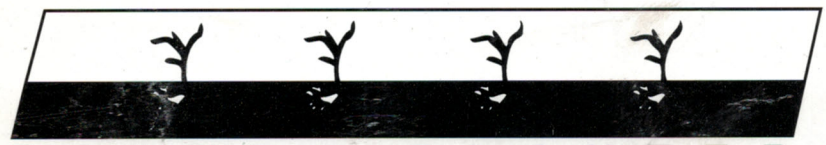
Operators Handbook

(Revised March 2011)



PEQUEA PLANTER

Manufacturers of

Custom Built Corn Planters

- 3 point
- Pull-type
- No-till
- Conventional

Pequea Planter
561 White Horse Road
Gap, Pennsylvania 17527
(717) 442-4406

General Information

The John Deere Max-emerge planting units are noted for their accuracy in spacing seed on the row and also for the uniform seed depth placement. This results in a greater yield per acre and a more even ear maturity, which is especially important to the sweet corn grower.

However, as is the case with most farm machinery, if the care and adjustments of the planter are not understood by the operator, a less than satisfactory result can happen.

Important is the replacement of worn parts and the time taken to care for, clean, and store it properly. Much trouble can be avoided by spending time with the John Deere operators manual, especially the service, attachments, and trouble shooting sections.

Another advantage of these units is the wide selection of optional equipment available. (See list in this booklet.) With no-till coulters, down pressure springs, and cast iron closing wheels, you can do a good job of no-tilling under almost any conditions. (See special section on no-till.) Furrow openers with down pressure springs will gouge out a 5" to 7" furrow in front of the unit to allow for plant growth when covered with plastic mulch, for the early sweet corn grower.

The new vacuum system is noted for being more accurate with small corn seeds such as the super sweets, popcorn, etc., and also for soybeans, edible beans, and peas.

A 2 row 3 point planter filled with seed and fertilizer weighs 1600 to 1800 LBS. Therefore the tractor should be able to lift at least 2000 LBS on 3 point. It is best to have at least a 50 HP tractor.

Bent, 3 point frame stands, are for fitting between the wheel wells if hauling with a pick up truck.

Rubber tire drive wheel should be between 25 in. and 26 in. with decent tread for traction.

For tractors smaller than 50 HP, a pull type planter is recommended rather than 3 point.

Getting ready to plant

1. Replace badly worn parts. Especially coulter blades when no-tilling. Also closely examine seed meter belts by turning by hand, watching for cracks. Check again in the field soon after starting. They can dry out and become brittle over winter.
2. **Always check seed spacing and depth. For seed spacing, remove closing wheel spring pressure from 1 unit, adjust depth gauge wheels to drop the seed on top of the ground and tie the closing wheels and the seed firmers (if you have them), up off of the ground to unit frame. Drive forward at usual planting speed, in field, with planter down. For population check, see page 5.**
3. Some down spring pressure on the units is good if the field is cloddy, stony, shaly, or a field with a crust after a rain. This will keep the unit tighter against the ground.
4. Adjust seed depth by moving handle forward for shallower, back for deeper. Jumping one hole on one side will make 1/4 inch difference. One hole on each side 1/2 inch. As the unit disks wear, the handle will have to be moved back for the same seed depth.
5. The spring pressure on the closing wheels will need to be adjusted according to soil type and condition. Loose, sandy soils need very little pressure, heavy clays will need more. Planters with cast closing wheels usually need no spring pressure in plowed ground. Too much pressure on the closing wheels in very loose soils can result in uneven seed depth or seed being pushed out of the ground.
6. Driving too slow causes skips, too fast, doubles. (Check John Deere operators manual for ground speed. MPH)
7. The fertilizer openers need not have spring pressure in loose plowed ground. With the bolt removed the planter will not pull as hard. (Horse farmers only)
8. On the 3 row pull type planter, don't cock the marker disk harder than needed. The center row plants on gauge mark and can cause uneven seed depth.
9. Don't use marker weight on 3 row plowed ground.
10. Ask for Free Sheets on "Planter Checks in Shop" and "Planter Checks in Field".

No-till section

1. Adjustments to make when going from conventional to no-till.
   - Increase spring pressure on closing wheels.
   - Tighten down pressure springs on side of unit.
   - Release spring pressure on fertilizer opener. Remove bolt - let opener float.
   - Add weight to planter frame. Tool bar opening preferred.
   - Add weight to gauge marker arms, or foam markers are available.
   - Replace disk marker and bracket with spring tooth and bracket.
   - Keep fertilizer hopper as full as possible.
2. Keep good blades on coulters. No less than 14.5 inches.
3. Coulter blades will not cut through heavy applications of box pen manure. Spread thinly, or use row cleaners.
4. Working at hay or rye crops or hauling manure in soft fields if following with no-till corn can cause problems in getting seed into the ground.
5. Don't plant when the ground is too wet. Disks will throw the soil away from the furrow and seed won't be covered properly.
6. The planter will not lower completely when not in motion. Be sure to drop farther as you start in.
7. Because of better drive wheel traction in no-till fields, seed spacing will be approximately 10% closer than chart shows.
8. Ask for Free Sheets on "Tips for No-till" and "Ways to Increase Yield Per Acre".

If you put the seed into the ground, cover it, and have good weed control, you can grow good no-till corn.

For vacuum planter seed spacing, use 1750 & 7200 operators manual charts.

Plateless Finger Pickup Corn Seed Spacing Chart

Standard 12 Fingers

Drive Sprocket	Driven Sprocket	Inches
35	27	6
35	28	6¼
29	24	6½
29	25	6¾
29	26	7
29	27	7¼
29	28	7½
24	24	7¾
24	25	8
24	26	8½
24	27	8¾
24	28	9¼
20	24	9½
20	26	10
20	27	10½
20	28	11
16	24	11½
16	25	12
16	26	12½
16	27	13
16	28	13½
16	29	14
16	35	17

This chart is not for
6 finger pumpkin meter.
Use 12 finger chart X2.

Horse Drawn Optional 6 Fingers

Drive Sprocket	Driven Sprocket	Inches
35	24	7
35	25	7¼
35	26	7½
35	27	7¾
35	28	8
29	24	8½
29	25	8¾
29	26	9
29	27	9½
29	28	10
24	24	10½
24	25	10½
24	26	11
24	27	11½
24	28	12

Check seed spacings in field. We don't guarantee 100% accuracy. For changing sprockets loosen tightener, remove spacers, realign sprocket, tighten chain.

On planters before 1991, collars on hex shaft on either side of 5 in 1 sprockets must be moved to allow other sprocket combinations.

Whenever using side by side gears on drive sprocket, be sure to have roller chain connector link clips turned out, away from other close running chain.

For Soybeans, Edible Beans, Peas, etc.

Because of the great variation in the size of bean, pea, etc. seed, we don't attempt to make charts for all the different seed sizes. A little experimentation is required using the same sprocket combinations as in corn seed chart.

