

(RED)

# Operator's Manual

30' High Clearance Full Press Drill  
1982

# Great Plains

Manufacturing, Inc.

P.O. Box 5060 • Salina, Kansas 67402-5060



Read the operator's manual entirely. When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!

# Great Plains

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Owner's Manual  
30' High Clearance Folding Drill  
**Operating Instructions**

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## INTRODUCTION

Your Great Plains Folding Drill is designed to give you many years of dependable service. This Manual has been prepared to instruct you in the safe and efficient operation of this machine. Read and study it thoroughly. Follow all instructions and service procedures carefully.

Should your Grain Drill require replacement parts, go to your Great Plains Dealer. That way you will be sure you are getting the proper parts.

It is important you complete and send in your Warranty Card because it is not valid unless it is on file at Great Plains. If you need information not contained in this Manual, contact your Great Plains Dealer.

Thank you for buying a Great Plains Folding Drill.

Roy Applequist  
President

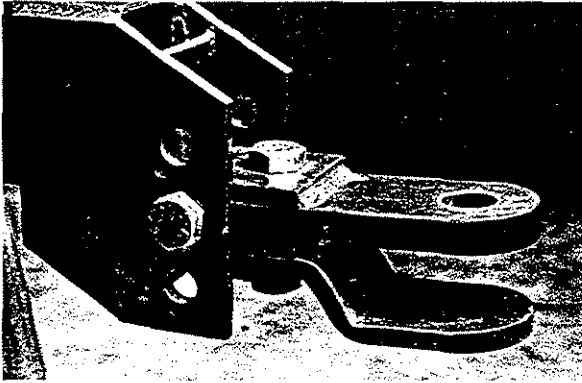
## OPERATING CHECK LIST

**Before operating your Drill for the first time, make sure you have checked the following items:**

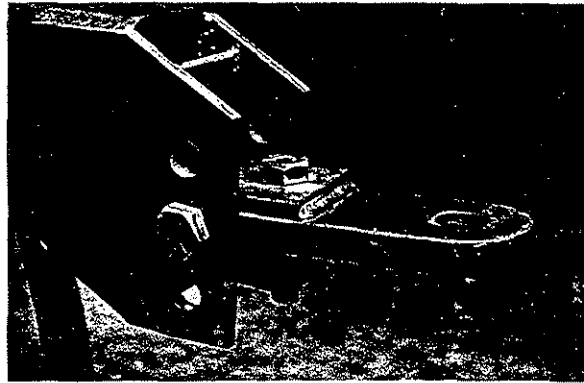
- 1. Read "Operating Instructions?"
- 2. Read "Safety Rules?"
- 3. Check machine for loose bolts, set screws, pins and chains.
- 4. See that all tires have proper air pressure.
- 5. Lubricate Drill.
- 6. Inspect feeder cups for foreign matter.
- 7. Rotate each gauge wheel to see that the drive system is operating smoothly.
- 8. Check for leaks in the hydraulic system.

## TRACTOR HOOK-UP

1. Universal hitch can be used as either a clevis or a single strap hitch. (See Figures 1 and 2)

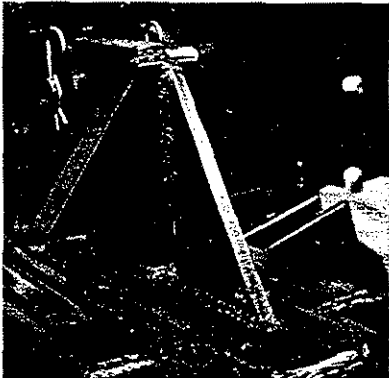


(Figure 1) Clevis Hitch

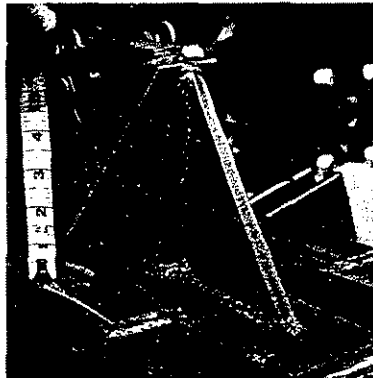


(Figure 2) Single Strap Hitch

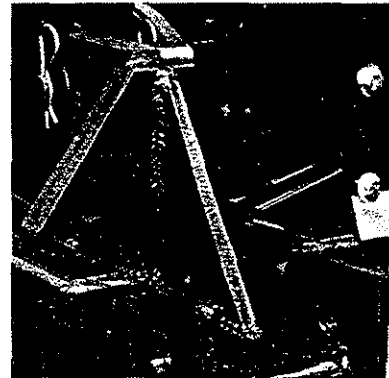
2. In field position, the tongue of the Drill should be set with  $1\frac{3}{8}$ " clearance, as shown in Figure 3. This can be accomplished by properly adjusting the hitch height. (See Figures 1 and 2)



Too Much Clearance

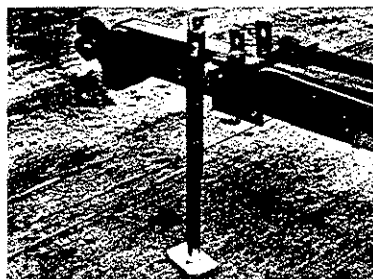


(Figure 3) Proper Field Position  
of Tongue on Level Ground.



Too Little Clearance

3. The tongue jack makes it possible to raise and lower the tongue as needed. Always return jack to its horizontal storage position on pull bar slide assembly before folding Drill. (See Figures 4 and 5)



(Figure 4) Vertical Position



(Figure 5) Storage Position

4. Once you have the hitch pin in place and the jack in the storage position, you are ready to hook up your hydraulic hoses. You need a dual hydraulic system. If this is the first time you have had fluid in the systems, you should use the following procedure: (See detailed drawings of hydraulic system in Parts Manual)

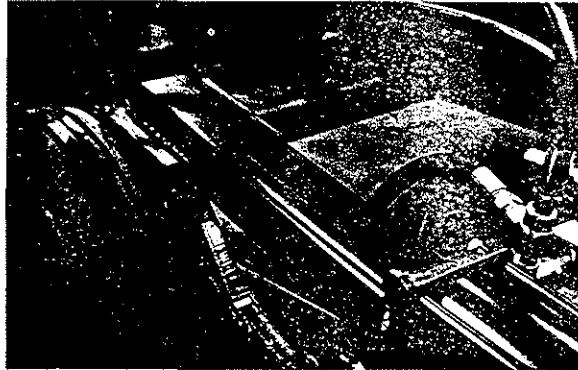
- a. Hook hydraulic hoses to tractor outlets.
- b. Loosen both connections on one cylinder.
- c. Slowly work hydraulic lever back and forth.
- d. When fluid begins to come out of one hose, tighten that connection.
- e. When fluid begins to come out of the other hose, tighten that connection.
- f. Repeat above process on each cylinder.
- g. Check tractor hydraulic reservoir fluid level at this time. You will probably have to add some hydraulic fluid.

5. If wing cylinders do not operate properly, clean out small orifice fitting in wing cylinder.

## TRANSPORTING

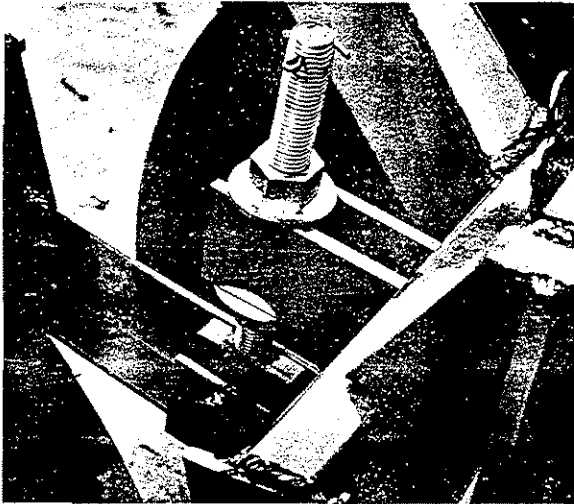
Before you start pulling the drill on the road, you should always check the following items:

1. Are the main cylinder block and lock pin in place? (See Figure 6)



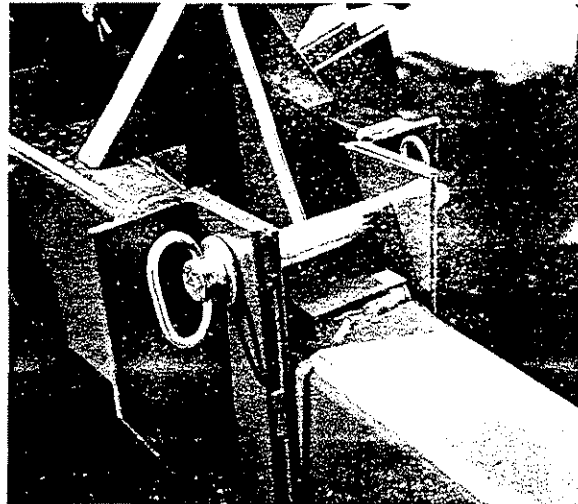
(Figure 6) Cylinder Block and Lock Pin in Transport Position.

2. Are both wing locks in place and tightened securely? (See Figure 7)



(Figure 7) Wing Lock in Transport Position

3. Is the floating tongue lock pin in this position? (See Figure 8)



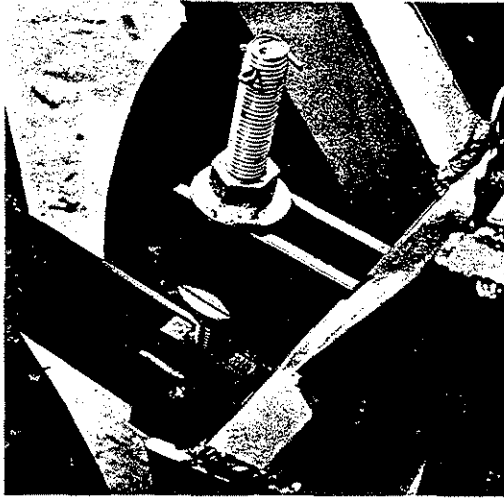
(Figure 8) Floating Tongue Lock Pin in Transport Position

4. Have you checked to see if you have the required 60 lbs. of pressure in all four transport tires? (Gauge wheel tires should have 45 lbs.)
5. Are openers in up position for maximum road clearance?
6. Do you have proper highway warning devices to satisfy all Federal, State, and local highway safety laws?

