

(RED)

Operator's Manual

30' High Clearance Full Press Drill
1980-1981

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

Owner's Manual
30' High Clearance Folding Drill

Great Plains
30' HIGH CLEARANCE
FOLDING DRILL
1981

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 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

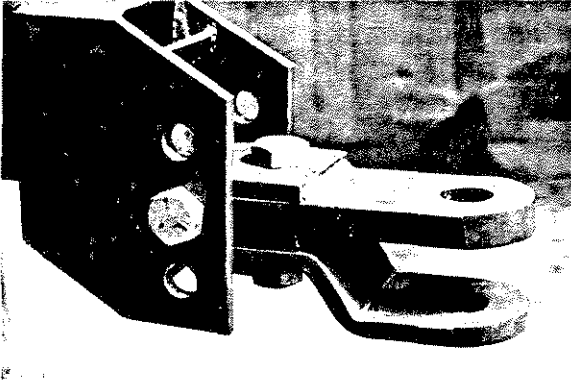
OPERATING CHECK LIST

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

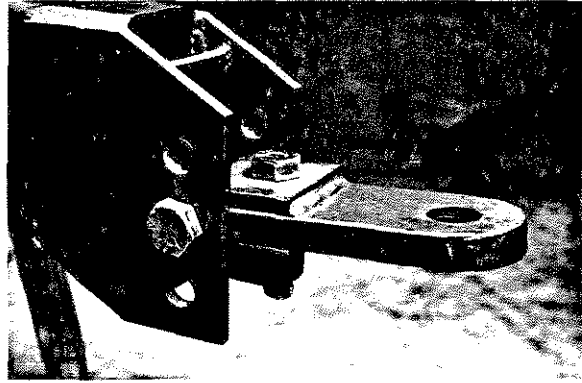
- 1. Read "Operational Instructions".
- 2. Read "Safety Rules".
- 3. Check machine for loose bolts, set screws, pins and chains.
- 4. See that all tires have proper air pressure.
- 5. Lubricate Drill.
- 6. Inspect feeder cups for foreign matter.
- 7. Rotate each gauge wheel to see that the drive system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

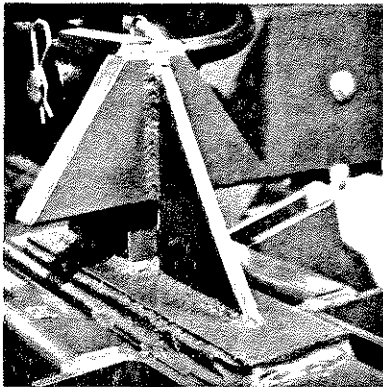


(Figure 1) Clevis Hitch

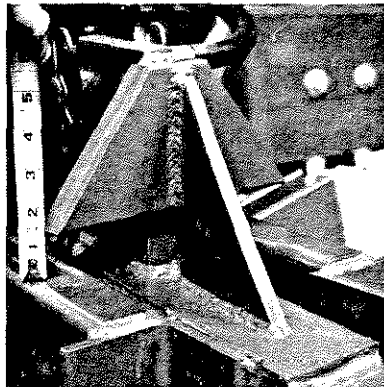


(Figure 2) Single Strap Hitch

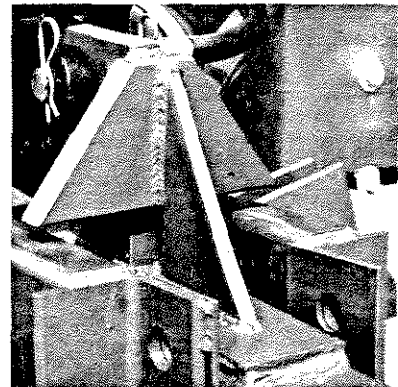
2. In field position, the tongue of the Drill should be set with $1\frac{3}{8}$ " clearance, as shown in Figure 3. This can be accomplished by properly adjusting the hitch height. (See Figures 1 and 2)



Too Much Clearance

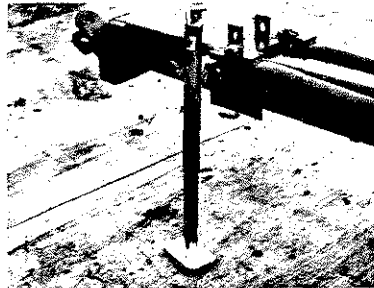


(Figure 3) Proper Field Position of Tongue on Level Ground.

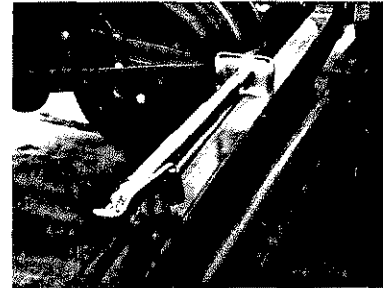


Too Little Clearance

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



(Figure 4) Vertical Position



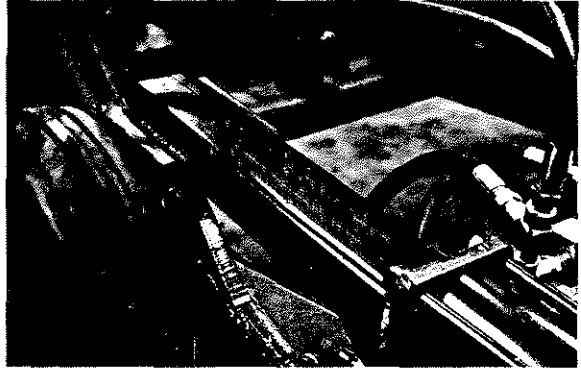
(Figure 5) Storage Position

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

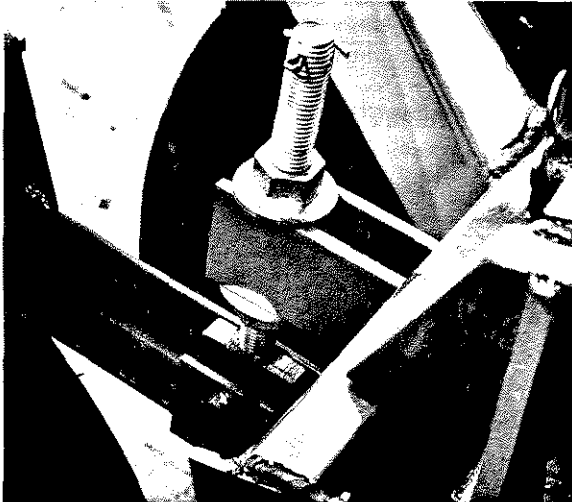
Before you start pulling the drill on the road, you should always check the following items:

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



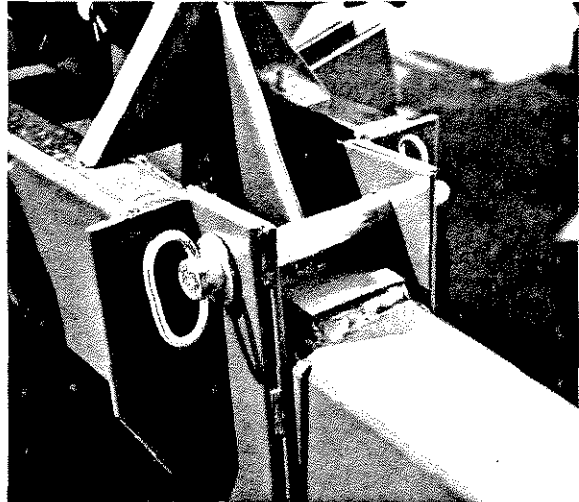
(Figure 6) Cylinder Block and Lock Pin in Transport Position.

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)



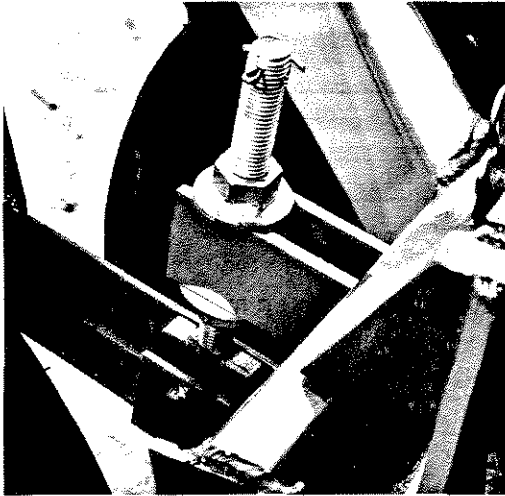
(Figure 8) Floating Tongue Lock Pin in Transport Position

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?

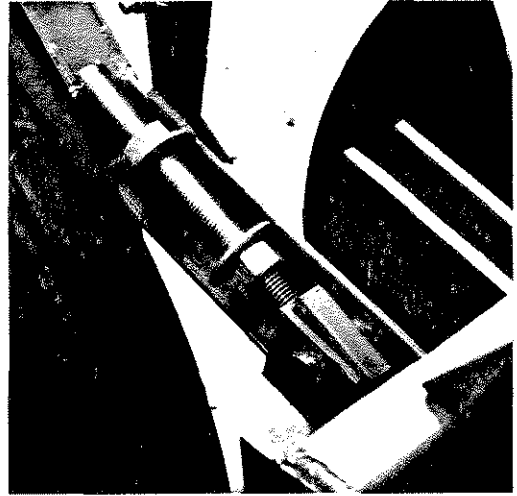
CAUTION: This Drill should never be pulled faster than 20 miles per hour.

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)

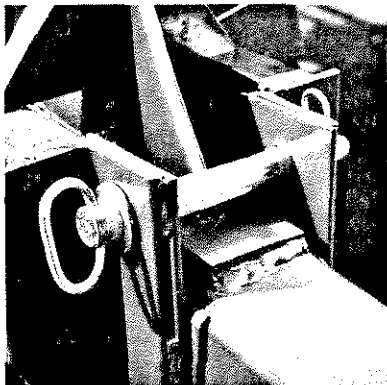


(Figure 9) Locked Position

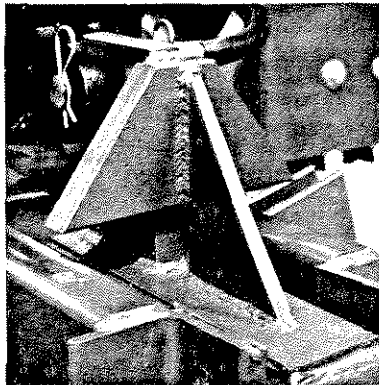


(Figure 10) Unlocked Position

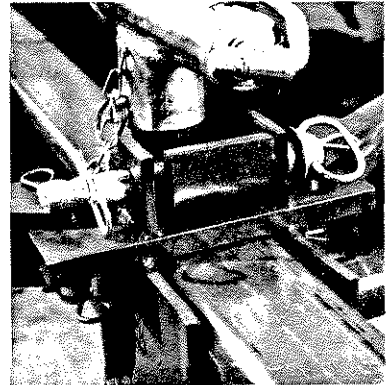
2. Unfold wings with hydraulic wing cylinders. Do this very slowly and carefully. If this is done fast and carelessly, serious damage could occur. Folding is best achieved on level ground.
3. Next, apply hydraulic pressure to the raising and lowering system. Use it to raise the machine to its highest 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.



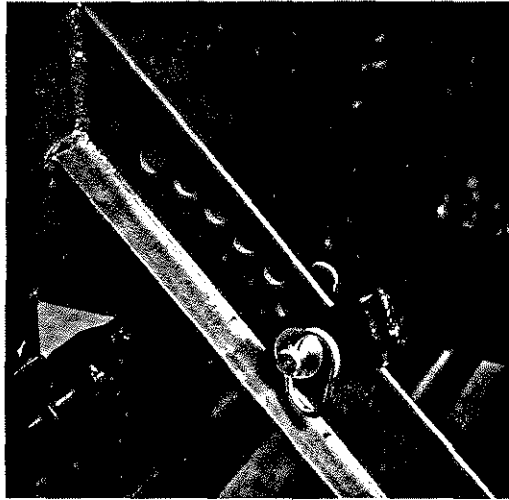
(Figure 13) Pull Bar Slide Assembly with Pin in Locked Position.

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

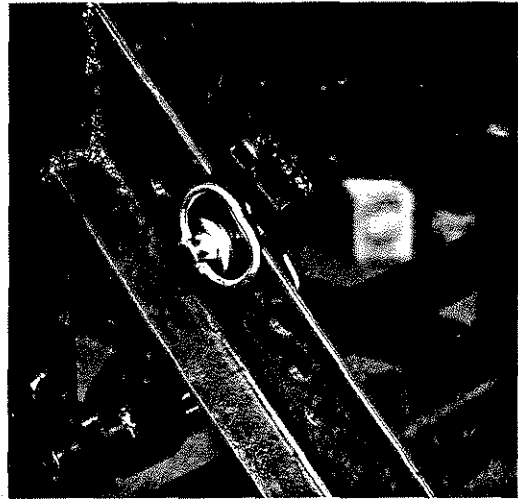
DRILLING ADJUSTMENTS

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

1. Set opener depth adjustment lever on each section to desired planting depth. (See Figures 14 and 15) Use the turnbuckle to assist in raising the openers and for infinite depth adjustments.