Population Per Acre

Row Width

Plant Spacing in Inches	24	26	28	30	32	34	36	38
6	43,600	42,200	37,300	34,800	32,670	30,700	29,000	27,500
6¼	41,800	38,600	35,800	33,500	31,300	29,500	27,900	26,400
6½	40,200	37,100	34,500	32,200	30,100	28,400	26,900	25,400
6¾	38,700	35,700	33,200	31,000	29,000	27,300	25,800	24,400
7	37,300	34,400	32,000	29,900	28,000	26,300	24,900	23,500
7¼	36,000	33,300	30,100	28,800	27,000	25,400	24,000	22,800
7½	34,800	32,200	29,900	27,900	26,100	24,600	23,200	22,000
7¾	33,700	31,100	28,900	27,000	25,300	23,800	22,500	21,300
8	32,700	30,100	28,000	26,100	24,500	23,100	21,800	20,600
8½	30,700	29,400	26,400	24,600	23,000	21,700	20,500	19,400
8¾	29,900	27,600	25,600	23,900	22,400	21,100	19,900	18,800
9¼	28,300	26,100	24,200	22,600	21,200	20,000	18,800	17,800
9½	27,500	25,400	23,600	22,000	20,600	19,400	18,300	17,300
9¾	26,800	24,700	23,000	21,400	20,100	18,900	17,900	16,900
10	26,100	24,100	22,400	20,900	19,600	18,500	17,400	16,500
10½	24,900	23,000	21,300	19,910	18,700	17,600	16,600	15,700
11	23,800	21,900	20,400	19,010	17,800	16,800	15,800	15,000
11½	22,700	21,000	19,500	18,100	17,000	16,000	15,100	14,300
12	21,800	20,100	18,700	17,400	16,300	15,400	14,500	13,758
12½	20,900	19,300	17,900	16,700	15,700	14,800	13,900	13,200
13	20,100	18,600	17,200	16,000	15,100	14,200	13,400	12,700
13½	19,300	17,800	16,500	15,400	14,500	13,600	12,900	12,200
14	18,500	17,100	15,800	14,800	13,900	13,000	12,400	11,700
17	13,000	12,500	12,000	11,500	11,000	10,500	10,000	9,700

To check population per acre, measure distance below. Seed count is population per acre.

21'9"	20'1"	18'8"	17'6"	16'4"	15'5"	14'6"	13'9"

SEE PAGE 2, #2

Dry Fertilizer Rate Chart - Approx.

Drive Sprocket	Driven Sprocket	Reg. Augers (Per Acre) LBS	High LBS
16	36	75	113
16	30	90	135
20	36	94	141
20	30	113	170
24	36	114	171
24	30	136	204
29	36	136	205
16	18	150	225
29	30	163	245
35	36	165	247
16	16	170	255
20	18	188	283
35	30	198	297
20	16	211	317
24	18	227	340
24	16	255	382
29	18	273	410
29	16	307	460
35	18	330	495
35	16	371	556

Note: These LB figures can vary greatly depending on the density of the fertilizer. Use the sprocket combinations if wanting more or less.

For changing sprockets, loosen chain tightener, realign desired sprocket by removing spacers, and tighten chain.

For even more fertilizer per acre, an optional extra hi-rate auger can be used for 1½ times the hi-rate auger amount.

For Pequea Planter Pump with 3/8" Hose

Liquid Fertilizer Rate Chart
Gallons Per Acre

Drive Sprocket	Driven Sprocket	24" Rows	Gallons per Acre			
			30" Rows	36" Rows		
15	35	3.0	2.4	1.8		
17	35	3.4	2.7	2.0		
19	35	3.8	3.0	2.2		
15	27	3.9	3.1	2.3		
21	35	4.3	3.4	2.5		
17	27	4.4	3.5	2.6		
19	27	5.0	4.0	3.0		
15	19	5.1	4.2	3.2		
21	27	5.5	4.4	3.3		
17	19	6.0	4.8	3.6		
19	19	6.8	5.4	4.1		
21	19	7.4	5.9	4.4		
19	17	7.5	6.0	4.5		
21	17	8.3	6.6	5.0		
19	15	8.5	6.8	5.1		
21	15	9.4	7.5	5.6		
27	19	9.5	7.6	5.7		
27	17	10.6	8.5	6.4		
27	15	12.0	9.6	7.2		
35	19	12.3	9.8	7.4		
35	17	13.8	11.0	8.3		
35	15	15.6	12.5	9.4		

This chart is approximate. Rate must be field checked.

For less gallons per acre, put larger sprocket on pump.

For more gallons per acre . . .

- **1/2" squeeze hose on pump, take chart X 2**
- **5/8" squeeze hose on pump, take chart X 3**

Demco Pump with 3/8" Hoses

Liquid Fertilizer Rate Chart

Pump Setting	Drive Sprocket	Pump Sprocket	Gallons Per Acre		
			30" Rows	32" Rows	36" Rows
8	16	28	5.7	5.4	4.8
7	16	28	4.6	4.3	3.8
6	16	28	3.2	2.9	2.6
5	16	28	2.1	2.0	1.8
4	16	28	1.2	1.1	1.0
8	20	28	7.2	6.7	6.0
7	20	28	5.7	5.3	4.7
6	20	28	3.9	3.6	3.2
5	20	28	2.7	2.5	2.1
4	20	28	1.5	1.4	1.3
8	24	28	8.6	8.1	7.1
7	24	28	6.8	6.4	5.6
6	24	28	4.6	4.3	3.6
5	24	28	3.2	2.9	2.6
4	24	28	1.8	1.7	1.5

This chart is approximate. Rate must be field checked.

For less gal. per acre, put larger sprocket on pump.

For more gal. per acre put smaller sprocket on pump or use 29 tooth or 35 tooth as drive sprocket for 20% and 50% increase of 24 tooth.

Also, sprocket on pump can be changed, larger for less, smaller for more.

For more gallons per acre . . .

- **1/2" squeeze hose on pump, take chart X 2**
- **5/8" squeeze hose on pump, take chart X 3**

Shaft and Sprocket Adjustments

1. Roller chain tightener brackets are moveable to align with different sprocket combinations.
2. When changing row width, loosen both collars on seed drive hex shaft between units to allow drive shaft to maintain original position when moving units. If fertilizer bracket mounting clamps interfere with new unit clamp position, move fertilizer hopper to left or right, keeping as near to the center of frame as possible. To keep auger in center of hopper, compensate by either shifting shaft in fertilizer drive sprocket mechanism or changing length of round tube between hex shaft and auger shaft.
3. 27 tooth sprocket is regular 5027 weld-a-sprocket. Shaft collars are 1⅛" ID with set screw. They can be picked up at farm equipment or farm supply stores.
4. 10 1⅛" shaft collar positions are as follows:
   - 2 on 60" seed drive shaft between units, against bearing, each side.
   - 2 on 36" jack shaft-inside, against bearings, similar to 60 in shaft.
   - 2 on each 5 in 1 sprocket and spacers. Position for minimum changing.
   - 2 on fertilizer 12 in. shaft. One on each side.
5. Down pressure spring on main drive wheel frame is the same as the unit down pressure spring. Spring replacement Part #AB10071 or A43609. Extra holes in place are for additional spring pressure as needed.

Important:

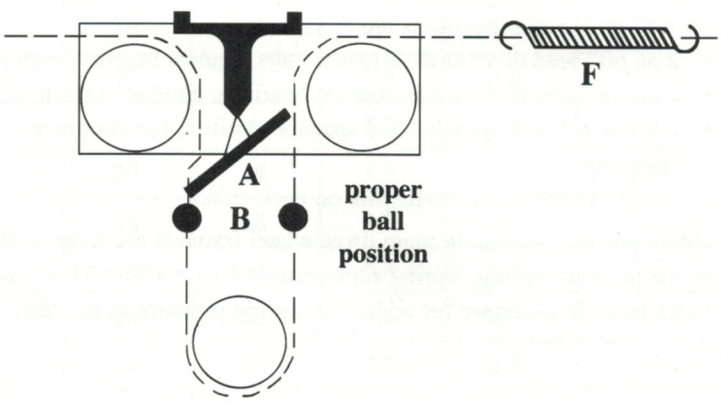
All planter insecticide attachments should be calibrated regularly. Worn rollers or other parts will affect the rate or allow the material to flow through while not in operation.

Gauge Markers on Pull Type Planters

The automatic marker trip will change each time the planter is completely raised. If you want the same side to drop again, don't raise quite the whole way. These are IH parts off of the IH56 planter.

