	180.47 LBS	262.97 LBS	345.47 LBS	427.97 LBS
4	6'	15 Min	3.75 Min	20.62	48.97 LBS	90.21 LBS	131.45 LBS	172.69 LBS	213.93 LBS
5	24"	12 Min	3 Min	49.50	117.56 LBS	216.56 LBS	315.56 LBS	414.56 LBS	513.56 LBS
5	36"	12 Min	3 Min	33.00	78.38 LBS	144.38 LBS	210.38 LBS	276.38 LBS	342.38 LBS
5	6'	12 Min	3 Min	16.50	39.19 LBS	72.19 LBS	105.19 LBS	138.19 LBS	171.19 LBS
6	24"	10 Min	2.50 Min	47.25	97.97 LBS	180.47 LBS	262.97 LBS	345.47 LBS	427.97 LBS
6	36"	10 Min	2.50 Min	27.50	65.31 LBS	120.31 LBS	175.31 LBS	230.31 LBS	285.31 LBS
6	6'	10 Min	2.50 Min	13.75	32.66 LBS	60.16 LBS	87.66 LBS	115.16 LBS	142.66 LBS
7	24"	8.57 Min	2.14 Min	35.357	83.97 LBS	154.69 LBS	225.40 LBS	296.11 LBS	366.83 LBS
7	36"	8.57 Min	2.14 Min	23.571	55.98 LBS	103.12 LBS	150.27 LBS	197.41 LBS	244.55 LBS
7	6'	8.57 Min	2.14 Min	11.785	27.99 LBS	51.56 LBS	75.13 LBS	98.70 LBS	122.75 LBS
8	24"	7.50 Min	1.88 Min	30.937	73.48 LBS	135.35 LBS	197.22 LBS	259.10 LBS	320.97 LBS
8	36"	7.50 Min	1.88 Min	20.625	48.98 LBS	90.23 LBS	131.48 LBS	172.73 LBS	213.98 LBS
8	6'	7.50 Min	1.88 Min	10.312	24.49 LBS	45.12 LBS	65.74 LBS	86.36 LBS	106.99 LBS
9	24"	6.67 Min	1.67 Min	27.50	65.31 LBS	120.31 LBS	175.31 LBS	230.31 LBS	285.31 LBS
9	36"	6.67 Min	1.67 Min	18.333	43.54 LBS	80.21 LBS	116.87 LBS	153.54 LBS	190.20 LBS
9	6'	6.67 Min	1.67 Min	9.166	21.77 LBS	40.10 LBS	58.43 LBS	76.77 LBS	95.10 LBS
10	24"	6 Min	1.50 Min	24.75	58.78 LBS	108.28 LBS	157.78 LBS	207.28 LBS	256.78 LBS
10	36"	6 Min	1.50 Min	16.50	39.19 LBS	72.19 LBS	105.19 LBS	138.19 LBS	171.19 LBS
10	6'	6 Min	1.50 Min	8.25	19.59 LBS	36.09 LBS	52.59 LBS	69.09 LBS	85.59 LBS

(TESTS WERE MADE USING 20/40 SIZE MATERIAL)

CAUTION: Read labels carefully and follow instructions for spreading material. Don't Take Chances! Be Safe!
 Material must be clean with no lumps for accurate spreading. Do not use agitator when spreading insecticides or herbicides, as agitator will grind up material, making dust and forming ring of material over opening. Check you plate for closing. When cylinder shaft is fully extended, opening plate should just close. Spring is used to keep tension on push-pull cable and clevis, for more accurate movement of opening plate.

EXAMPLE: 5 MPH tractor speed – 36" spread width – 33 minutes to cover 1 acre.
 5/16" opening will put on 144.38 lbs. per acre – would require 4 minutes to go 80 rods or 12 minutes to go 1 mile.
 Amount per side = 4.375 lbs. per minute for checking.

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