(Figure 14) Road Position



(Figure 15) Typical Planting Depth Setting

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 adjustment, 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 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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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.

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
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

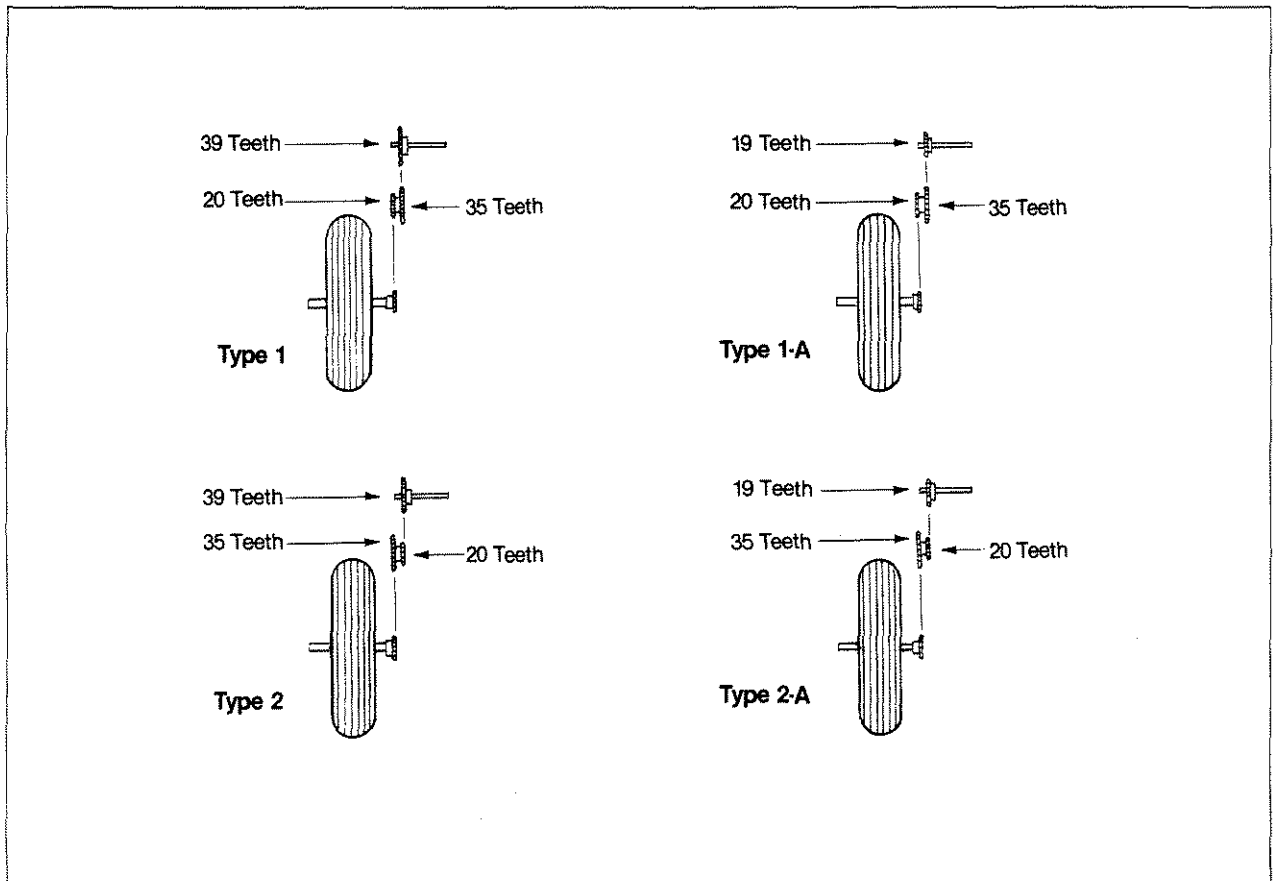
PINTO BEANS (DRIVE TYPE 2)	SEED RATE INDICATOR SETTING NUMBER																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Row Spacing	Lbs. Per Acre																				
6"	0	0	0	0	2	3	7	12	17	24	29	40	45	48	54	61	71	73	75	76	80
7"	0	0	0	0	2	3	6	11	16	22	27	34	38	41	46	52	61	62	64	65	67
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	20	24	27	29	33	37	43	44	45	46	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
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
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
8"	0	0	0	0	2	3	3	3	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

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 folded and 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. The Great Plains Drill is built to flex. Be sure the slide frame cylinder is fully extended so you get the maximum flexibility.
5. Never allow anyone to ride on the machine or to be near it when it is being folded or unfolded.
6. When making tight turns, watch your inside gauge wheel. When this wheel starts sliding sideways, you have reached the maximum. On 180-degree turns, it is recommended you lift the machine out of the ground to turn.
7. Maximum speed varies upon soil conditions and the type of opener you are using.
8. Your Drill comes equipped with an acre meter on the left wing 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.

SERVICE AND TROUBLE SHOOTING

Proper servicing and adjustment is the key to the long life of any farm implement. With careful and systematic inspection of your Grain Drill, you can avoid costly maintenance, time and repairs.

1. Periodically, 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. Press wheel bearings.
 - b. Gauge wheel bearings.
 - c. Jack shaft bearings.
 - d. Feeder cup drive sprocket bearings.
 - e. Main lift axle bearings.
 - f. There is a relube fitting on the pivot between the wing and main frame. This should be greased daily.
 - g. 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. Lubrication—Listed below are items you need to lubricate yearly.
 - a. The pivot post cap, located at the top of each pivot post inside the triangle frame, should be lubricated seasonally. Place drill on the ground, jack up one wing at gauge wheel frame until the post cap can be removed from triangle frame. Lift the cap off post and lubricate.
 - b. Transport wheel bearings.
4. The pivot post at the end of each wing section can be adjusted to allow the wing to fold-in properly.
5. On a disk drill, you can adjust the tension on each disk spring. This is especially useful in applying more pressure in tractor tracks.
6. Disk scrapers should be kept properly adjusted.
7. Openers should always be directly in line with press wheels.
8. Always maintain 45 lbs. of air pressure in gauge wheel tires and 60 lbs. of air pressure in all transport tires.
9. Adjust pull bars on each wing box so wings are parallel to center box. When this is done, adjust rod clevis on wing hydraulic cylinders so rear pin is in the center of slotted hole of rear mounting lug on main frame.