**CAUTION:** This Drill should never be pulled faster than 20 miles per hour.

## UNFOLDING

1. Loosen wing lock bolts and remove from slots. (See Figures 9 and 10) These locks MUST ALWAYS be used when moving the Drill in the folded position. (See Figure 7)

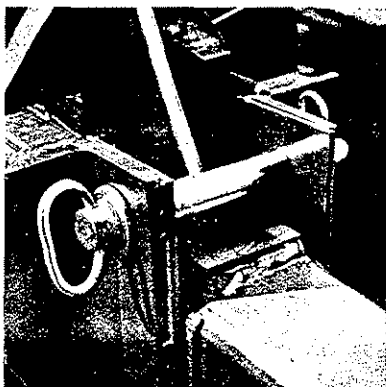


(Figure 9) Locked Position

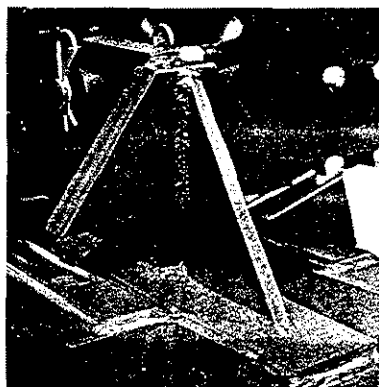


(Figure 10) Unlocked Position

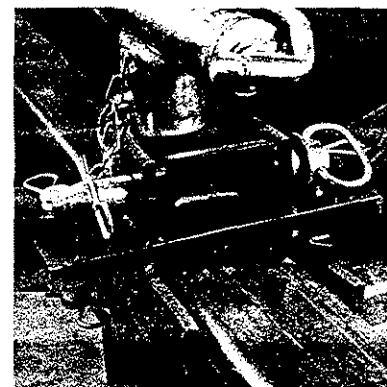
2. Unfold wings with hydraulic wing cylinders. Do this very slowly and carefully. If this is done fast and carelessly, serious damage could occur. Folding is best achieved on level ground.
3. Next, apply hydraulic pressure to the raising and lowering system. Use it to raise the machine to its highest possible position.
4. Remove main cylinder block. (See Figure 6) Place on main frame channel.
5. Remove floating tongue lock pin. (See Figures 11 and 12) Take this same pin and lock the pull bar slide assembly into position. (See Figure 13)



(Figure 11) Floating Tongue Lock Pin in Transport Position.



(Figure 12) Floating Tongue in Unlocked Field Position.



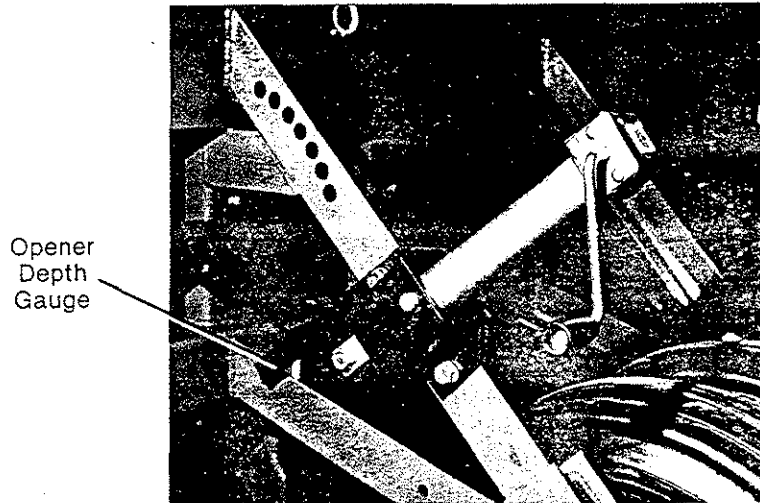
(Figure 13) Pull Bar Slide Assembly with Pin in Locked Position.

6. In order to fold up, just reverse the order of the unfolding instructions.

## DRILLING ADJUSTMENTS

Rotate each gauge wheel to see that feed cups and drive are working properly and free from foreign matter.

1. Turning the screwjack shown in figure 14 will lower the openers for desired planting depth. When you have set the correct depth for your field conditions, mark that position on the Opener Depth Gauge located beneath the screw jack. This will allow you to set the same opener depth for each planting.



(Figure 14) Screw Jack for setting planting depth.

2. Lower Drill with main hydraulic system to field position. Be sure slide cylinder is completely extended for maximum flexibility.
3. Next, you need to adjust your seeding rate. First, you must decide which sprocket arrangement you need (see seeding chart). In order to change sprockets, remove bolt in center of double speed change sprocket and turn it over. Loosen the arm bolt, put chains on and tighten both bolts. (The chains may need to be taken apart to make this change.)  
To set the fine seed rate adjustment on each box, just loosen the wing nut, slide handle to the desired setting and retighten the wing nut.
4. There are many factors which will affect seeding rates.
  - a. Seed treatment.
  - b. Weight of seed.
  - c. Size of seed.
  - d. Surface condition of seed.
  - e. Tire configuration, tire pressure, and slippage due to soil conditions.Minor adjustments will probably be needed to compensate for the above factors.
5. The pounds per acre in the seed charts are based on Drills having 9.5L x 15 inch rib implement gauge wheel tires at 45 lbs. tire pressure.



## SEEDING ADJUSTMENTS

1. Rotate each gauge wheel to see that feed cups and drive are working properly and are free from foreign matter.
2. To adjust your seeding rate, first you must decide which sprocket arrangement you need (see seeding chart). In order to change sprockets, remove nut in center of double speed change sprocket and turn sprocket over. Loosen the idler arm bolt, put chains on and tighten both bolts. (The chains need to be reversed to make this change.)
3. There are many factors which will affect seeding rates: seed treatment, weight of seed, size of seed, surface condition of seed, and tire configuration, pressure and slippage. Minor adjustments will probably be needed to compensate for the above factors.
4. The pounds-per-acre in the seed charts are based on drills having 9.5L x 15 inch rib implement gauge wheel tires with 45 lbs. of air pressure.
5. The large differences in seed size and treatment can cause a wide variation in actual seeding rates. The seed rate charts on the following pages are based on average size seed. This may differ from the seed you are using. Use the seed rate charts as a guide. Set the pounds-per-acre desired at the indicator number for your row spacing and complete the following procedure to calibrate the drill for your specific seed.
  - a. Place several pounds of seed over three of the feeder cups at the outboard end of the drill box.
  - b. Pull the seed tubes out of these three openers.
  - c. Raise the drill off the ground. Be sure to insert cylinder block and lock pins to prevent injury should hydraulic system allow drill to lower while working around it.
  - d. Place a container under the three seed tubes to gather the seed as it is metered.
  - e. Rotate the drive gauge wheel until one acre has been tallied on the acremeter. This will be approximately 200 rotations on a 30' drill. Be sure to check the three feeder cups to make sure each cup has plenty of grain coming into it.
  - f. Weigh the seed which has been metered. Divide by three. This will give you the ounces/pounds metered by each feeder cup. Multiply by the number of openers on your drill to arrive at the total pounds-per-acre your drill would meter at that setting. If this figure is different than desired, set your feed cup adjustment lever accordingly.

**Repeat procedures a through f on each drill section.**

6. You may want to repeat the calibration procedure if the results of your calibration vary greatly from the suggested settings contained in this manual.

Remember: Tire size and field conditions will also affect seeding rates. Be certain that your gauge wheel tires are 9.5L x 15 and that they are inflated to 45 lbs. When drilling, check the amount of seed you are using by noting acres drilled, amount of seed added to drill, and level of seed in drill box. If you suspect that you are drilling more or less seed than desired, and you have accurately calibrated the drill to your seed, you may need to adjust the seeding rate slightly to compensate for your field conditions.

# Seeding Rates

WHEAT (DRIVE TYPE 1)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	2	15	25	36	48	62	73	86	98	113	125	140	152	168	183	199	217	221	229	230
7"	0	1	13	22	31	41	52	62	73	84	96	106	119	129	143	156	169	185	188	194	196
7½"	0	1	12	20	29	39	49	59	69	79	90	100	118	121	134	147	159	174	177	183	184
8"	0	1	12	19	27	36	46	55	64	74	84	94	105	114	126	138	149	163	166	172	173
10"	0	0	9	15	22	29	37	44	52	59	68	75	84	91	101	110	119	130	133	137	138
12"	0	0	8	13	18	24	31	37	43	49	56	63	70	76	84	92	99	109	111	114	115

RICE SHORT GRAIN (DRIVE TYPE 1)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	3	12	19	27	36	44	53	61	70	78	87	97	104	112	119	128	135	138	138	141
7"	0	2	10	16	23	31	38	45	52	59	67	74	83	89	95	101	108	115	118	118	120
7½"	0	2	9	15	21	29	35	42	49	56	63	70	78	83	90	95	102	108	111	111	113
8"	0	2	8	14	20	27	33	39	46	52	59	65	73	78	84	89	96	101	104	104	106
10"	0	1	7	12	16	22	27	32	37	42	47	52	58	63	67	72	77	81	83	83	85
12"	0	1	6	10	13	18	22	26	31	35	39	44	49	52	56	60	64	68	69	69	70

RICE SHORT GRAIN (DRIVE TYPE 1-A)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	6	20	36	52	65	86	103	120	138	158	175	203	219	233	250	272	288	294	298	300
7"	0	5	17	31	44	55	73	87	102	118	135	149	173	186	198	213	231	245	250	254	255
7½"	0	4	16	29	41	52	69	82	96	111	127	140	163	175	187	200	217	231	235	239	240
8"	0	4	15	27	39	49	64	77	90	104	119	131	153	164	175	188	204	216	221	224	225
10"	0	3	12	22	31	39	52	62	72	83	95	105	122	132	140	150	163	173	177	179	180
12"	0	2	10	18	26	33	43	51	60	69	79	88	102	110	117	125	136	144	147	149	150

RICE LONG GRAIN (DRIVE TYPE 1)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	1	8	16	24	35	43	50	60	68	75	83	89	96	102	107	115	123	123	124	126
7"	0	1	7	14	21	30	37	43	51	57	64	70	76	81	86	91	98	104	104	106	107
7½"	0	1	6	13	19	28	34	40	48	54	60	66	71	77	81	86	92	98	98	99	101
8"	0	1	6	12	18	26	32	38	45	51	56	62	67	72	76	80	86	92	92	93	94
10"	0	0	5	10	15	21	26	30	36	41	45	50	54	58	61	64	69	74	74	75	76
12"	0	0	4	8	12	18	22	25	30	34	38	41	45	48	51	54	58	61	61	62	63