As the planter is used, the chain or spring will stretch. With the planter the whole way up, the marker arms should be against the frame with the chains snug. If you get some slack, be sure to adjust first on the one side, next time the opposite side.

This will keep the balls in the proper position, just beneath the plastic switcher arm (See diagram). If the ball needs to be changed, drop the planter so the marker arm will lower, bringing the ball out where it can be worked on.



Troubleshooting

On later model planters, springs are being used to have less stretching of the chain. If the gauges don't alternate properly, check:

A: broken switcher arm

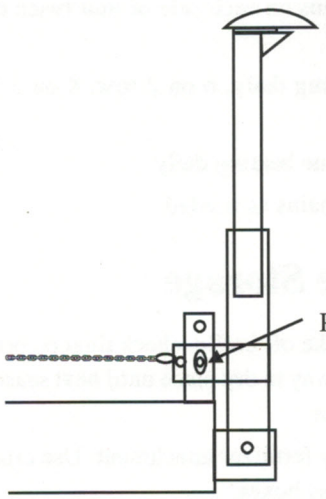
B: improper ball position

C: too much chain slack

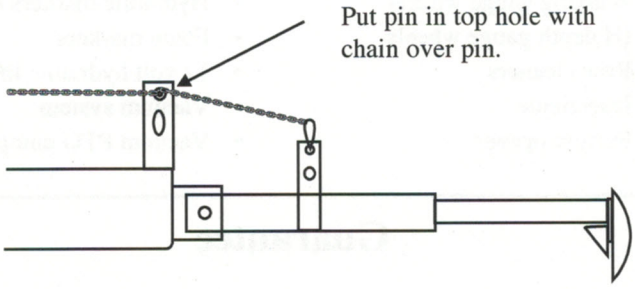
D: marker trip not moving freely. Oil.

2 & 3 Row Marker Lock-Up

For Transporting



For Planting



Maintenance

1. Use graphite regularly, 1 tsp. every 6 bushel.
2. Grease zerks on gauge wheel arms on each side of unit twice daily, 2 on each unit.
3. Grease zerks on main axle bearing daily, 6 on 2 row, 8 on 3 row. (Pull type.)
4. Grease zerks on drive wheel frame bearing daily.
5. Use special lubricant on roller chains as needed.

Before Storage

1. Remove meters from hoppers, take off baffle, check fingers, brushes, and belts. Clean, remove chaff, put away in dry place until next season. Do not use WD4O etc., only dry graphite.
2. Clean or wash planter, especially fertilizer attachment. Use crankcase oil on metal parts but not on fiberglas boxes.
3. Use special lubricant or crankcase oil on roller chains.

Optional Equipment

- No-till coulter
- Down pressure springs
- Cast closing wheels
- Seed firmer
- Walking gauge wheels
- IH depth gauge wheels
- Row cleaners
- Insecticide
- Furrow opener
- Monitor
- Soybean meter
- Radial bean meter
- Manual markers (3 point)
- Hydraulic markers (3 point)
- Foam markers
- 12 volt hydraulic lift
- Vacuum system
- Vacuum PTO pump

Guarantee

Planter fully guaranteed for one full planting season, covering defective parts and workmanship.

Steve Stoltz

Date 4-3-17

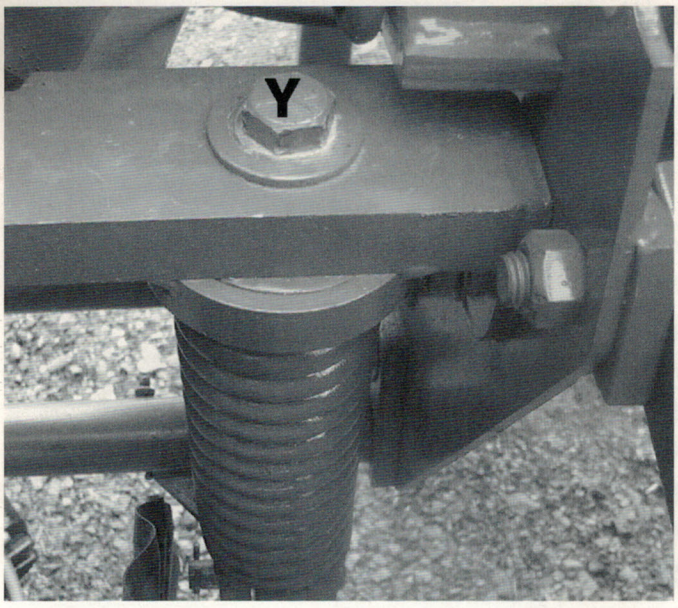
PEQUEA PLANTER

Heavy Frame Coulter Operators Manual

Pequea Planter LLC
561 White Horse Rd.
Gap, PA 17527
717-442-4406

PEQUEA PLANTER

Heavy Duty No-Till Coulter Operating Instructions



Depth Control

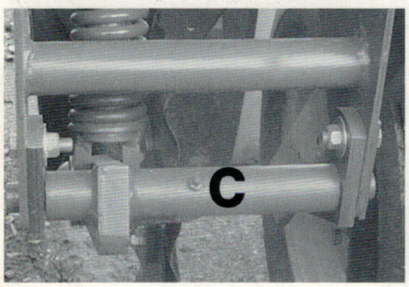
Turn bolt (Y) clockwise for shallower, counter clockwise for deeper. (If coulter depth does not stay the same it may be necessary to replace lock nut inside spring.)
Important: For best results, coulter should not run much deeper than seed disks.

In tight and hard soils it may be necessary to add weight to planter frame.

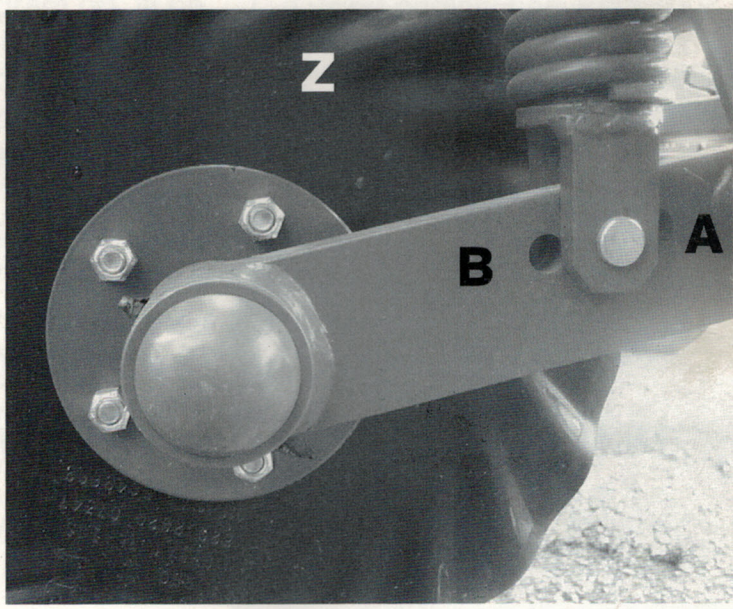
Down Pressure

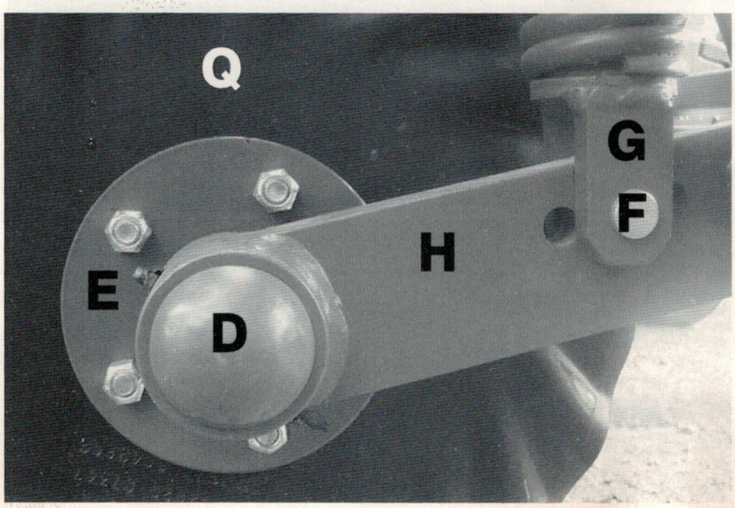
Coulter in diagram (Z) is set at medium down pressure. Use hole (A) for less pressure, hole (B) for more pressure. For less abuse to equipment use as little pressure as needed.