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.
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. Never fold Grain Drill without having draw bar hooked-up.
6. Extra care should be taken when transporting with seed in the box.
7. Never back Grain Drill up when openers are in ground.
8. Reduce speed when transporting over uneven or rough terrain. Avoid all chuck holes and washboard areas in roads.
9. Reduce speed of tractor when transporting over hills or steep slopes.
10. Always set Grain Drill in field position before lubricating.
11. Do NOT lubricate, adjust or repair the Grain Drill while it is in operation.
12. Comply with all Federal, State and Local Laws when traveling on the highway.
13. Use "Slow Moving Vehicle" emblem for warning vehicles approaching from the rear.
14. Do NOT permit smoking, sparks or an open flame where combustible lubricants or liquids are being used.
15. When using treated grain, avoid direct contact with the seed.
16. When using compressed air to clean Drill, wear safety glasses.
17. Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that all hydraulic lines are NOT damaged. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.
If injured by escaping fluid, see a doctor at once. Serious infection or a reaction can develop if proper medical treatment is not administered immediately.
18. When transporting Drill, be certain wing locks are secured.
19. When transporting, remember the Drill is wider than your tractor and extreme care must be taken to allow for safe clearance.
20. When transporting, turn on tractor's flashing warning lights except where prohibited by law.
21. Lower unit to ground or properly support drill before attempting service work on underside of machine.
22. Tongue lock pin must be in transport position before folding Drill.





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, express 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

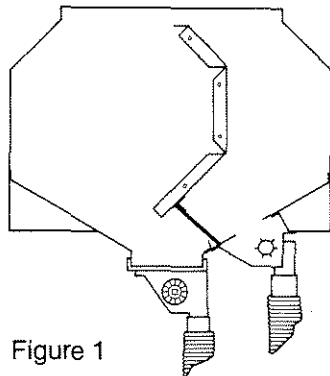


Figure 1

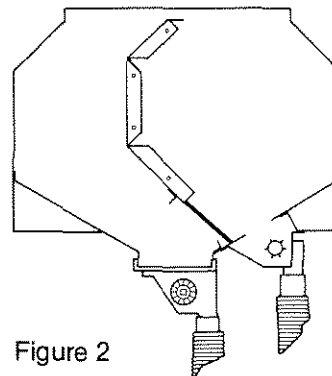


Figure 2

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.

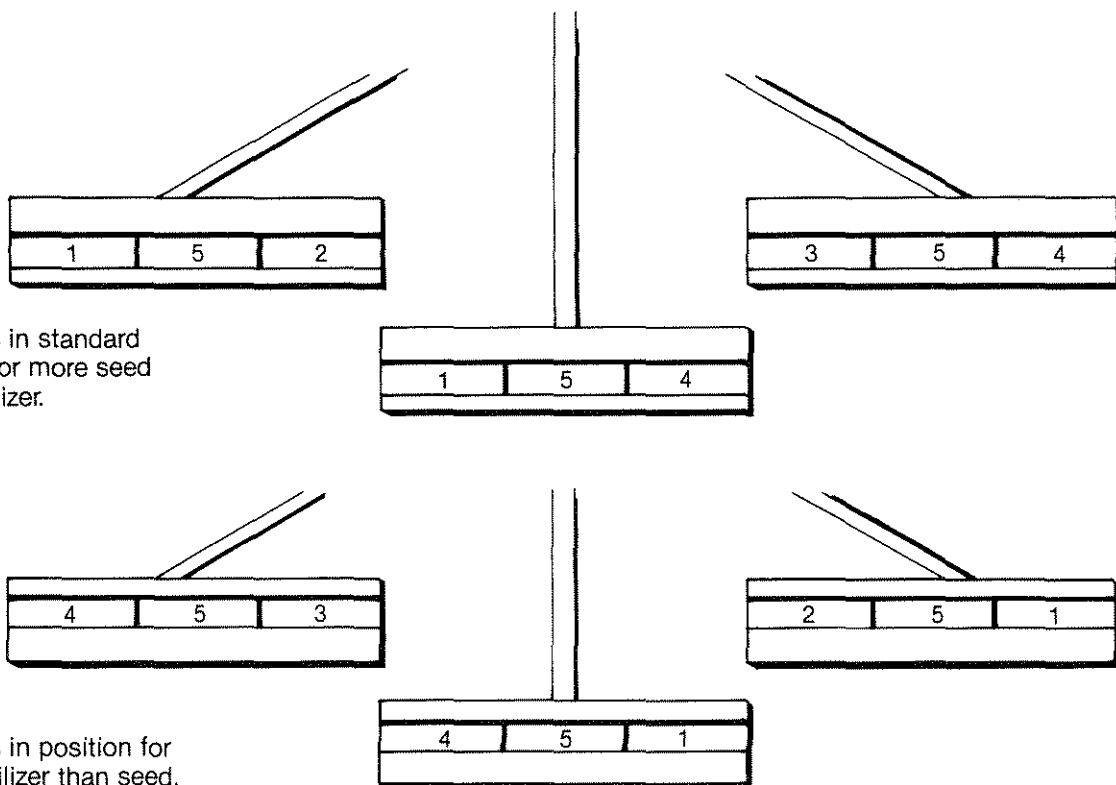


Figure 3

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.

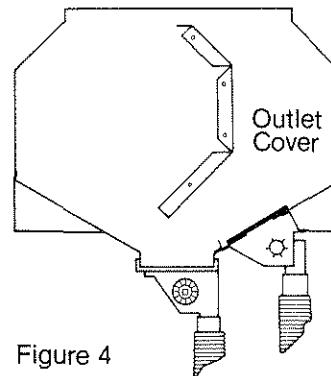


Figure 4

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
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