RICE LONG GRAIN (DRIVE TYPE 1-A)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	3	12	28	47	64	81	101	117	129	151	169	185	196	213	226	242	262	268	272	273
7"	0	2	10	24	40	55	69	86	99	110	128	144	157	167	181	192	205	222	228	231	232
7½"	0	2	9	23	37	51	65	81	93	103	121	135	148	157	171	181	193	209	215	217	218
8"	0	2	9	21	35	48	61	76	88	97	113	127	139	147	160	169	181	196	201	204	205
10"	0	1	7	17	28	39	49	61	70	78	91	102	111	118	128	136	145	157	161	163	164
12"	0	1	6	14	23	32	40	50	58	65	75	85	93	98	107	113	121	131	134	136	137

BARLEY (DRIVE TYPE 1)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	0	11	19	27	35	43	51	58	66	74	82	90	98	106	114	121	129	137	145	151
7"	0	0	9	16	23	30	36	43	50	57	63	70	77	84	90	97	104	111	117	124	130
7½"	0	0	8.5	15	21	28	34	40	47	53	59	66	72	79	85	91	98	104	110	117	121
8"	0	0	8	14	20	26	32	38	44	50	56	62	68	74	80	86	92	98	104	110	116
10"	0	0	7	11	16	21	26	30	35	40	45	49	54	59	64	68	73	78	83	88	93
12"	0	0	6	10	14	18	22	26	29	33	37	41	45	49	53	57	60	64	68	72	76

SAFFLOWER OR OATS (DRIVE TYPE 1)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	0	7	14	22	29	37	45	53	62	71	83	87	98	104	113	123	134	147	150	156
7"	0	0	6	12	18	24	32	38	45	53	60	71	74	84	88	96	105	114	125	128	132
7½"	0	0	5	11	17	23	30	36	43	50	57	67	69	79	83	91	99	107	118	120	125
8"	0	0	5	10	16	22	28	33	40	47	53	63	65	74	78	85	93	101	110	113	117
10"	0	0	4	8	13	17	22	27	32	37	43	50	52	59	62	68	74	81	88	90	93
12"	0	0	3	7	11	14	19	22	27	31	35	42	43	49	52	57	62	67	74	75	78

RYE (DRIVE TYPE 2)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	0	4	8	12	15	18	21	28	30	33	38	41	45	48	53	58	62	63	68	69
7"	0	0	3	7	10	13	16	18	24	25	28	32	35	38	41	45	49	53	54	57	58
7½"	0	3	6	9	9	12	15	17	23	24	27	30	33	36	39	42	46	50	51	54	54
8"	0	0	3	6	9	11	14	16	21	22	25	28	31	34	36	40	43	47	48	51	52
10"	0	0	2	5	7	9	11	13	17	18	20	23	25	27	29	32	35	37	38	41	42
12"	0	0	2	4	6	8	9	11	14	15	17	19	21	23	24	26	29	31	32	34	35

MILLET (DRIVE TYPE 2)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	2	6	9	12	15	18	22	24	28	33	38	43	46	50	55	61	67	69	70	71
7"	0	1	5	7	10	13	16	18	21	24	28	32	36	39	43	47	52	57	59	60	61
7½"	0	1	4	6	9	12	15	17	19	23	27	30	34	37	40	44	49	53	55	56	57
8"	0	1	5	7	9	11	14	16	18	21	25	28	32	34	38	42	46	50	52	53	54
10"	0	0	4	5	7	9	11	13	15	17	20	23	26	28	30	33	37	40	42	43	44
12"	0	0	3	4	6	8	9	11	12	14	17	19	21	23	25	28	31	33	35	36	37

BUCKWHEAT (DRIVE TYPE 1)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	4	13	22	31	41	52	62	68	83	94	106	112	124	135	152	166	183	195	196	200
7"	0	4	11	19	27	35	44	53	57	71	80	90	95	106	114	129	141	156	166	167	170
7½"	0	3	10	18	25	33	41	50	54	67	75	85	89	99	108	122	133	147	156	157	160
8"	0	3	10	17	23	31	39	47	51	63	71	80	84	93	101	114	124	138	146	147	150
10"	0	3	8	13	19	25	31	37	41	50	57	64	67	75	81	91	100	110	117	118	120
12"	0	2	7	11	16	20	26	31	34	42	47	53	56	62	67	76	83	92	98	99	100

FLAX OR SUDAN (DRIVE TYPE 2)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	2	4	7	10	14	17	20	25	28	32	36	39	42	45	50	55	59	63	65	68
7"	0	1	4	6	8	12	15	17	21	24	27	31	33	36	38	42	47	50	53	56	57
7½"	0	1	3	5	7	11	14	16	20	22	25	29	31	34	36	40	44	47	50	52	54
8"	0	1	3	5	7	10	13	15	19	21	24	27	29	32	34	37	41	44	47	49	51
10"	0	0	3	4	6	8	10	12	15	17	19	22	23	25	27	30	33	36	38	39	41
12"	0	0	2	4	5	7	9	10	13	14	16	18	19	21	23	25	28	30	32	33	34

SUNFLOWERS (DRIVE TYPE 2)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	0	0	3.8	7.6	11.2	15	18.8	22.6	26	32	38	41	45	49	53	56	60	64	68	72
7"	0	0	0	3.2	6.4	9.6	12.8	16	19	22	27	32	35	38	41	45	48	51	54	57	60
7½"	0	0	0	3	6	9	12	15	18	21	25.5	30	33	36	39	42	45	48	51	54	57
8"	0	0	0	2.8	5.6	8.5	11.3	14	17	20	24	28	31	34	37	39	42	45	48	51	54
10"	0	0	0	2.3	4.5	6.8	9	11	13.5	16	19	23	25	27	29	32	34	36	38	41	43
12"	0	0	0	1.9	3.8	5.6	7.5	9.9	11.3	13	16	19	21	23	25	27	28	30	32	34	36

SOYBEANS (DRIVE TYPE 1)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	0	0	20	25	43	63	75	87	102	123	137	152	170	183	197	207	233	235	237	242
7"	0	0	0	17	21	37	54	63	74	86	104	116	129	144	156	167	176	198	199	201	205
7½"	0	0	0	16	20	35	51	60	69	81	98	109	121	136	147	157	165	187	188	189	193
8"	0	0	0	15	18	33	48	56	65	76	92	103	114	127	138	148	155	175	176	178	181
10"	0	0	0	12	15	26	38	45	52	61	74	82	91	102	110	118	124	140	141	142	145
12"	0	0	0	10	12	22	32	37	43	51	61	68	76	85	92	98	103	117	117	118	121

SOYBEANS (DRIVE TYPE 2)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	0	0	7	8	15	21	24	29	33	40	45	51	55	62	65	71	76	77	78	79
7"	0	0	0	6	7	13	18	20	24	28	34	38	43	47	52	55	61	65	66	67	68
7½"	0	0	0	5	6	12	17	19	23	27	32	36	41	44	49	52	57	61	62	62	63
8"	0	0	0	5	6	11	16	18	22	25	30	34	38	41	46	48	53	57	58	58	59
10"	0	0	0	4	5	9	13	14	17	20	24	27	31	33	37	39	43	46	46	47	48
12"	0	0	0	3	4	8	10	12	14	17	20	23	25	28	31	32	36	38	39	39	40

SOYBEANS (DRIVE TYPE 2-A)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	0	0	0	20	32	43	48	58	73	87	98	100	112	118	123	136	149	150	153	159
7"	0	0	0	0	17	27	37	41	50	62	74	83	85	95	101	105	115	127	128	130	135
7½"	0	0	0	0	16	25	35	39	47	59	69	78	80	89	95	99	109	119	120	123	127
8"	0	0	0	0	15	24	33	36	44	55	65	73	75	84	89	93	102	112	113	115	119
10"	0	0	0	0	12	19	26	29	35	44	52	59	60	67	71	74	82	90	91	92	95
12"	0	0	0	0	10	16	22	24	29	37	43	49	50	56	59	62	68	75	76	77	79

Setting the feed cup adjustment lever between 50 and 80 allows for optimum seeding of soybeans. These charts are computed with 2600 soybeans/lb seed size.

PEAS (DRIVE TYPE 1)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	0	7	23	28	48	61	78	95	113	129	148	164	180	198	215	228	244	245	246	247
7"	0	0	6	20	24	41	52	67	81	96	110	126	140	153	168	183	194	208	209	210	211
7½"	0	0	5	19	22	38	50	63	76	90	103	118	131	144	158	172	182	196	196	197	198
8"	0	0	5	18	21	36	46	59	72	84	97	111	123	135	148	161	171	183	184	185	186
10"	0	0	4	14	17	29	37	47	57	68	78	89	99	108	119	129	137	147	148	149	150
12"	0	0	3	12	14	24	31	39	48	56	65	74	82	90	99	108	114	122	123	124	125