Maintenance Instructions



Pump grease in zerk (C) every 4 hours of use. Once a year remove cap (D), tighten spindle nut if needed, pump grease in zerk (E) until grease comes through bearing, put cap back on.



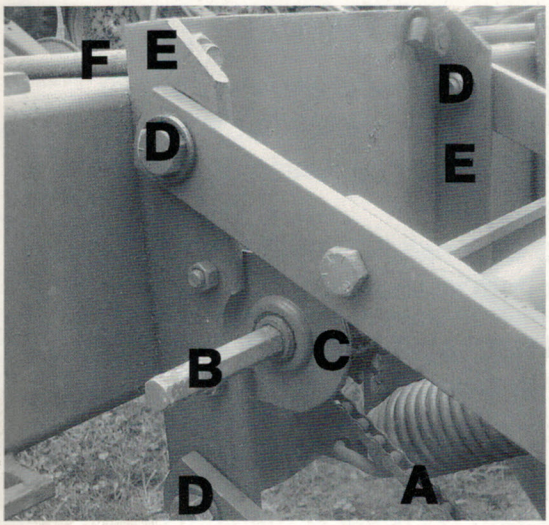


Occasionally check diameter of coulter blade (Q), replace if less than 14". When replacing blade, check bearings and seals.

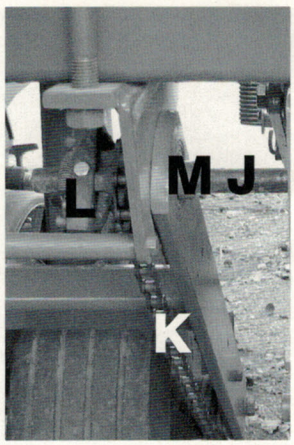
If pin (F), bushings in clevis (G), and bushings in arm (H) become worn, they can be replaced. (2008 and earlier coulters do not have bushings, machine parts and install bushings.)

PEQUEA PLANTER

HEAVY DUTY NO-TILL COULTER INSTALLATION INSTRUCTIONS

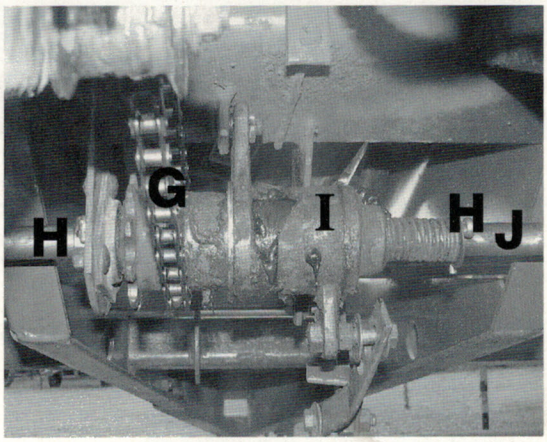


Remove chains (A), (G), and (K), shaft (B), and sprocket (C). Remove bolts (D) and remove row unit from planter frame. Remove angles (E) and U-bolts (F).

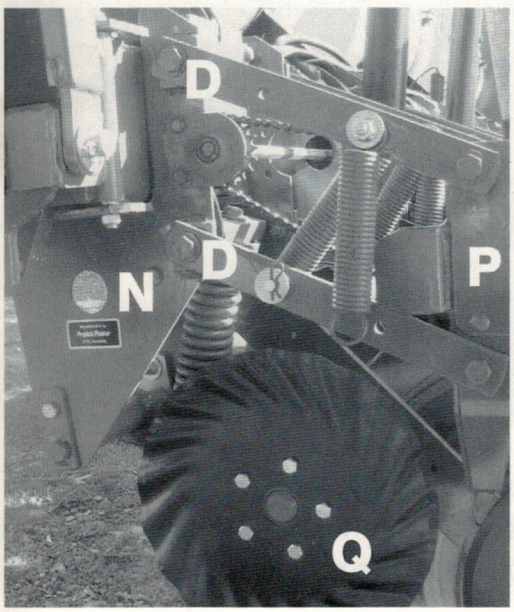


For JD 7000 and 1750 planters
Remove hex couplers beside clutch and loosen set screws on drive dog sprockets.

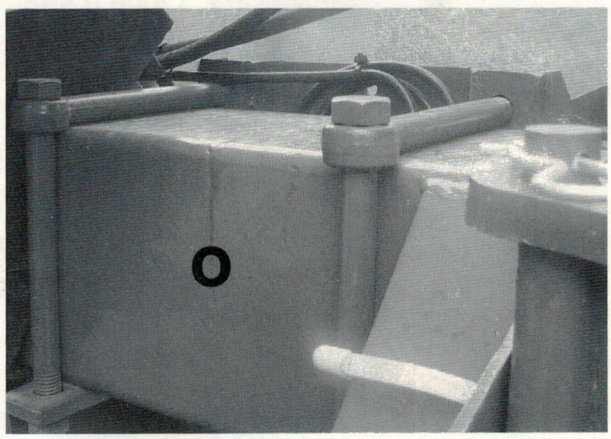
For JD 7000 planters
Remove cotter pins (H) and U-pins inside clutch (I). Remove bolt (L) and cotter pin beside sprocket. Loosen set screws on collar (M).



Clean shaft (J) with sand paper if necessary, than remove.



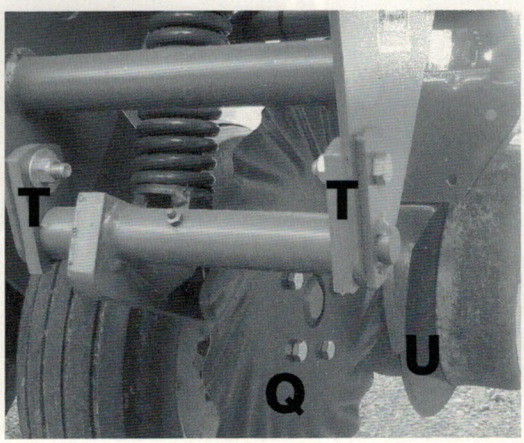
Install coulter frame (N) as shown in diagram (O). Reassemble shaft (J) and clutch (I) and drive dog sprockets. Attach row unit (P) to coulter frame with bolts (D).



Attach coulter blade (Q) with 1/2" x 1" gr. 5 hex bolts and lock nuts. If using turbo blade, check arrow on blade for direction of travel.

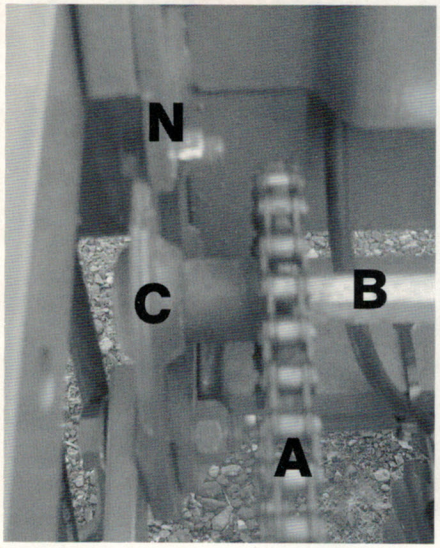
For JD 7000 planters
Use 5/8" x 2 1/4" bolts (D), original bolts are 5/8" x 1 3/4".