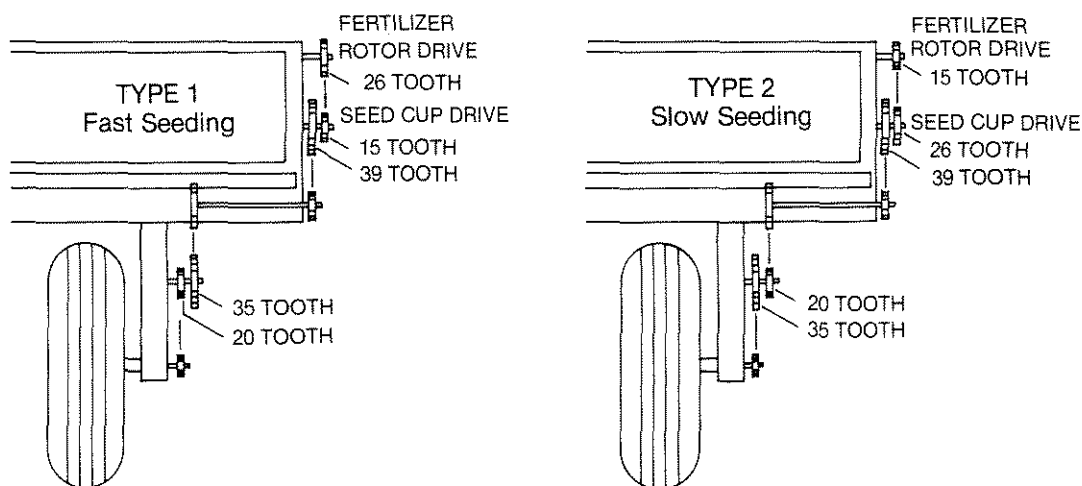
The preceding chart has been computed using fertilizer that has a density of 65 lbs./cubic foot. If you are applying fertilizer that has a density other than this, use the following conversion table:

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.

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Great Plains



Outside Double-Disk Scraper

Installation Instructions

The outside Double Disk Scraper is mounted on the Double Disk Opener Arm Assembly with bolts at positions B and D (see illustration). The method of assembly varies with the location of the Opener Arm Assembly on the drill.

30 Ft. Drill

Front Stagger Disk Opener

1. Line up front hole (A) of left and right Scraper Arms to front Spring Rod bolt hole (B) and attach to Opener Arm with $\frac{3}{8}$ " x $4\frac{1}{2}$ " long bolt (1). IT IS IMPORTANT TO REATTACH THE SPRING ROD IN ITS PREVIOUS POSITION.
2. Using two $\frac{1}{2}$ " hex nuts (2) as spacers between Scraper Arm and Opener Arm, line up rear hole (C) of Scraper Arm with rear hole (D) on Opener Arm. Attach with $\frac{3}{8}$ " x $6\frac{1}{2}$ " long bolt (3).
3. Attach outside Scraper (4) to Scraper Arm as indicated in figure 1. Align and secure.

Rear Stagger Disk Opener

1. Remove existing Spring Rod bolt (1) from hole (B) of Disk Opener Arm Assembly.
2. Line up front hole (A) of left and right Scraper Arms to hole (B) and attach with new size $\frac{3}{8}$ " x $4\frac{1}{2}$ " long bolt. IT IS IMPORTANT TO REATTACH THE SPRING ROD IN ITS PREVIOUS POSITION.
3. Using two $\frac{1}{2}$ " hex nuts (2) as spacers between the Scraper Arm and the Opener Arm, line up rear hole (C) of Scraper Arm with rear hole (D) on Opener Arm. Attach with $\frac{3}{8}$ " x $6\frac{1}{2}$ " long bolt (3).
4. Attach Outside Scraper (4) to Scraper Arm as indicated in figure 1. Align and secure.

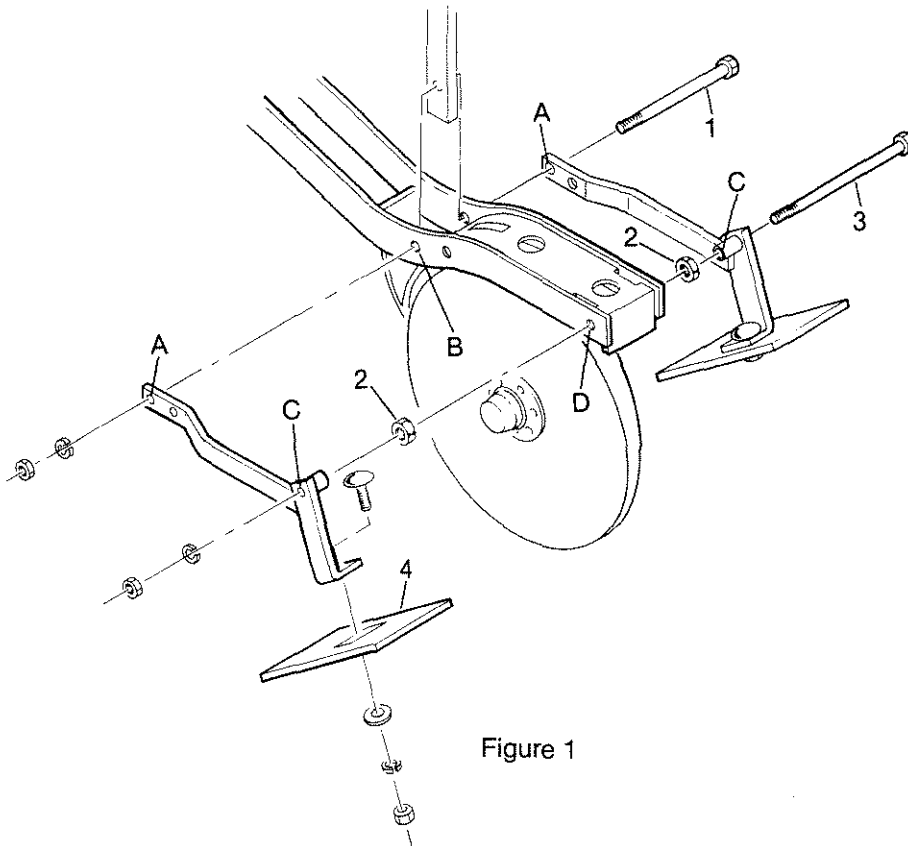


Figure 1

3-Point Drill

1. Line up front hole (A) of left and right Scraper Arms to front hole (B) and attach to Opener Arm Assembly with $\frac{3}{8}$ " x $4\frac{1}{2}$ " long bolt (1) and hex lock nut.
2. Remove $\frac{3}{8}$ " x $4\frac{1}{2}$ " long Press Wheel Arm retaining bolt (2) from hole (D). Refer to figure 2.
3. Re-align Press Wheel Arm and rear hole of Scraper Arm (C) to hole (D) of Opener Arm Assembly. Attach with new size $\frac{3}{8}$ " x $6\frac{1}{2}$ " long bolt (2) and hex lock nut. DO NOT OVER TIGHTEN, PRESS WHEEL ARM MUST MOVE FREELY ON OPENER ARM ASSEMBLY.
4. Attach Outside Scraper (3) to Scraper Arms as indicated in figure 2. Align and secure.