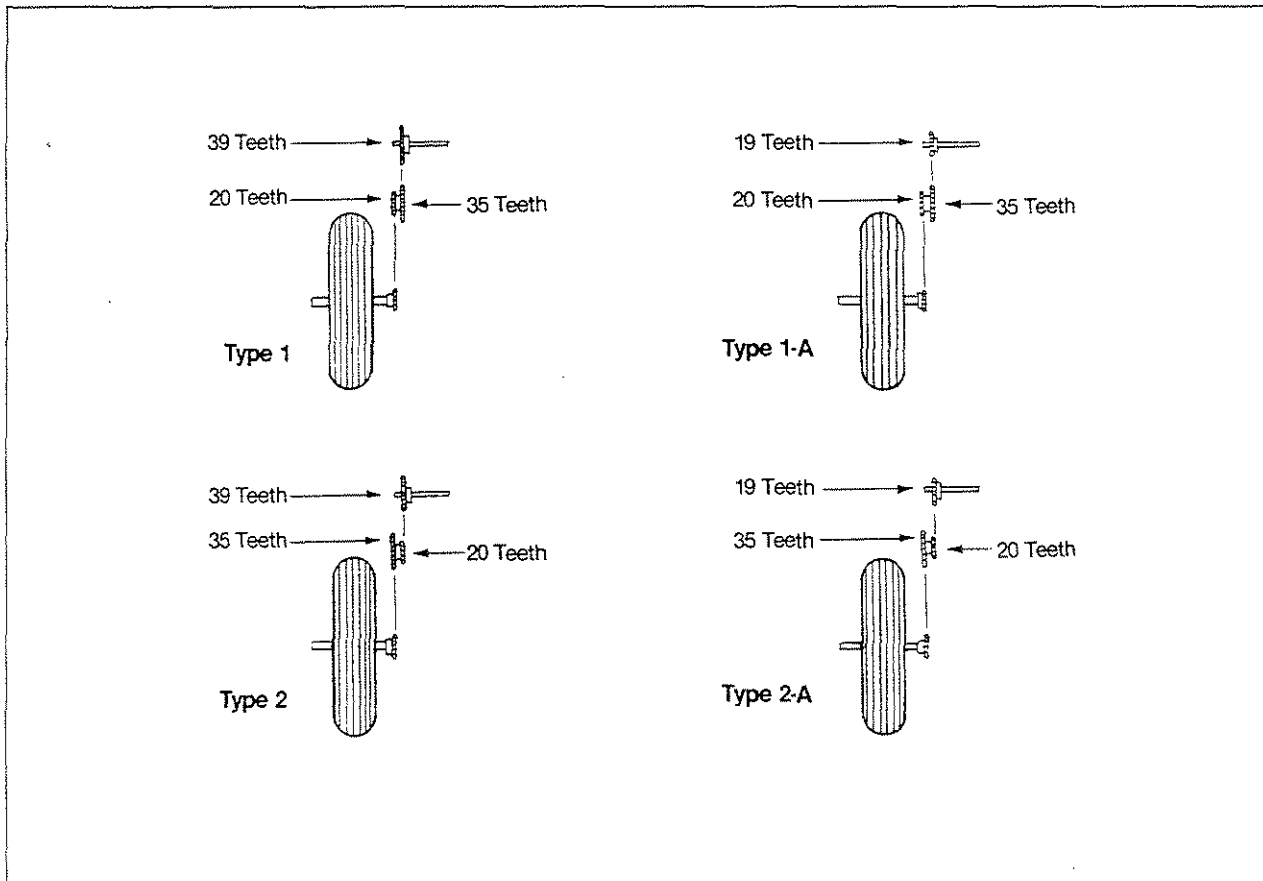
PINTO BEANS (DRIVE TYPE 2)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	0	0	0	2	3	7	12	17	24	29	40	45	48	54	61	71	73	75	76	80
7"	0	0	0	0	2	3	6	11	16	22	27	34	38	41	46	52	61	62	64	65	67
7½"	0	0	0	0	1	2	5	10	15	21	26	31	36	39	43	49	57	59	60	61	63
8"	0	0	0	0	1	2	5	9	14	19	25	30	34	36	41	46	53	55	56	57	59
10"	0	0	0	0	0	2	4	8	13	18	24	27	29	33	37	43	44	45	46	48	48
12"	0	0	0	0	0	1	3	7	12	16	17	20	23	24	27	30	36	37	38	38	40

RAPE OR ALFALFA (DRIVE TYPE 2)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	2	5	8	11	13	17	21	24	31	31	35	40	44	48	52	53	55	62	65	66
7"	0	2	4	6	9	11	14	18	20	26	27	30	34	37	41	44	45	47	52	55	56
7½"	0	1	3	6	8	10	13	17	19	25	25	28	32	35	39	42	43	44	49	52	53
8"	0	2	4	6	8	10	13	16	18	23	24	27	30	33	36	39	40	41	46	48	49
10"	0	1	3	5	7	8	10	13	14	19	20	21	24	26	29	31	32	33	37	39	40
12"	0	1	3	4	5	7	8	11	12	15	16	18	20	22	24	26	27	28	31	32	33

MILO (DRIVE TYPE 2)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	2	5	8	12	15	18	23	28	29	34	40	41	45	49	52	55	65	66	67	68
7"	0	1	4	7	10	13	15	19	23	24	29	34	35	38	41	44	47	55	56	57	58
7½"	0	1	4	6	9	12	14	18	22	23	27	32	33	36	39	41	44	52	53	54	55
8"	0	1	3	6	9	11	13	17	21	22	25	30	31	34	37	39	41	48	50	51	52
10"	0	0	3	5	7	9	11	14	17	18	20	24	25	27	29	31	33	39	40	41	42
12"	0	0	2	4	6	8	9	11	14	15	17	20	21	23	24	26	28	32	33	34	35

WHEAT GRASS (DRIVE TYPE 2)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	0	0	1	3	3	4	5	5	8	8	9	9	10	10	10	11	11	12	13	13
7"	0	0	0	1	2	3	3	4	4	6	7	7	8	9	9	9	9	10	10	11	11
7½"	0	0	0	0	2	3	3	4	4	6	6	7	7	8	8	8	8	9	9	10	11
8"	0	0	0	0	2	3	3	4	4	6	6	7	7	8	8	8	8	8	9	9	10
10"	0	0	0	0	2	2	2	3	3	5	5	5	6	6	6	6	7	7	7	8	8
12"	0	0	0	0	2	2	2	2	3	4	4	4	5	5	5	5	5	6	6	6	7

Sprocket Arrangements for Drive Types:



## FIELD OPERATIONS

1. Load seed box with seed. You should use cleaned seed to get the best results. You should always have the drill hitched securely to a tractor before loading.
2. This machine can be transported with a full box of grain. It is best NOT to do this unless necessary because the increased weight does increase the chances for problems on the road. DO NOT exceed 20 miles per hour.
3. Never back up with openers in ground. If you do, check all openers to be sure none are clogged.
4. Never allow anyone to ride on the machine.
5. Maximum drilling speed varies upon soil conditions.
6. If your drill comes equipped with an acremeter it should be mounted to the left gauge wheel. It will accumulate the total acres drilled with the machine. In order to find out the acres covered, write down the beginning reading and subtract it from the ending reading for the total acres planted.
7. You can adjust the tension on each disk spring. This is especially useful in applying more pressure in tractor tracks.

## MAINTENANCE SERVICE

PROPER SERVICING AND ADJUSTMENT IS THE KEY TO THE LONG LIFE OF ANY FARM IMPLEMENT. WITH CAREFUL AND SYSTEMATIC INSPECTION OF OUR GRAIN DRILL, YOU CAN AVOID COSTLY MAINTENANCE, TIME AND REPAIR.

1. After using your drill for several hours, check all bolts to be sure they are tight.
2. Lubrication—listed below are the items you need to lubricate every 12-15 hours of operation:
  - a. Gauge wheel bearings.
  - b. Jack shaft bearings.
  - c. Feeder cup drive sprocket bearings.
  - d. Oil all roller chains. This is important to do before putting the machine in storage.
  - e. Feeder cup drive sprocket should be oiled in its square bore. Move feeder cup adjustment lever away from the sprocket as far as possible in order to get the oil back into the square. This is most important to do before putting the machine in storage.
3. Disk scrapers should be kept properly adjusted.
4. Always maintain 45 lbs. of air pressure in gauge wheel tires and 60 lbs. in the transport tires.

## TROUBLE-SHOOTING

- | <b>PROBLEM</b>                                    | <b>SOLUTION</b>  |
|---|--|
| 1. Uneven seed spacing or uneven stand            | <ul style="list-style-type: none"><li>a. Check for trash in seed cup.</li><li>b. Check to see if seed tubes are plugged.</li><li>c. Reduce ground speed.</li><li>d. Check opener disks to see that turn freely.</li><li>e. Use faster drive speed (See page 6, No. 2) and close feed cup flutes to a more narrow position.</li></ul>   |
| 2. Opener disks not turning freely.               | <ul style="list-style-type: none"><li>a. Check for trash or mud build-up on disk scraper. Readjust scraper.</li><li>b. Check to see if scraper is adjusted too tight and is restricting disk movement.</li><li>c. Check disk bearings and flanges.</li><li>d. Check opener frame for possible damage.</li><li>e. If opener disks turn freely by hand but not in field, lessen down pressure on disk opener. Each opener spring can be adjusted for tension. This is useful when penetrating hard soil and for planting in tractor tire tracks. To adjust the tension, remove the "W" clip at the bottom of the spring and place it in a higher hole for more tension and in a lower hole for less tension.</li></ul> |
| 3. Actual seeding rate is different than desired. | <ul style="list-style-type: none"><li>a. Check tire pressure. Proper inflation is 45 lbs. in gauge wheels and 60 lbs. in transport tires.</li><li>b. Check tire size. Proper size is 9.5L x 15.</li><li>c. Liquid seed treatment will affect seeding rate if the chemicals build up in seed cup. Unless cleaned regularly, this build up can cause breakage of the feed shaft.</li><li>d. Check drive range. See Operator's Manual, page 10.</li><li>e. See Operator's Manual, page 6 for instructions on calculating seed rate.</li></ul>   |
| 4. Excessive seed cracking                        | <ul style="list-style-type: none"><li>a. Slow drive speed (See page 6, No. 2) and open flutes in feed cup to a wider position.</li></ul>   |
| 5. Acremeter doesn't measure accurately           | <ul style="list-style-type: none"><li>a. Check tire pressure. Proper inflation is 45 lbs. in gauge wheel tires and 60 lbs. in transport tires.</li><li>b. Check tire size. Proper size is 9.5L x 15.</li><li>c. Check planting operation for excessive overlap or gaps between passes.</li><li>d. Loose soil conditions and slippage will cause variations in acres registered.</li><li>e. To check accuracy of acremeter, raise drill out of ground. Note acreage figure on acremeter; rotate the gauge wheel approximately 200 times. This should register one acre.</li></ul>   |
| 6. Uneven seeding depth                           | <ul style="list-style-type: none"><li>a. See depth setting instructions, page 5.</li></ul>   |
| 7. Grain box not emptying evenly                  | <ul style="list-style-type: none"><li>a. Certain model drills do not have the same number of seed cups between each divider or bulkhead. The section with the larger number of cups will empty sooner.</li><li>b. Check adjustment levers on each box to see that they are set on same indicator number.</li></ul>   |
| 8. Press wheels or openers plugging               | <ul style="list-style-type: none"><li>a. Drilling in damp or wet conditions may increase this problem.</li><li>b. Openers may be moved from a staggered to an in-line position to reduce trash thrown from front openers into rear openers.</li><li>c. Reduce down pressure on disk openers.</li></ul>   |

## TROUBLE-SHOOTING (Con't)

PROBLEM	SOLUTION
9. Markers (hydraulic) not working properly	a. Check all hose fittings and connections for air and oil leaks. b. Check tractor hydraulic oil level. If conditions persists, have your dealer service department check sequencing valve.
10. Rubber tire depth control wheels becoming packed with mud	a. Install scrapers. b. Reduce spring tension on openers.
11. Improper folding of drills	a. Check hydraulic system for air and oil leaks. b. Check drill for any loose bolts or hardware, or any damaged or bent parts that might affect proper folding. c. Check that the pull bars are exactly the same length. d. Clean out small orifice fittings in wing cylinders.
12. Front and rear hoe openers not penetrating to the same depth	a. Raising or lowering the gauge wheels at the adjustment slots located in the side plates at the ends of the gauge wheel axles will tilt the drill forward or backward to cause even penetration.
13. Uneven fertilizer application	a. Clean the fertilizer system as described in the maintenance section of the fertilizer option operating manual.
14. Wing lock bolts do not line up when boxes are folded for transport.	a. To raise a seed box, loosen the 1" hex nuts located under the slide triangle where the box is attached to the pivot post, and tighten the adjacent 1" hex nuts located inside the box. b. To lower a seed box, first loosen the 1" hex nuts inside the box, then tighten the adjacent nuts on the pivot post.
15. Spring Trip Hoe has more movement or less movement than desired	a. Adjust the hex nuts located at the rear of the opener spring; loosen to release spring pressure and gain more hoe movement, tighten to put on more spring pressure and restrict hoe movement.