Remove or add shims (T) on each side to align coulter blade (Q) with seed disk (U).



PEQUEA PLANTER

Heavy Duty No-Till Coulter Installation Instructions



Attach sprocket (C) on the outside of coulter frame (N), check if sprocket lines up with sprocket on row unit.

For JD 7200 and 1750 planters

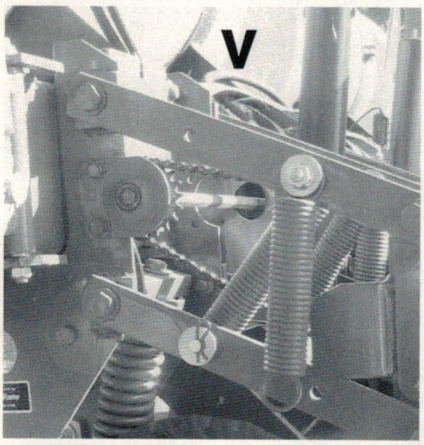
Use two 3/8" flat washer per bolt to shim original sprocket (C) (John Deere part # AA35645) away from coulter (N) - to align chain with sprocket on row unit. Or order sprocket # PP0551 from Pequea Planter or #AA36212 from John Deere.

Install shaft (B) and chain (A).

For JD 7000 planters

Original chain is 98 links long, add two links (type 41) or order #PP0615 (100 link chain) from Pequea Planter.

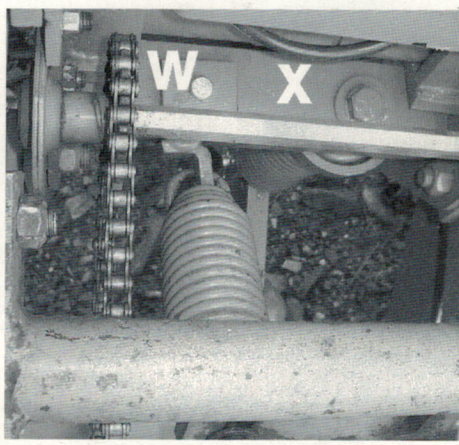
It is recommend to use down pressure springs on row units for no-till.

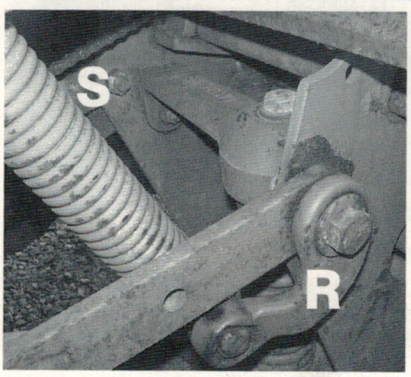


Double down pressure springs as shown in diagram (V), fit on all JD 7000 and later planters. Fasten only inside springs (90 lb. down force per row) for tilled ground, fasten all springs (180 lb. down force) for no-till. Kit # PP0660 includes 4 springs and hardware for 1 row.

For JD 7000 planters

If using original heavy duty down pressure springs, remove RH spring and attach LH spring to clip (W) and fasten clip to crossbar (X) with 3/8" x 2 1/4" bolt and lock nut. (1 spring applies 150 lb. down force per row) Spring clip (W) part # PP0552.





For JD 7200 planters

If using heavy duty adjustable springs with frame coulters, anchors (R) RH and (S) LH are not the same as when used with unit coulters.

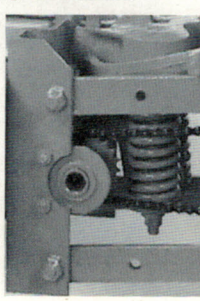
	with frame coulter		with unit Coulter JD#
	Pequea Planter part #	John Deere part #	
RH (R)	PP0561	A49639	A47254
LH (S)	PP0562	A49640	A47255

Trade in your original anchor for remanufactured anchor. Use only 2 springs per row with frame mounted coulter. With 2 springs down force can be set at 0, 45, 90, and 150 lb. With 4 springs down force can be set at 0, 90, 180, and 300 lb.

John Deere Pneumatic down force is compatible with JD 7200 and 1750 planters, 7000 planters can be modified.

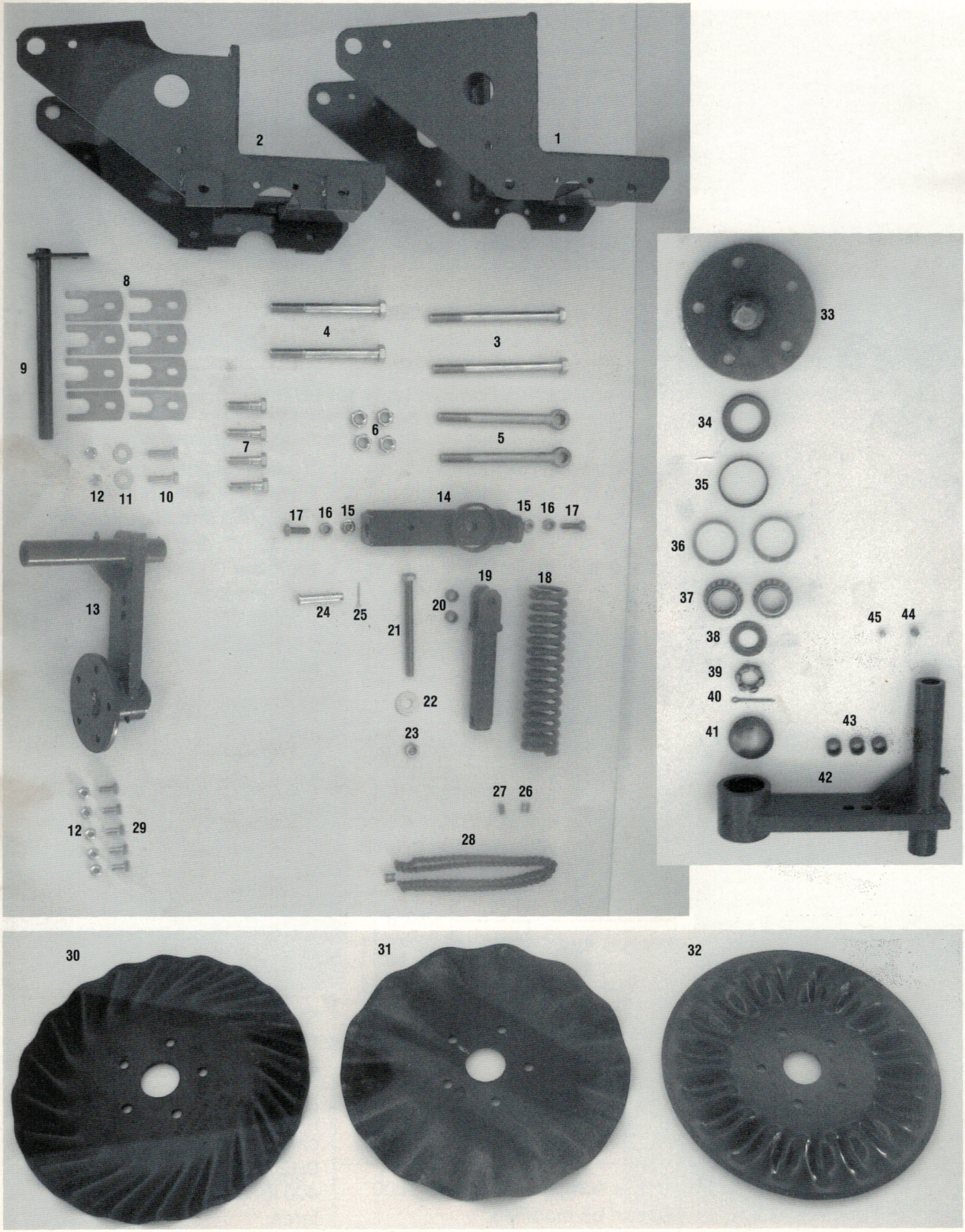
For JD 1750 planters

Original heavy duty springs are compatible with frame coulters can be set at 0,125, 250, and 400 lb. down force.