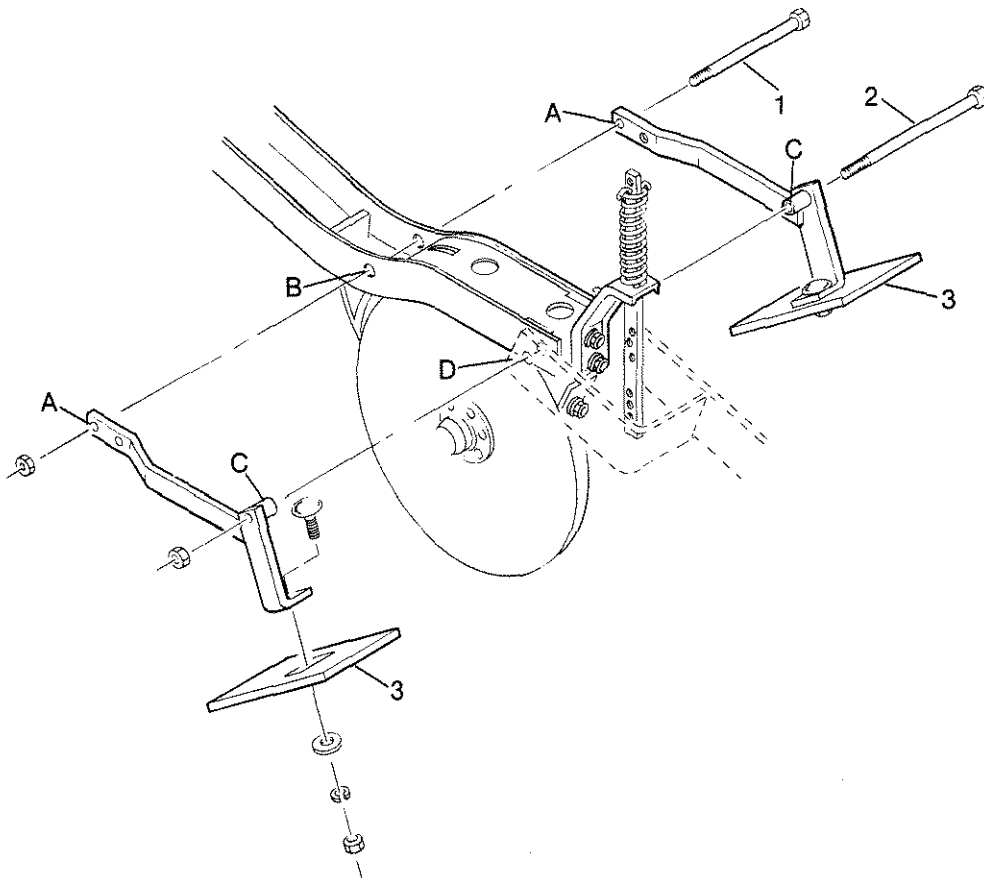


Figure 2

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.

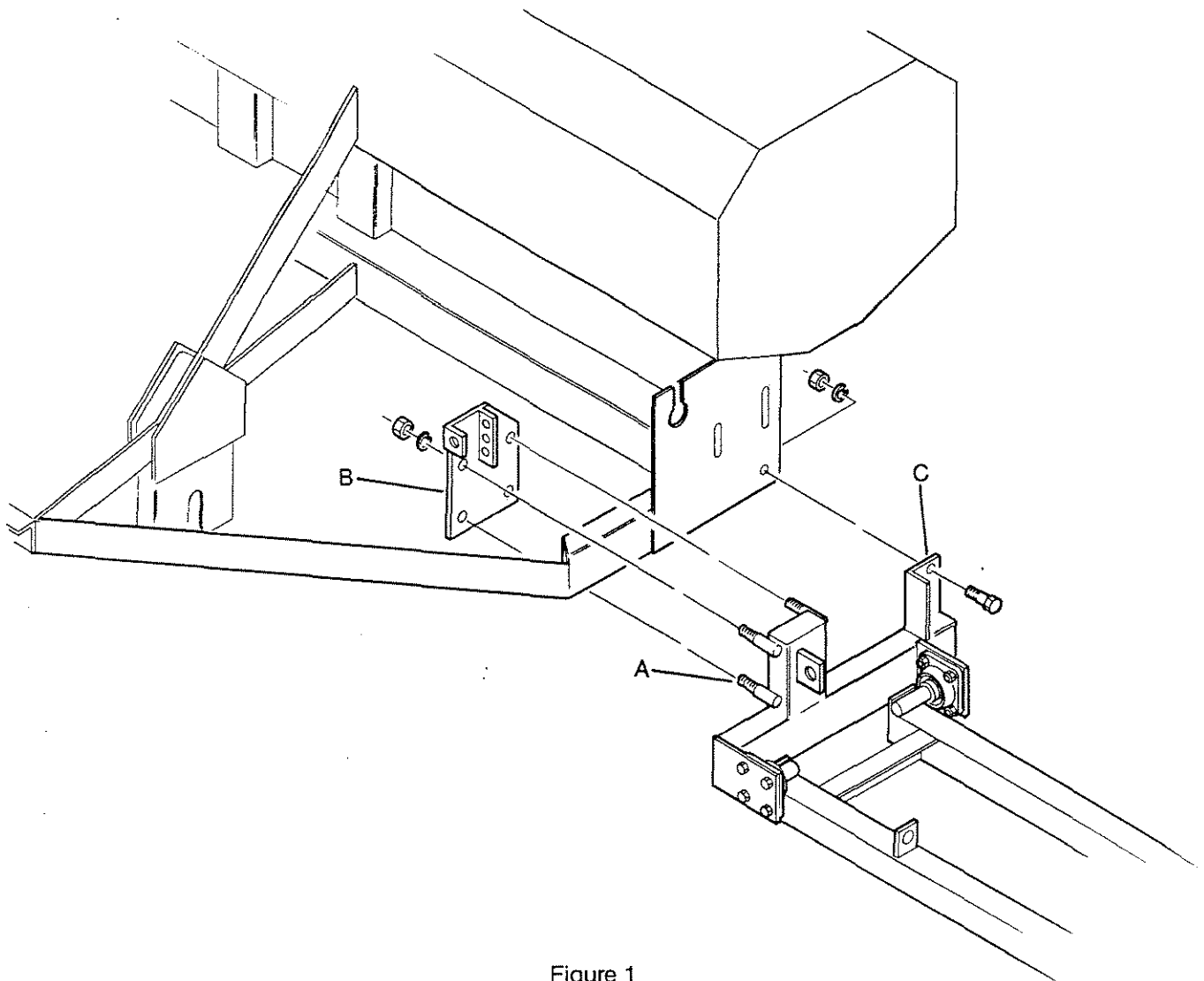


Figure 1

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 ¾" x 1¼" long bolt, flatwasher, lockwasher and hex nut.