## SAFETY RULES

The safe operation of any machinery is a big concern to farmers and manufacturers. We have designed our Folding Drill with many built-in safety features. However, no one should operate this machine before carefully reading this Operator's Manual.

1. Never permit anyone to ride on or walk beside the grain drill when moving.
2. Never permit anyone to ride on tractor when drill is being moved.
3. Never allow anyone to be near drill when performing operating functions with the grain drill or tractor.
4. Never load grain drill without being hooked-up to tractor.
5. Extra care should be taken when transporting with seed in the boxes.
6. Never back grain drill up when openers are in ground.
7. Reduce speed when transporting over uneven or rough terrain. Avoid all chuck holes and washboard areas in roads.
8. Reduce speed of tractor when transporting over hills or steep slopes.
9. Always set grain drill in field position before lubricating.
10. Do NOT lubricate, adjust or repair the grain drill while it is in operation.
11. Comply with all Federal, State and Local Laws when traveling on the highway.
12. Use "Slow Moving Vehicle" emblem for warning vehicles approaching from the rear.
13. Do NOT permit smoking, sparks or an open flame where combustible lubricants or liquids are being used.
14. When using treated grain, avoid direct contact with the seed.
15. When using compressed air to clean drill, wear safety glasses.
16. When transporting, remember the drill is wider than your tractor and extreme care must be taken to allow for safe clearance.





## Warranty

Great Plains Manufacturing, Incorporated warrants to the original purchaser that this grain drill will be free from defects in material and workmanship for a period of one year from the date of original purchase when used as intended and under normal service and conditions. This Warranty is limited to the replacement of any defective part by Great Plains Manufacturing, Incorporated and the installation by the dealer of any such replacement part: provided that any such defective part is returned to Great Plains within thirty (30) days of the failure.

This Warranty does not apply to any part or product which in Great Plains' judgment shall have been misused or damaged by accident or lack of normal maintenance or care, or which has been repaired or altered in a way which adversely affects its performance or reliability, or which has been used for a purpose for which the product is not designed. This Warranty shall not apply if the product is towed at a speed in excess of 20 miles per hour.

Claims under this Warranty must be made to the dealer which originally sold the product and all warranty adjustments must be made through such dealer. Great Plains reserves the right to make changes in materials or design of the product at any time without notice.

This Warranty shall not be interpreted to render Great Plains liable for damages of any kind, direct, consequential, or contingent, to property. Furthermore, Great Plains shall not be liable for damages resulting from any cause beyond its reasonable control. This Warranty does not extend to loss of crops, losses caused by harvest delays or any expense or loss for labor, supplies, rental machinery or for any other reason.

**No other warranty of any kind whatsoever, expressed or implied, is made with respect to this sale; and all implied warranties of merchantability and fitness for a particular purpose which exceed the obligations set forth in this written warranty are hereby disclaimed and excluded from this sale.**

This Warranty is not valid unless registered with Great Plains Manufacturing, Incorporated within 10 days from the date of original purchase.



# Great Plains

## Granular Fertilizer Option

### Operating Instructions

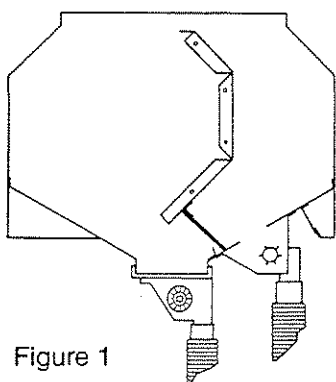


Figure 1

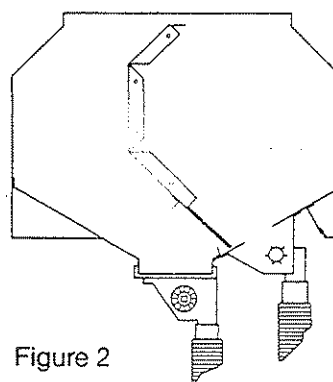
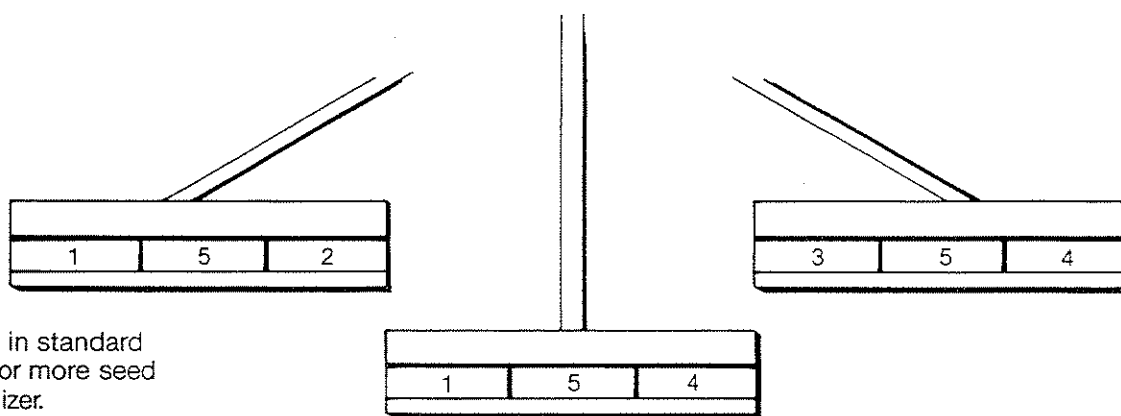


Figure 2

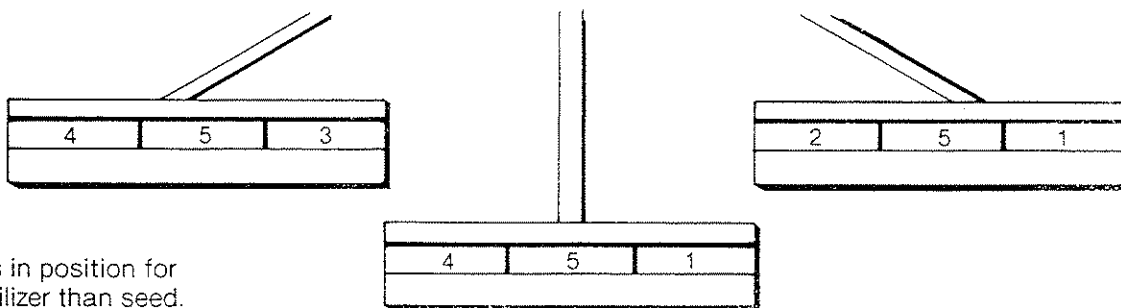
Great Plains folding fertilizer drills have interchangeable seed/fertilizer partitions. The drills are shipped from the factory with these partitions installed as shown in figure 1. This allows more seed capacity than fertilizer.

If more fertilizer capacity is desired, the partitions must be interchanged as shown in figure 2.

In order to convert the partitions to the more fertilizer position, they must be interchanged and inverted with each other as illustrated in figure 3.



Partitions in standard position for more seed than fertilizer.



Partitions in position for more fertilizer than seed.

Figure 3

To convert drill to seed only, remove lower outlet cover under partitions and bolt over fertilizer openings using 1/4" x 1" bolts and spring clip nuts furnished in separate bag with drill.

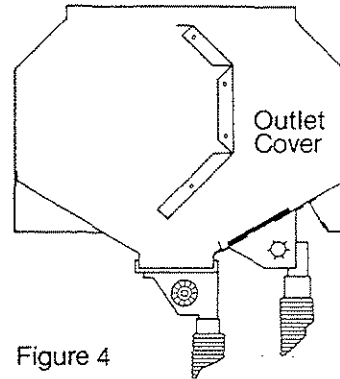


Figure 4

### Fertilizer Application Rate

The application rate of dry granular fertilizer is affected by many factors: fertilizer type and density, relative humidity, and the moisture content of the material itself. Due to these variables, this chart should be used only to closely approximate the amount of fertilizer being applied.

Row Spacing	No. of Rows	FERTILIZER INDICATOR SETTING NUMBER																		
		10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
		Pounds Per Acre																		
6	60	15	23	31	48	64	87	109	125	140	168	195	210	225	248	270	295	320	345	369
7	51	13	20	26	38	54	74	93	106	119	143	166	179	191	211	230	251	272	293	314
8	45	11	17	23	36	48	62	82	94	105	126	146	158	169	186	203	221	240	259	277
10	36	9	14	19	29	38	52	66	75	84	101	117	126	135	149	162	177	192	207	221
12	30	8	12	16	24	32	44	55	63	70	84	98	105	113	124	135	148	160	173	185

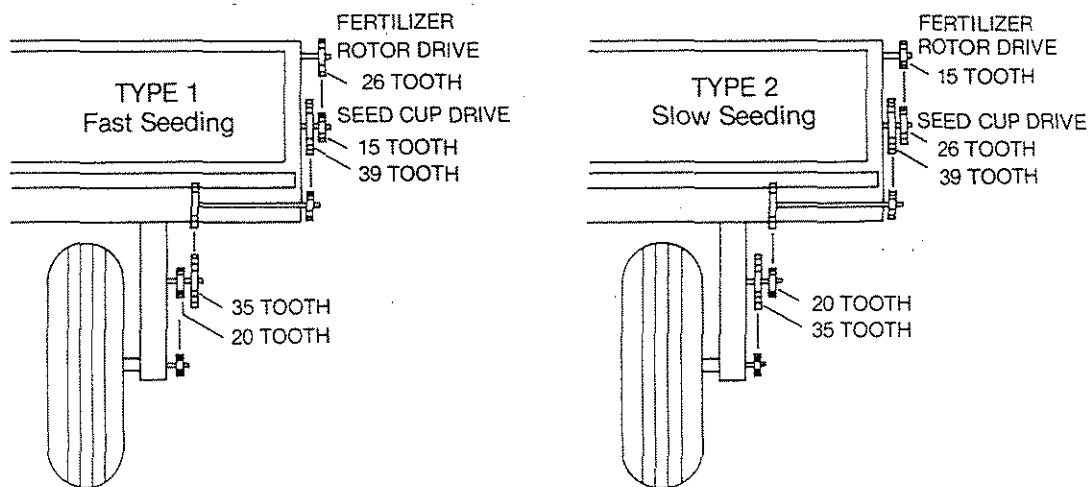
The preceding chart has been computed using fertilizer that has a density of 65 lbs./cubic foot. If you are applying fertilizer that has a density other than this, use the following conversion table:

Density	Conversion Factor
45	1.45
50	1.30
55	1.20
60	1.10
65	1.00
70	.93
75	.87
80	.81

For Example: You're using fertilizer with a 75 lb./cubic ft. density and you desire a rate of 100 lbs./acre. Multiply 100 x .87 = 87 lbs. Therefore, use the setting closest to 87 lbs.