PEQUEA PLANTER

HEAVY COULTER PARTS BREAKDOWN



PEQUEA PLANTER

HEAVY COULTER PARTS BREAKDOWN

KEY	PART#	DESCRIPTION	QUANTITY	REMARKS
1	PP0600	Top frame	1	For 7200 JD Part # AA49112
	PP0601	Top frame	1	For 7000
2	PP0602	Top frame	1	For 7200
	PP0603	Top frame	1	For 7000
3		3/4" x 9 1/2" Hex bolt	2	For 7x7 tool bar
4		3/4" x 7 1/2" Hex bolt	2	For 5x7 tool bar
5	PP0604	3/4" x 10" Eye bolt	2	
6		3/4" Nut	4	
7		5/8" x 2 1/4" Hex bolt	4	For 7000
8	PP0605	Spacer	8	JD Part # A50749
9	PP0606	Shaft	1	JD Part # AA34049
10		1/2" x 2" All thread bolt	2	
11		1/2" flat washer	2	
12		1/2" lock nut	7	
13	PP0607	Arm assembly	1	
14	PP0608	Crossbar	1	JD Part # A46808
15		1/2" Flange lock nut	2	
16	PP0609	Bushing	2	JD Part # 24M7053
17		1/2" x 1 1/2" Hex bolt	2	Grade 8
18	PP0610	Spring	1	JD Part # A46832
19	PP0611	Clevis	1	JD Part # A46810
20	PP0309	Bushing	2	
21		5/8" x 7" all thread bolt	1	
22		5/8" flat washer	1	
23		5/8" Reversible lock nut	1	
24	PP0612	5/8" x 3" Clevis pin	1	Hardened
25		5/32" x 1" Cotter pin	1	
26	PP0613	Chain Link	1	For 7000 - Use to extend 98 link chain
27	PP0614	#41 Connector Link	1	For 7000 - Use to extend 98 link chain
28	PP0615	100 link #41 chain	1	For 7000 - Replaces 98 link chain
29		1/2" x 1" hex bolt	5	
30	PP0616	Turbo blade	1	Great Plains Part # 820-202C
31	PP0617	13 wave blade	1	JD Part # A72678
32	PP0618	Bubble blade	1	JD Part # A72360
33	PP0619	Spindle	1	JD Part # AA33383
34	PP0620	Seal	1	JD Part # AA26234
35	PP0621	Seal ring	1	JD Part # B32687
36	PPO622	Bearing race	2	LM67010
37	PP0623	Bearing	2	LM67048
38	PP0624	Washer	1	
39	PP0625	Nut	1	
40		5/32" x 1 1/2" cotter pin	1	
41	PP0626	Cap	1	JD Part # D10025
42	PP0627	Arm	1	JD Part # AA34233
43	PP0628	Bushing	3	
44	PP0629	Grease Zerk	1	1/8" pipe thread - straight
45	PP0331	Grease Zerk	1	1/4" bolt thread - straight

PEQUEA PLANTER

TIPS FOR NO TILL

REVISED JAN. 2010

1. Avoid planting too wet.
2. Spread box pen manure evenly. Distribute spreader tracks across width of field.
3. Running spreaders in and out of one corner of field can cause serious compaction.
4. Steel wheeled spreaders can do more damage than tractors and big spreaders.
5. Corn will not do as well in fields where ground was soft while hauling manure.
6. Corn cannot root down through compacted soil.
7. Planter frame level with ground. Main 7" planter frame 20" above ground.
8. Fasten hitch to drawbar however needed to level planter.
9. Unit parallel arms level, horizonal with ground level.
10. Add weight to planter to match soil condition. Steel, tanks for water, etc.
11. If planter frame is more than 20", add weight, adjust cylinder, or modify cylinder arm.
12. Running coulter blades too deep may not allow frame to go down to 20".
13. Too much parallel arm pressure or closing wheel spring pressure will work against your frame weight.
14. Releasing spring pressure on fert. openers will allow more frame weight for coulters.
15. A planter without fertilizer attachment, add tanks to fill with water.
16. With liquid fertilizer attachment, add small tank for fertilizer, use bigger tanks for weight.
17. If not using dry fertilizer hoppers, fill with barn-dri or add brackets for steel or fill toolbar.
18. If seed isn't being placed at the proper depth from coulters and seed disks unable to penetrate hard soils, it won't do any good to increase the seed depth handle. This will give you uneven seed depth if a part of the field has more moisture.
19. If you have more residue (such as corn stalks or clumps of box pen manure) than coulter blades can cut through, consider row cleaners.
20. Adjust frame coulters to cut 2"-3" deep.
21. 13 wave, or turbo coulter blade recommended. Bubble blade for hard soil.
22. If blades and disks are badly worn, units cannot penetrate hard soils.
23. On units with unit mount no-till coulters, down pressure springs will be unable to apply enough down pressure to penetrate hard soils.
24. Use only enough down pressure on parallel arms to achieve your wanted seed depth.
25. Use seed firmers for better germination. A must in no-till.
26. IH or reduced inner diameter depth tires give less sidewall compaction.
27. Walking gauge wheels mark well in high residue conditions.
28. If rubber closing wheels won't close seed trench, use Posi, cast, or spike wheels.
29. Posi closing wheels help break up side wall compaction.
30. 1 cast-1 spike wheel on each row may be better in some conditions.
31. Use no more closing wheel spring pressure than needed to close seed trench.
32. Big notched disks make better work. Spring teeth on markers will do better than reg. disks in some conditions. Foam markers may be wanted in some conditions.
33. Consider Roundup Ready corn, for weed control, especially beginner no-tillers.
34. Be aware of potential damage cutworms, armyworms, or slugs. (see consultant)
35. Strive for 100% weed control. (see consultant)

PEQUEA PLANTER

To Increase Yield Per Acre

1. Planter needs to be in top condition.
2. Have the planter set up for what you want it to do.
3. At planting, make sure the planter is doing what you want it to do.
4. Plant a good corn hybrid.
5. Hire a crop consultant. They will more than pay their way.
6. Avoid planting too wet. Damage can last all year.
7. Avoid working ground too wet. Damage can last all year.
8. Avoid soil compaction by harvesting too wet in the fall.
9. Avoid soil compaction with manure spreaders at any time. Damage can last all year.
10. Avoid plowing too wet, fall, winter, or spring. Damage can last all year.
11. Avoid overworking soil. It has a sealing effect, limiting air, water, & root movement.
12. Spread manure evenly. This is part of your fertilizer program.
13. Have good soil fertility. NPK, also micro nutrients. (See crop consultant.)
14. Have proper PH, lime if needed. (See crop consultant.)
15. Use an in seedbox seed treater, for seed maggot and wireworm control.
16. Plant population high enough for best yield possible with your equipment. No less than 30,000.
17. Plant some 108-110 day varieties for early silage April 25 to May 1. 32,000-35,000.
18. Goal should be--All corn planted by May 10, except double crop corn.
19. Plant $1\frac{1}{2}$"-2" deep, except if very dry, up to 3". Never less than $1\frac{1}{2}$".
20. Use seed firmers for better and more uniform germination.
21. Use rootworm control, except 1st year corn.
22. Use BT corn for all corn planted after May 15.
23. Use starter fertilizer? (See crop consultant.)
24. Leave no fields bare over winter. Sow cover crops.
25. Sow oats after early silage corn for fall pasture or cutting.
26. Rye will not do well if sowed too early in fall.
27. Strive for almost 100% weed control. (See crop consultant.)
28. If post-emerge spraying, do it at the best time. (See crop consultant.)
29. Same with pre-emerge spraying, do it timely. (See crop consultant.)
30. If no-tilling corn into rye cover, have 18" to 24" growth. More residue will help to conserve moisture and provide food for earthworms.
31. If double cropping corn after 1st cutting alfalfa, wheat should have been sowed into thin stands in the fall.
32. Sow grasses into old alfalfa fields after 2nd or 3rd cut. (See seed dealer.)
33. Consider Roundup Ready corn, especially beginner no-tillers, for weed control.