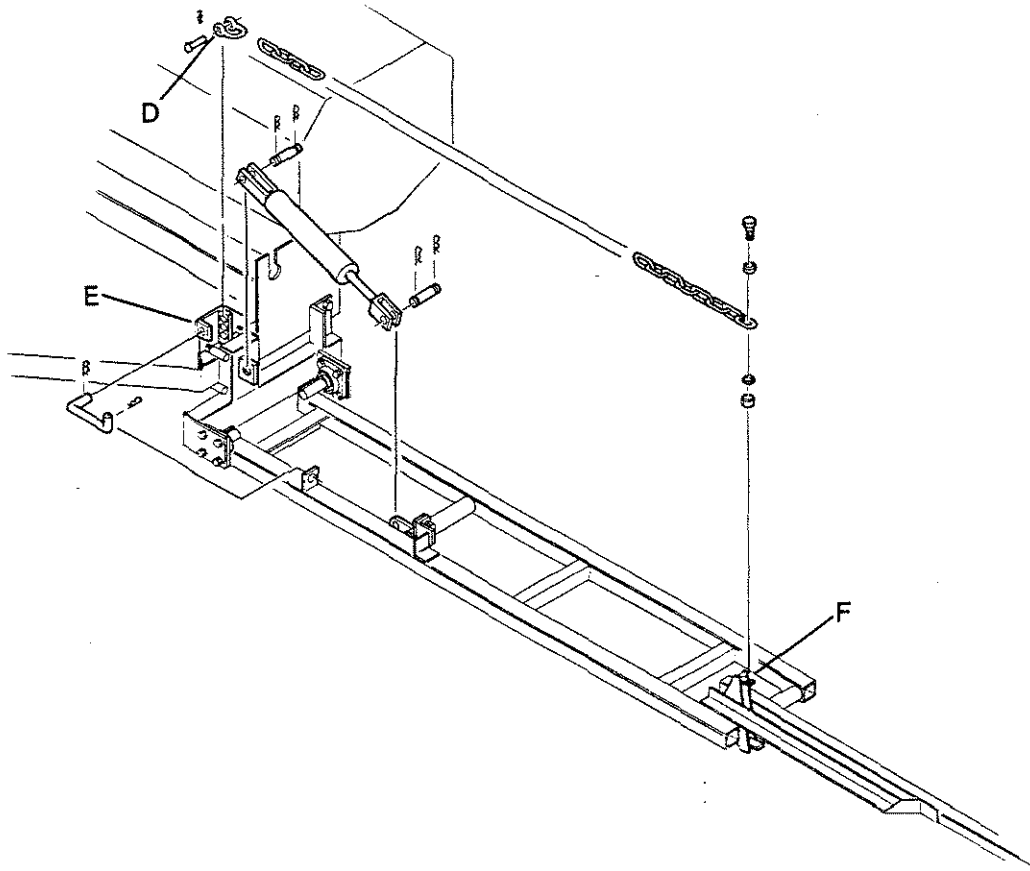


Figure 2

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.

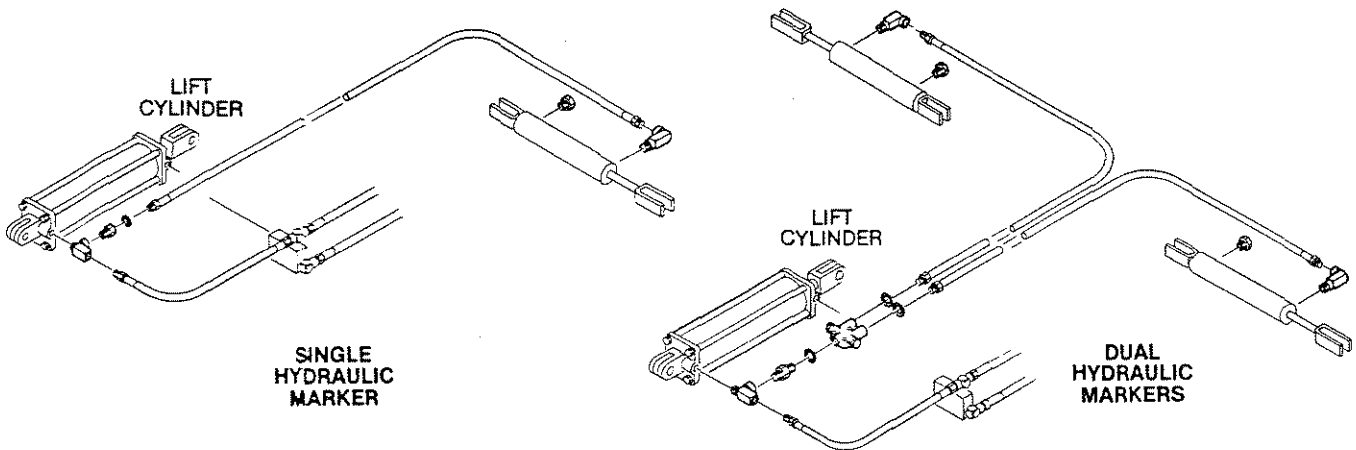


Figure 3

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.