## Seeding Drive Speeds

IMPORTANT: When changing seeding drive speed for faster or slower seeding, the fertilizer drive sprocket must also be changed in order for the fertilizer rotor to maintain consistent speed. The drawings below illustrate the proper sprocket arrangement when using both types of seeding drive speeds.



Sprocket Arrangements

## Maintenance

It is recommended that the fertilizer unit is thoroughly cleaned every two or three days during operating season and before putting the drill in storage for an extended period of time.

Drop fertilizer tray cover doors by releasing latches on back of box. Using a high-pressure water system, thoroughly clean the fertilizer tray, gate openings, and rotor. Rotate gauge wheel to insure cleaning of all fertilizer rotor fins.

The rotor may be removed if excessive build-up occurs. This is accomplished by removing the 3-bolt bearings, felt seal, and cover at the sprocket end of the tray. Loosen the two set screws on the other end of the rotor bearing and slide the rotor out of the tray. Removing the rotor is not necessary unless excessive build-up prevents using the high-pressure water system described above.

## Lubrication

Before using the drill each year, apply lubricating oil to the felt seal at the end of each fertilizer tray in order to keep it pliable.

Grease bearings on each end of the trays every 12-15 hours of operating.

## Shear Bolt

A shear bolt is provided on the rotor drive sprocket to prevent rotor damage.



# Great Plains



## 30' HIGH CLEARANCE-HYDRAULIC MARKER

### INSTALLATION INSTRUCTIONS

1. Support Marker horizontally at level of drill box. Attach Marker Main Mount (A) around horizontal 2" x 4" tube and slide into Mounting Plate (B). Hand tighten four  $\frac{3}{4}$ " lockwashers and hex nuts (see fig.1).
2. Align hole in Main Mount Angle (C) to rear hole in box End Plate and attach with a  $\frac{5}{8}$ " x  $1\frac{1}{2}$ " long bolt, lock-washer and hex nut (fig. 1). Secure all hex nuts.

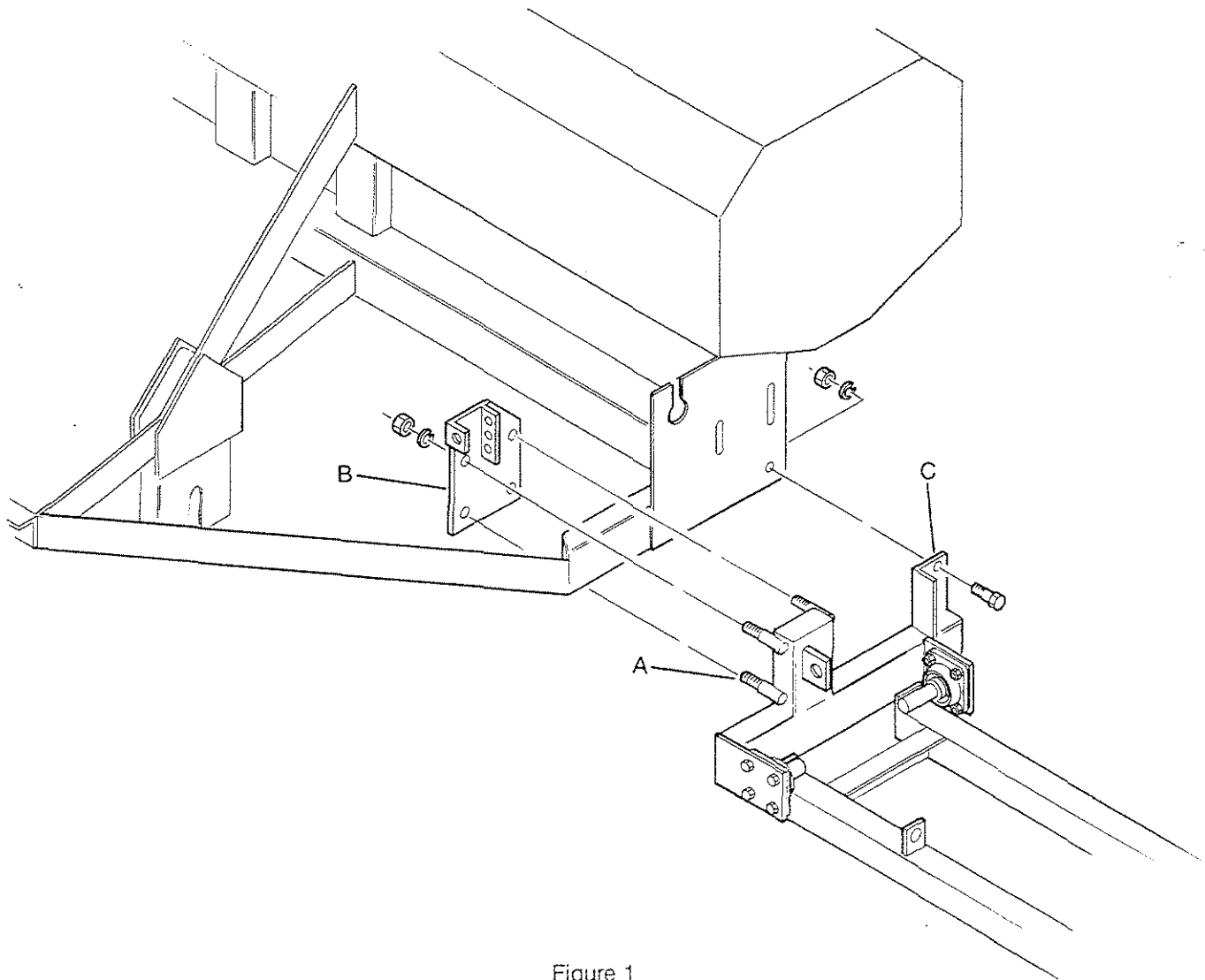


Figure 1



3. Insert clevis (D) through chain (see fig. 2) and attach to center hole of chain mount (E). Determine length of chain necessary to allow 1" to 1½" slack with marker extended horizontally and attach chain to chain track (F) with one 3/8" x 1¼" long bolt, flatwasher, lockwasher and hex nut.

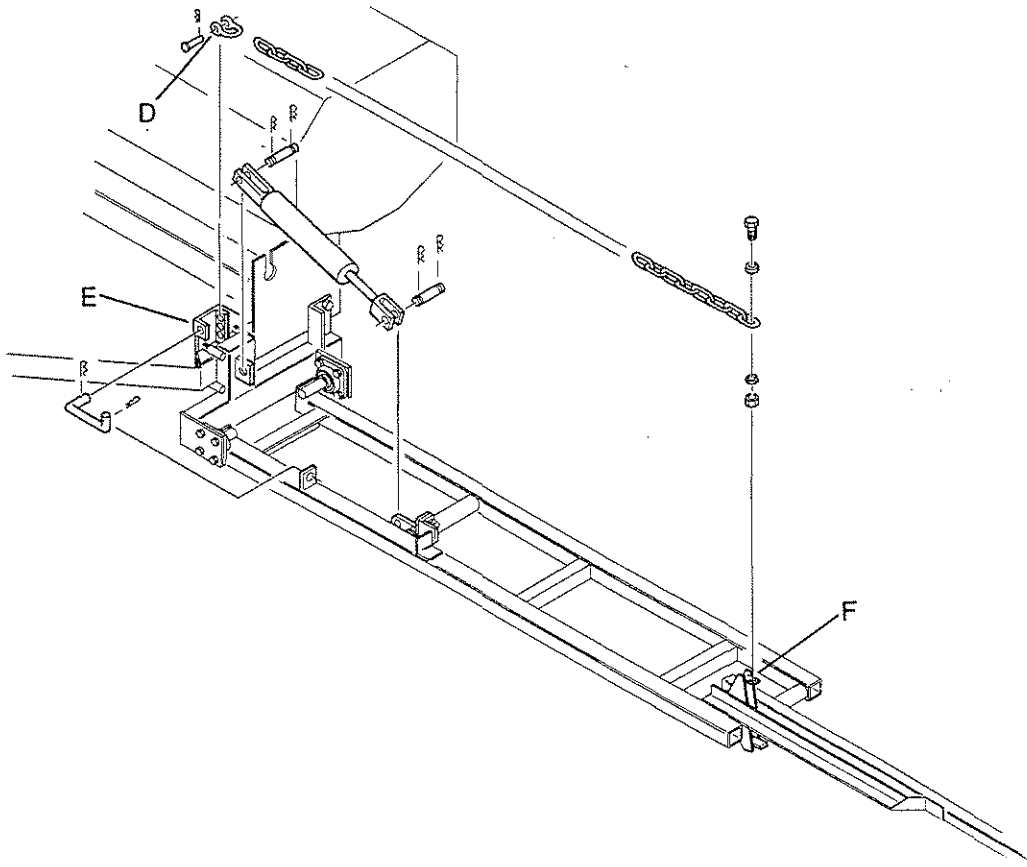


Figure 2

4. Attach hydraulic cylinders with ports facing to rear (fig. 3). Install hoses, sequencing valve, o-rings and fittings as shown in fig. 3. NOTE: BE SURE TO BLEED AIR FROM HYDRAULIC SYSTEM BEFORE OPERATING. Route all hoses to prevent kinking or pinching during operation.