PEQUEA PLANTER

PLANTER CHECKS IN SHOP

Revised January 2007

1. Meters	Have tested every 3 or 4 years or 300-400 acres. Change belts & brushes every 3 or 4 years. Take off plastic cover, replace if broke, check fingers. Horse drawn planters we recommend cushion plates.
2. Seed Hopper	Replace if cracked or broke where meter fastens.
3. Meter Clutch at Hopper	Make sure spring & cam are loose, oil. Clutch shaft & meter shaft should line up (7000). Drive wings should line up (7200).
4. Parallel Arms	Make sure bolts are tight. Replace bushings & bolts if worn.
5. Seed Tube Guard	Tube guard acts as inside disk scraper, 1" wide new, new guard comes with fins to protect tube. If worn to narrow, disk will rub seed tube. Make sure guard is fasten with 2 roll pins.
6. Seed Tube	Bottom not frazzled or broke. Hook halfway up not broke.
7. Seed Disks	New are 15", change if under 14". Disks should meet 3" at front. If wanting to use on fertilizer openers, down to 13 3/4". Disk bearings should not be wobbly or tight.
8. Depth Gauge Arm & Wheel	Wheel should rub against disk. Adjust with shim washers or threaded bushing. Replace arm if worn to much, with threaded arm and bushing. Arm can be bent if not worn to much. Bearings not wobbly or tight.
9. Seed Firmer	Adjust tension bolt if needed. Replace if worn. With time firmer will get round on bottom will not do as good job pushing down seed.
10. Closing Arm & Wheels	Spring alright, rubber & wheel half alright. Bearings not wobbly or tight. Bottom of wheels 1½ to 2" apart. If wheel is to sloppy on arm, replace. Not able to shift R or L to much. If to much play replace arm or bushing. If arm has 3/4" hole, drill out, put in eccentric bushing. Arm can be replaced with update handle arm.
11. Insecticide Boxes	Make sure insect. doesn't run through. If it does change roller. Blow out hoses. Clean slot on bottom of meter. Make sure bander is good.
12. Fertilizer	Auger should be center. Check flex spout. Check spout between disks.
13. Fertilizer Openers	New disk 13½". Fert. depth not as critical. Bearings not wobbly or tight.
14. Liquid Pump	Hoses should be pliable. Not dried out or stretched to much.
15. Markers	On 4 row, check cables, make sure alternating properly. Check disk bearings. On 2 & 3 rows, make sure alternating properly, if not, replace plastic tripper if broke or adjust balls. For information check white handbook. Marker lock-in available for 2 & 3 rows.
16. Drive Frame Spring	On 2 & 3 rows, broken down pressure spring will give more wheel slippage.
17. Main Clutch	On 4 rows, worn clutch can give skips. Check drive U-pins & bearings.
18. Chains, Insecticide	#41 1/2" pin to pin. Chain runs under rear idler & over front idler. Chain tension should be snug.
Unit Seed	#41 1/2" pin to pin. Check spring tension.
Drive Wheel 7000	#2050 1 1/4" pin to pin. With planter raised completely, chain should be as short as possible. Spring not stretched to much.
Drive Wheel 2&3 rows	#50 5/8" pin to pin. 2 springs on chain tightner.
Fert.& Seed Trans. 2&3 rows.	#40 1/2" pin to pin.
Fert.& Seed Trans. 7000	#2040 1" pin to pin.
All Chains	Stretched 1/8" on 10" replace. Stretched to much can cause planter to drive harder resulting in slippage. Replace chains if stiff.
19. Chain Idlers	Check all chain idlers & bushings, replace if worn. Oil all chains - Grease all zerks.
20. Coulters	New disks 16". Check springs. Bearings not wobbly or tight.

PEQUEA PLANTER

PLANTER CHECKS IN FIELD

1. **Planter Level**	Bottom of toolbar 20" from ground. Parallel arms should be horizonal. Unit not cocked. Complete planter needs to be level. See Tips For No-till #2 through #9.
2. **Seed Spacing**	Set seed depth handle front as far as possible. This will lay seed on top of ground. Tie closing wheels and seed firmers up off of ground. Drop planter and drive 20 or 30 ft. For 30" row, measure 17'5". Count seeds. Your seed count in 17'5" is how many thousand per acre you're planting. Do this 2 or 3 times, and take average. For 28" rows-18'8". For 24" rows-21'10". (Do all this in field.)
3. **Seed Depth**	1½"-2" is ideal. 2"-3" in very dry conditions. Never less than 1½". Depth handle moved front is shallow, back deeper.
4. **Dropping Seed**	Make sure each unit is dropping seed when starting each field. You or your neighbor may have put a row out of gear to finish the last field.
5. **Closing Wheels**	Closing wheels shouldn't run in seed trench. If arm or main shank is twisted, bend back, or see #10 in Planter Checks in Shop. Match rubber, cast, or spike to field conditions. Firm w/o overfirming.
6. **No-till Coulter Depth**	Close to seed depth, adjust blade depth with rods, or bolt on heavy style.
7. **Coulter Blade Alignment**	To line up with seed disk, adjust with shims.
8. **Unit Down Pressure Springs**	Adjust to field conditions.
9. **Insecticide**	Flow and spread pattern.
10. **Fertilizer**	Flow and rate.
11. **Gauge Markers**	Adjust to your row width. On 3-row, disk almost straight. Center row won't plant right with too much mark. In no-till you may need spring tooth harrow and weight or foam markers. 4R7000 markers-Have extra bolt handy for tightening nut.

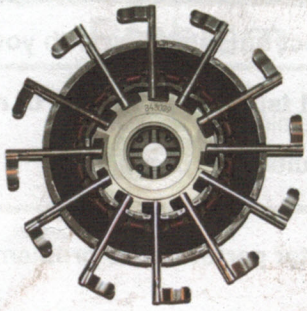
12. **Oil chains daily. Grease depth wheel arm twice daily. 1 tsp. graphite in each hopper every 6 bushel per row.**

BEFORE STORING YOUR PLANTER

1. Number seed boxes and meters, #1 starting on left.
2. Empty seed, insecticide, and fertilizer boxes.
3. Remove seed meters from hoppers-store in dry place.
4. Never use oil or WD-40 on seed meters.
5. Run water through liquid fertilizer system.
6. Add anti-freeze, run through lines, or blow out with air gun. Release hose tension on Demco pumps, or remove back plate from 7000 John Blue pump.
7. Pressure-wash planter.
8. After planter has dried, with seed and insecticide boxes removed, spray with diesel fuel or kerosene with 1-4 or 1-5 crankcase oil. Keep off of fiberglass.
9. Coat fertilizer openers and augers with crankcase oil, keep oil off of flex spout.
10. Oil roller chains and grease planter.
11. If planter is stored where bird droppings or dust from blowing feed is a problem, cover with plastic or tarp.