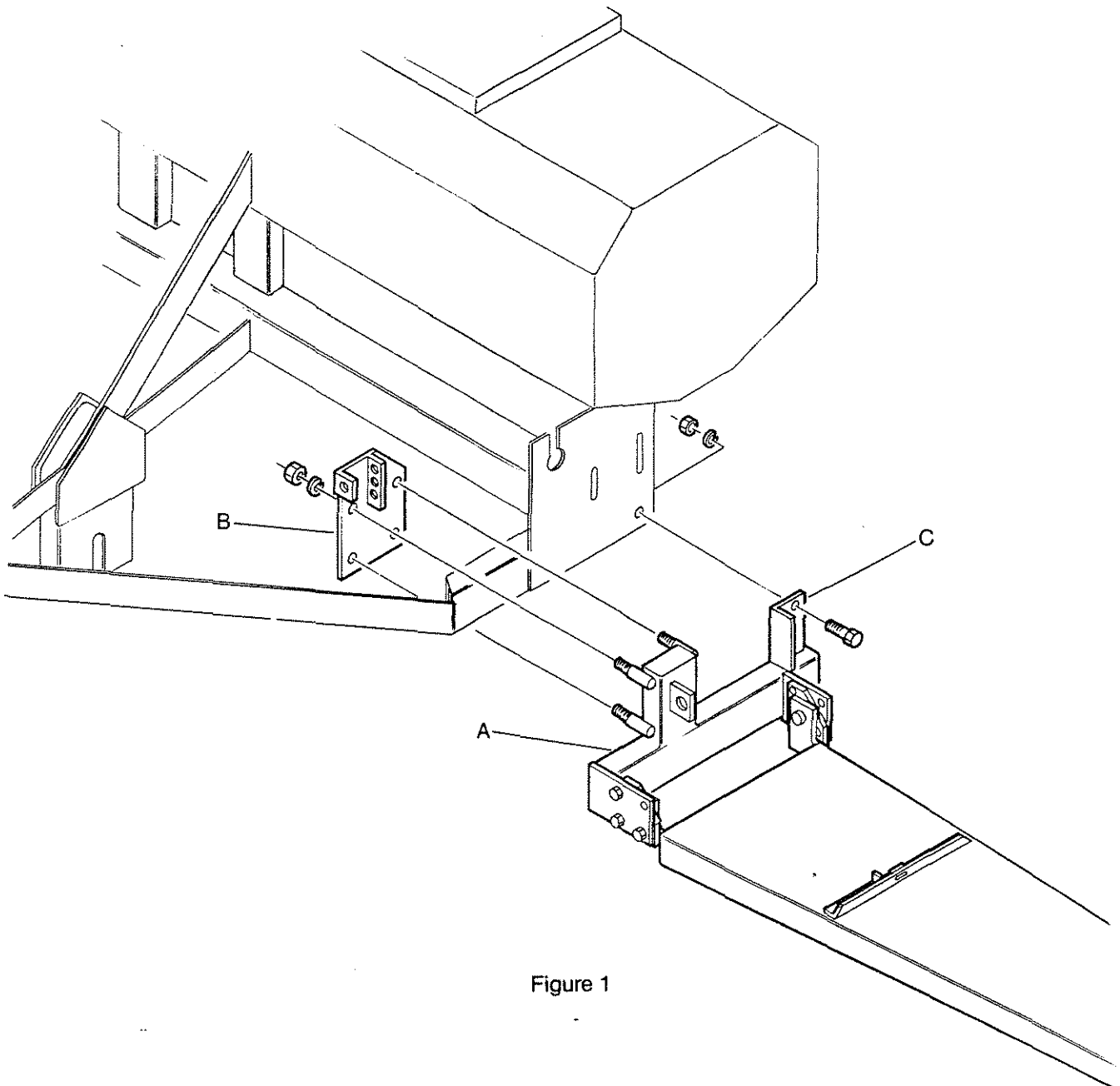


Figure 1

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.

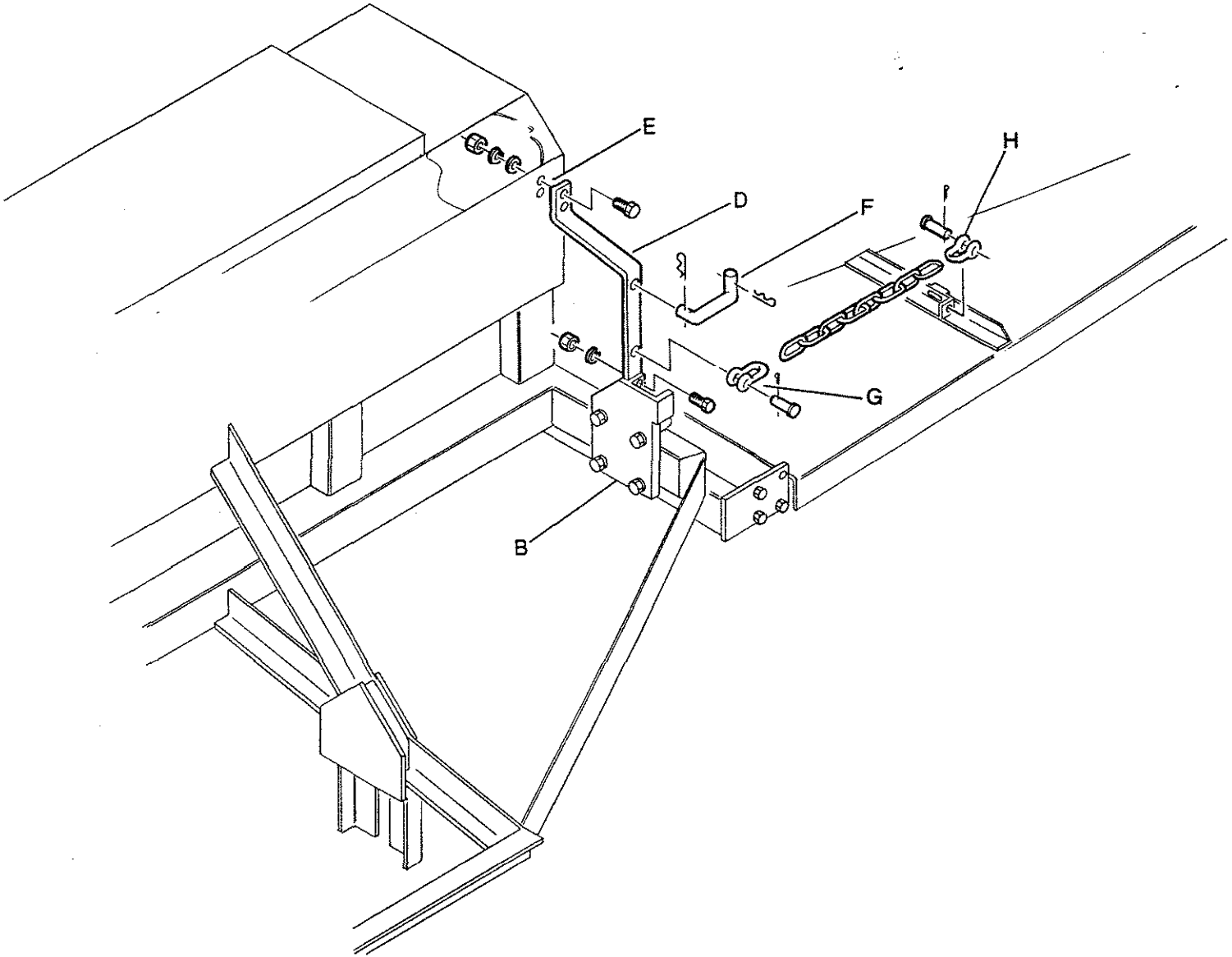


Figure 2

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.