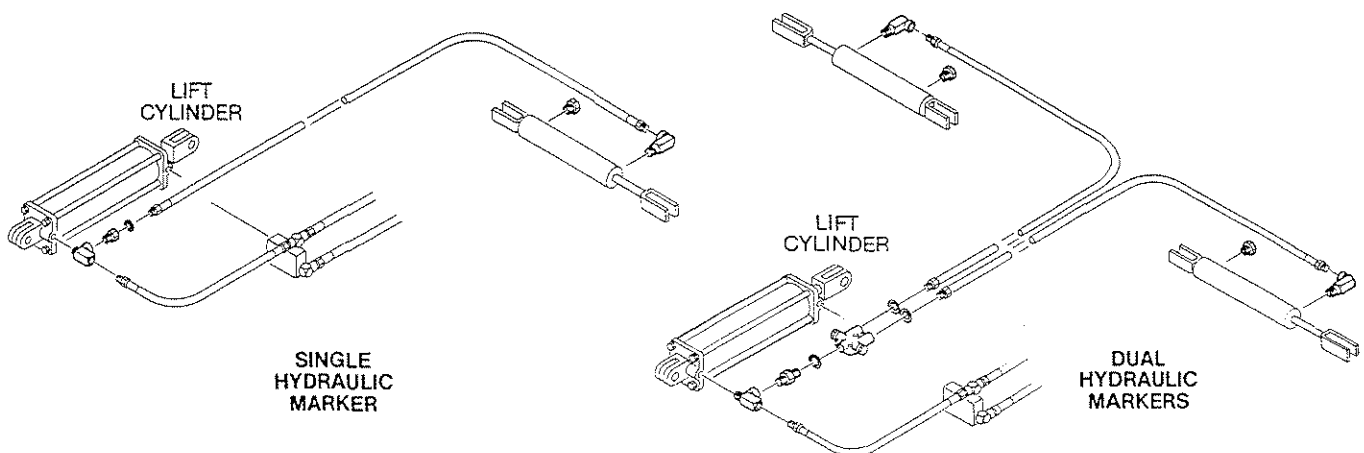


Figure 3

# Great Plains



## 30' HIGH CLEARANCE-MANUAL MARKER

### INSTALLATION INSTRUCTIONS

1. Support Marker horizontally at level of drill box. Attach Marker Main Mount (A) around horizontal 2" x 4" tube and slide into Mounting Plate (B). Hand tighten four  $\frac{3}{4}$ " lockwashers and hex nuts (see fig.1).
2. Align hole in Main Mount Angle (C) to rear hole in box End Plate and attach with a  $\frac{5}{8}$ " x 1 $\frac{1}{2}$ " long bolt, lock-washer and hex nut (fig. 1). Secure all hex nuts.

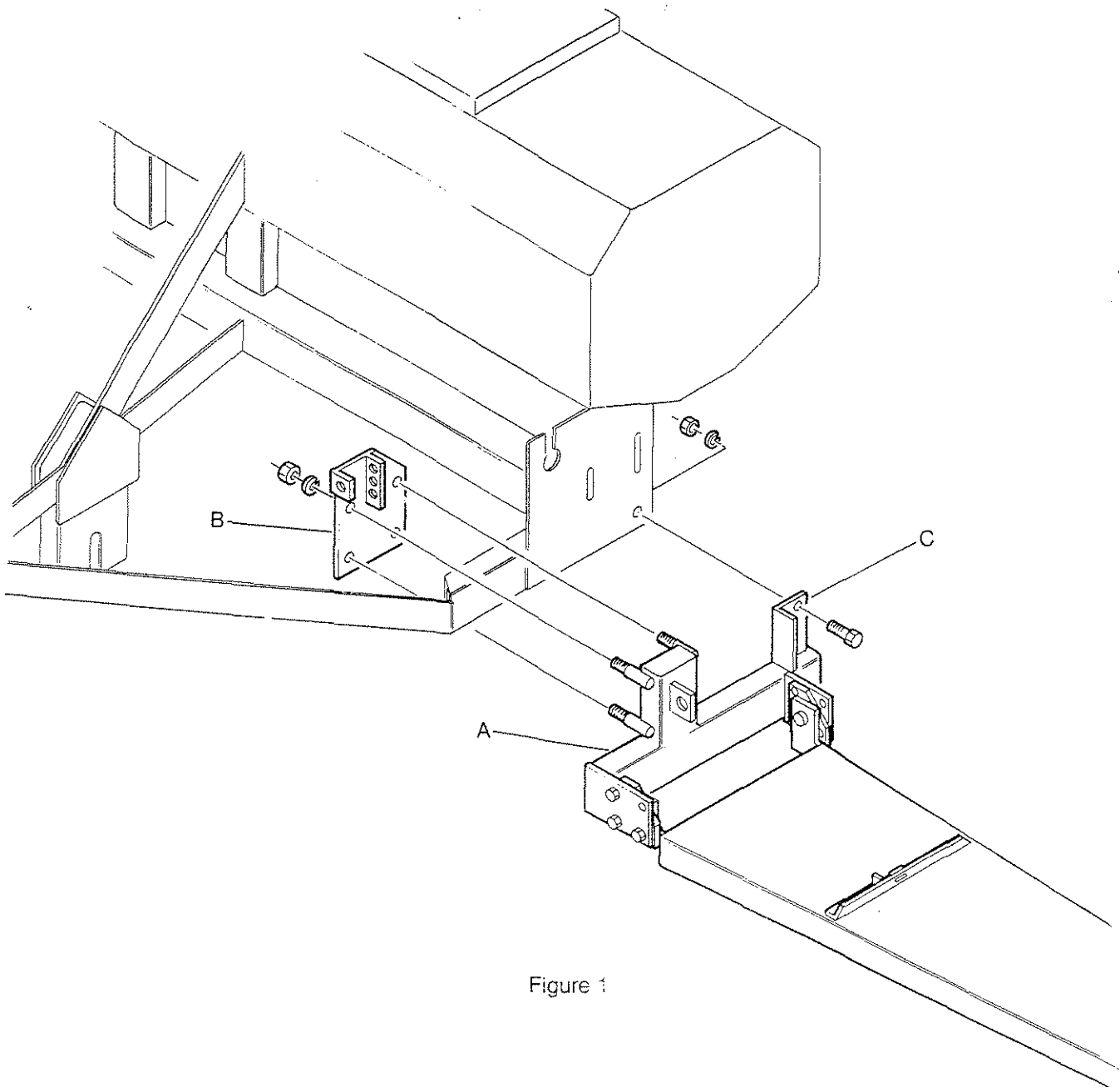


Figure 1

3. Attach bottom of Marker Lock Bar (D) to Mounting Plate (B) with two  $\frac{3}{8}$ " x  $1\frac{1}{2}$ " long bolts, lockwashers and hex nuts (see fig. 2). Drill two  $\frac{13}{32}$ " holes (E) into Seed Box aligning with holes in top of Lock Bar. Secure Lock Bar to Box with two  $\frac{3}{8}$ " x  $1\frac{1}{2}$ " long bolts, flatwashers, lockwashers and hex nuts inside box panel.