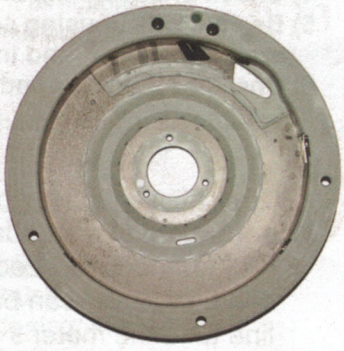
PRECISIONMETER™

Parts List



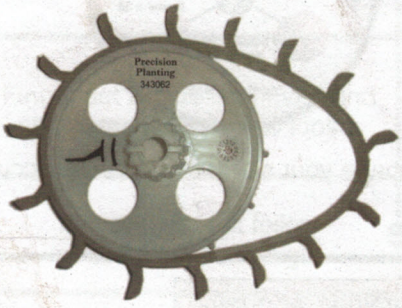
Precision Finger Set

The Precision Finger Set provides an improved finger along with a sturdier finger holder to accurately plant a wide range of seed sizes.



Population Max™ Backing Plate

The Population Max backing plate is equipped with an "A" insert. There are two other inserts that can be used. Before changing to a different insert, please consult with a MeterMax® representative for a recommendation.

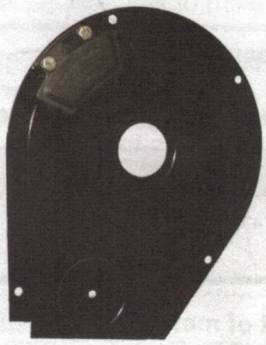


SureFire® Belt

The SureFire Belt assures every seed is delivered to the center of the seed tube to improve spacing during seed delivery.

Adjustable Brush

The Adjustable Brush provides additional flexibility to accommodate a wide range of seed sizes. Use the "T" handle that is attached to rotate the brush into position. Follow these general guidelines to adjust the brush position to your seed size and shape. Adjusting the brush to match seed size is simple adjust the brush counterclockwise for larger seed and clockwise for smaller seed.



Skip Stop™

The Skip Stop helps prevent skips by using a soft rubber pad to absorb the force of the seed leaving the finger.

Questions? Check the website: www.precisionplanting.com or call us at 309-925-5050.

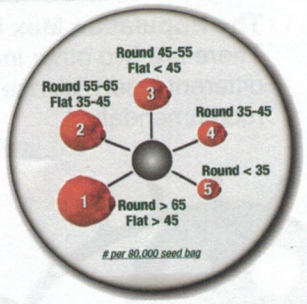
PRECISIONMETER™

Operating tips

1) **Test on MeterMax Ultra® Test Stand for maximum performance and correct brush setting with your seed.**
2) **Use graphite at a rate of 1 tsp. with every fourth unit of glossy seed and 1 tsp. with every unit of non-glossy seed. Make sure to stir the graphite into the seed.**
3) **Optimum planting speed is 4 ½ to 5 ½ miles per hour. Excess speed results in poor spacing performance.**
4) **Check bristles on brush occasionally for wear.**
5) **Be cautious in using seed treatments and additives. They can cause meter performance problems, premature wear, and increased debris build up on meter parts.**
6) **Check brush lever and adjust as necessary**

Adjustable Brush Settings

Place near meter for reference when changing seed size



The Adjustable Brush is made up so the #3 position is equivalent to a standard brush. This position will work well for medium sized seeds. For larger or smaller seed, the lever can be adjusted by rotating left or right to fine tune the meter's performance. See chart or sticker for details on where your brush should be set.

If meter is under-planting adjust left. ⬅
If meter is over-planting adjust right. ➡

Caution: If you choose not to adjust the brush according to seed size and shape your stand may be less accurate.

Annual Maintenance

Precision Finger Meters™ should be inspected and maintained annually.

1) **Remove black plastic cover and clean out debris from meter**
2) **Wipe seed treatment build up from fingers and backing plate with damp cloth.**
3) **Inspect springs and fingers for damage or wear.**
   a) The primary wear spot on a finger is the inner heel, where it rubs on the backing plate.
   b) Replace finger set if flat spot exceeds 1/16" across
4) **Inspect backing plate and replace if insert wear is apparent on the action sights to the left of brush.**
5) **Inspect brush and replace annually or every 75-100 acres per row. (Brush part # 343052)**
   a) Only use a Precision Planting Adjustable Brush or maroon colored brush in Precision Meters, other brushes are too stiff and will increase skips.
6) **Inspect SkipStop by looking through exit hole in backing plate for trapped debris and wear.**
7) **Examine belt housing for dents or rough edges at bottom of meter.**
8) **Check each flight of belt for damage from obstructions or rodents.**
9) **Replace belt if it has damaged flights, feels inflexible or is more than 3 years old..**
10) **Check plastic cover for damage, cracking, or worn edge.**
11) **Test meters on MeterMax Ultra® Test Stand to insure good performance and proper brush setting.**

Note: Do not use solvent based lubricants such as WD-40™ on finger meters.

Storage

1) **Before storing meters, remove all seed and blow residue and debris out of meter.**
2) **Rotate meter so all flights are hidden within belt housing to protect them from damage, this will also position the fingers so they are not damaging the brush.**
3) **Do not store meters so that seeds can lay on SkipStop.**
4) **Store in dry, rodent free container.**

PRECISION METER™

Troubleshooting Guide

Problem	Solution
Meter does not deliver correct population.	1 ► Check for debris or build up in meter. 2 ► Check nut tension of fingerset. 3 ► Adjust brush setting for seed size. 4 ► Add graphite or reduce graphite.
Poor spacing of seed.	1 ► Verify SureFire belt is installed in the right direction. 2 ► Make sure seed hopper is correctly aligned onto row unit. 3 ► Check for debris in meter or belt. 4 ► Check for obstruction in seed tube. 5 ► Check hex shaft drive for erratic or rough rotation caused by bad bearings, worn chains or sprockets, bent shafts or misaligned shafts.
Finger set tightens up when running.	1 ► Housing may be out of tolerance. - Lay a 6" straight edge across the finger contact surfaces on the PopMax while installed on the belt housing. - If the center ring is higher than the outside ring, the belt housing is flawed and needs to be replaced.
Finger set torque is uneven and alternates from tight to loose.	1 ► Backing plate is not secured tightly to belt housing. 2 ► Belt housing or finger holder is warped. 3 ► Drive wheel is warped or belt is rubbing in belt housing. 4 ► Bearing is not seated properly on belt housing.
Finger does not follow contours of action sight	1 ► Check for damaged or improperly assembled springs & fingers. 2 ► Cam is not engaged on bearing. 3 ► Fingerset is too tight.
SureFire Belt will not center in belt housing.	1 ► Drive wheel wobbles on shaft. 2 ► Belt housing is warped. 3 ► Belt is warped and does not track straight.
Finger catches when rotated toward exit hole.	1 ► Cam is not engaged on bearing. 2 ► Check for damaged finger.
Belt rubs SkipStop pad.	1 ► Make sure pad is laying flat in plastic housing. 2 ► Pad should be glued on two sides and bottom edge. 3 ► Make sure edges of pad are trapped by backing plate.
SkipStop is "bubbled up" in middle, causing belt to rub on pad.	1 ► Carefully lift top edge and release trapped air from behind pad. 2 ► If bubble does not disappear, replace SkipStop pad.
SkipStop has a recessed pocket where seed hits.	1 ► If recess is deeper than seed, replace SkipStop.

Always pay attention to your seed monitor, operating manual, and the amount of seed you are planting compared to your expectations. Always investigate abnormalities!