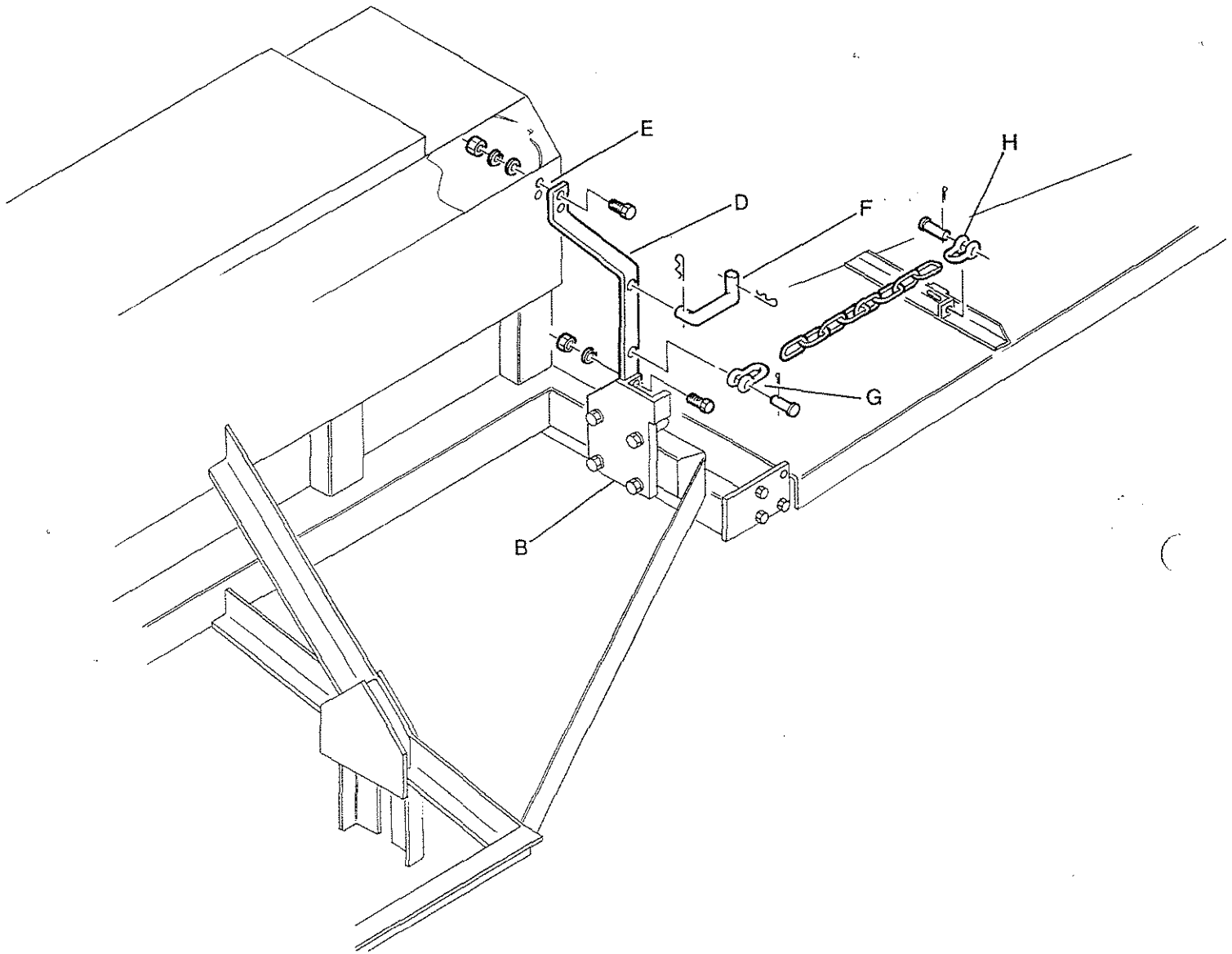


Figure 2

4. Attach Marker Latch (F) to Lock Bar with hairpin cotter.  
5. Attach chain to clevis (G) and secure to Lock Bar.

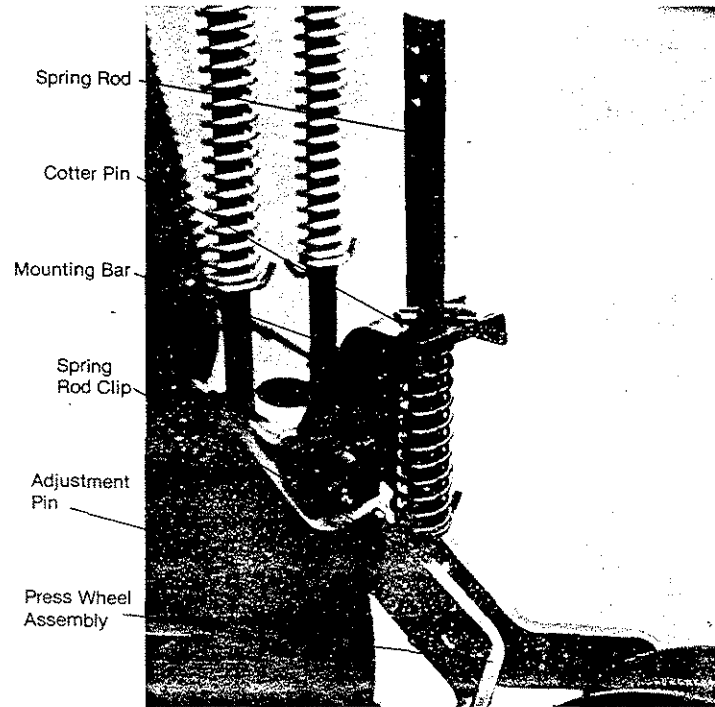
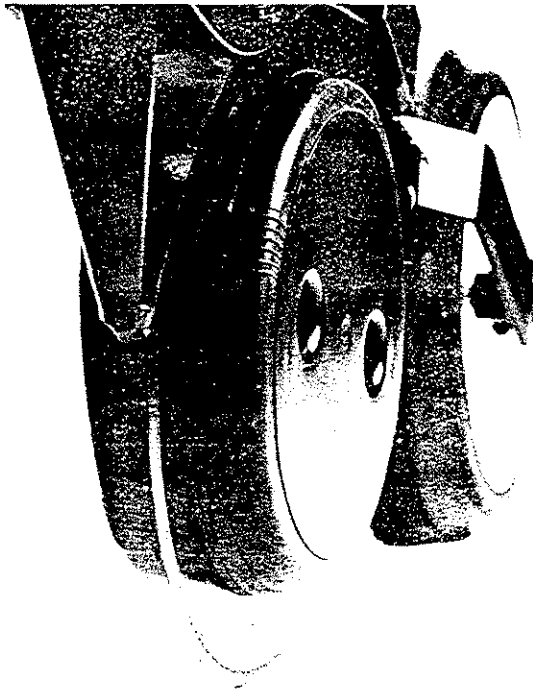
Determine length of chain necessary to allow 1" to  $1\frac{1}{2}$ " slack with marker extended horizontally, attach clevis (H) to chain and secure to marker body.

# Great Plains



## Rubber-Tired Depth Control Wheel

### Installation Instructions



Independent Spring-Loaded Action

The Rubber-Tired Depth Control Wheel is available for all Great Plains double-disk openers.

1. Slip two carriage bolts  $\frac{5}{16}$ " x  $1\frac{1}{4}$ " long through square holes in disk blade. The carriage bolts must enter from the inside of disks to allow proper clearance.
2. Slip depth control wheel over carriage bolts and secure to disk blade with  $\frac{5}{16}$ " USS flatwashers,  $\frac{5}{16}$ " lockwashers and  $\frac{5}{16}$ " hex nuts.
3. FOR PROPER DEPTH-CONTROL WHEEL OPERATION, OUTSIDE DOUBLE-DISK SCRAPERS ARE REQUIRED. (Part No. 116-019 A)

When using rubber-tired depth control wheels on Great Plains Solid Stand® Drills, the press wheel spring and bar should be set for independent spring-loaded firming action.

1. Remove cotter pin, spring rod clip and adjustment pin from spring rod.
2. Remove spring from press wheel assembly.
3. With spring held under mount bar, slip spring rod through spring, and mount bar and insert adjustment pin at desired press wheel setting. Secure with hair pin cotter.
4. Lift spring and insert spring rod clip under spring in desired hole for proper press wheel firming pressure. (Spring is rated at 65 lbs. per each inch of compression.)
5. Lift press wheel and insert cotter pin on top of mounting bar.



# Great Plains



## Outside Double-Disk Scraper

### Installation Instructions

**NOTE:** This scraper is designed to mount on the double-disk openers of any Great Plains grain drill to eliminate mud build-up on the opener and on rubber-tired depth-control wheels. The rubber-tired depth-control wheels should not be used without the outside scraper.

#### 30 Ft. Standard and 30 Ft. High Clearance Drills

1. Remove 5/16" x 1" long hex bolts (A), washers and hex nuts which hold existing scraper mount (B) in position (see figure 1).
2. Remove inside scraper (C) from scraper mount (B). Scraper mount (B) is no longer needed.

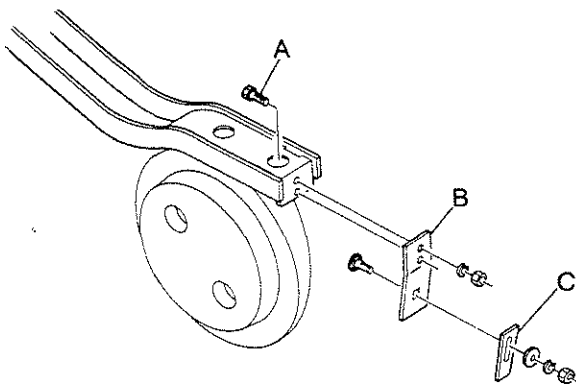


Figure 1

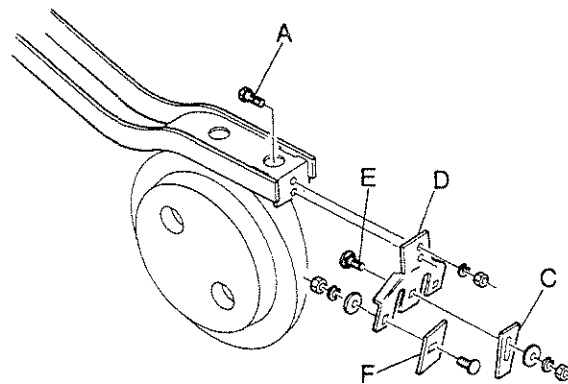


Figure 2

3. Reposition inside scraper (C) onto new scraper mount (D) with 3/8" x 1" long step bolt (E), washers and hex nut (see figure 2).
4. Reattach new scraper assembly to opener frame with 5/16" x 1" long hex bolts (A), washers and hex nuts. **BE SURE ANGLE OF NEW SCRAPER MOUNT (D) POINTS INWARD TOWARD CENTER OF OPENER DISK.**
5. Install scraper blade (F) on each wing of scraper mount (D) with 5/16" x 3/4" long carriage bolt, washers and hex nut. Adjust scraper blades to have **MINIMUM CLEARANCE** with disk opener and rubber-tired depth-control wheel.

**BE SURE THE DISK OPENER CAN TURN FREELY AFTER INSTALLATION.**

### Solid Stand® 3-Point and Solid Stand® Folding Drills

1. Remove 5/16" x 1 1/4" long hex bolts (A), washers and hex nuts which hold scraper mounts (B) and press wheel spring mounting channel (C) in position (see figure 3).
2. Remove inside scraper (D) from scraper mount (B). Scraper mount (B) is no longer needed.

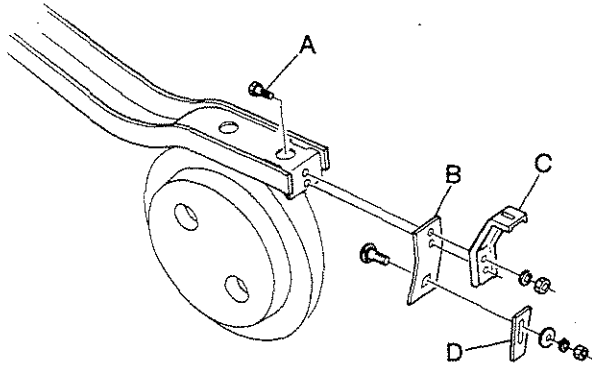


Figure 3

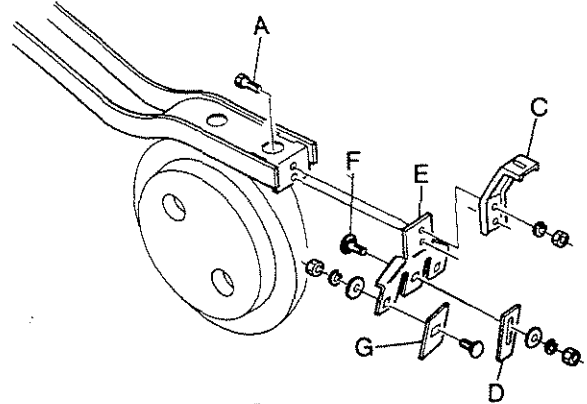


Figure 4

3. Reattach inside scraper (D) onto new outside scraper mount (E) with 3/8" x 1" long step bolt (F), washers and hex nut (see figure 4).
4. Reposition new scraper assembly behind press wheel spring mounting channel (C) and attach to opener frame with 5/16" x 1 1/4" long hex bolts (A), washers and hex nuts. **BE SURE ANGLE OF NEW SCRAPER MOUNT (D) POINTS INWARD TOWARD CENTER OF OPENER DISK.**
5. Install scraper blade (G) on each wing of scraper mount (E) with 5/16" x 3/4" long carriage bolt, washers and hex nut. Adjust scraper blades to have **MINIMUM CLEARANCE** with disk openers and rubber-tired depth-control wheel.

**BE SURE THE DISK OPENER CAN TURN FREELY AFTER INSTALLATION.**

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