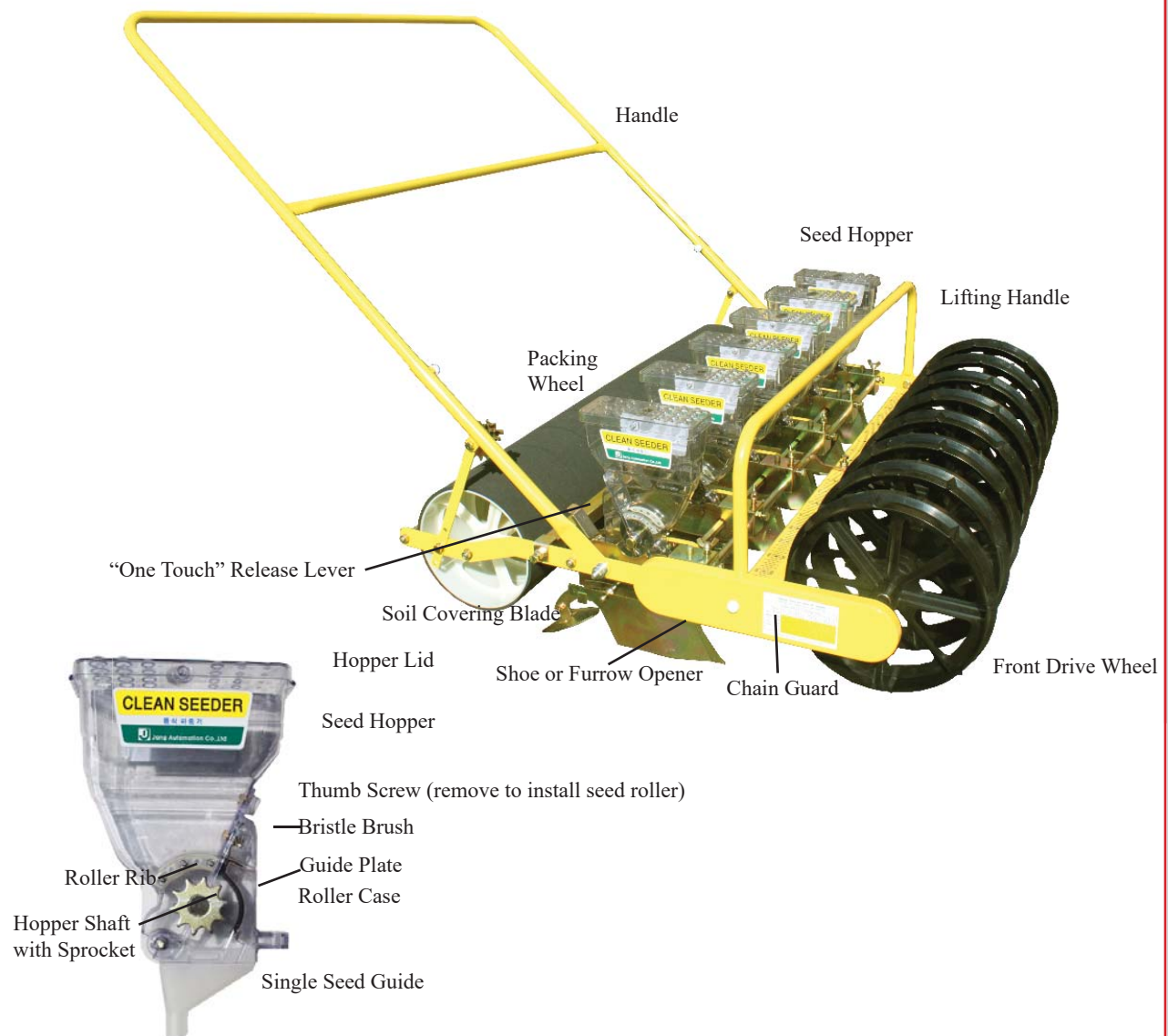


CLEAN SEEDER OPERATION MANUAL

MODELS JP-3, JP-6 and JP-6W

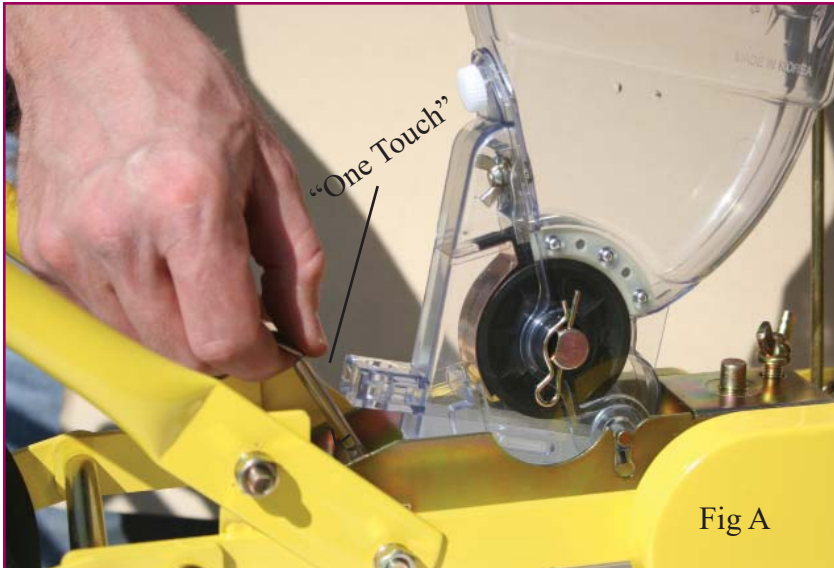
Please read this manual carefully before operating the seeder



distributed by: **MECHANICAL TRANSPLANTER CO.**
 1150 Central Avenue * Holland, Michigan 49423
 Phone: 616-396-8738 * Fax: 616-396-3619

ASSEMBLY & OPERATING INSTRUCTIONS

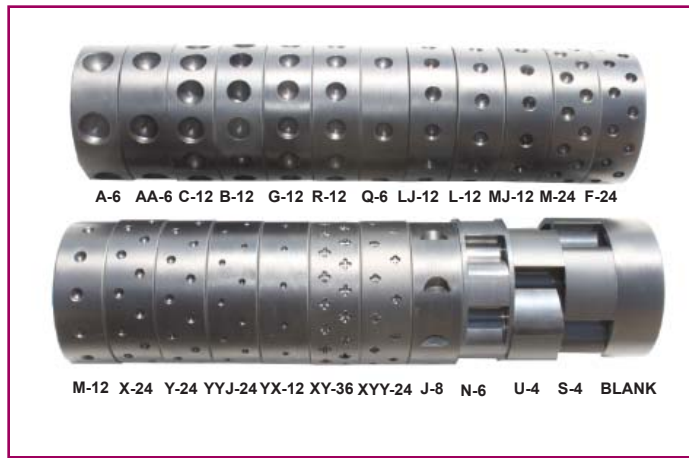
1. Check box for the seeder, handle and sprockets (Sprockets should be on seeder near where the handle slides in). Your selected seed rollers will typically also be in this box.
2. Assemble handle by sliding it into the lower arms and tighten with the two thumb screws.



3. To remove the hopper from the seeder frame, simply push down on the "one touch" lever on the back side of the hopper. Lift the hopper up and out with your other hand. (Fig A)

4. The seed rollers are easy to install after removing the hopper. Loosen the the white thumb screw and pull down on the roller case. Next remove the clip from the sprocket shaft and pull the sprocket shaft out. Slide your roller in the slot. Slip the sprocket shaft through the roller and re-install the clip pin. (Fig B) Adjust the brush so it lightly touches the seed roller to knock off extra seeds. Don't put it too tight as this will cause unnecessary wear. Swing the roller case back up and tighten thumb screw again. (Fig B1)





Selecting Seed Rollers

5. Seeds should be flush with the top of the roller. If they are not flush, the seed could get knocked out by the brush, crack, or cause undo friction on the seed guide plate. It will also wear the guide plate quicker.
6. For seeds that may be too big for any seed roller, such as larger corn, pea, or bean seeds remove the seed guide plate. (Fig B-2) When using the spreading shoes remove the seed guide plate. This will allow the seeds to fall more freely and also allow multiple seed to drop.
7. Our seed list (Shown on last page) with the recommended roller letters helps to select rollers, however seeds can vary in size from one variety to another. In that case you may have to use a bigger or smaller roller. If your seed isn't on our list you can send us a sample and we will find a roller. We can custom make rollers by drilling deeper or larger holes.



Spacing Chart for Series JP Seeders (inch)												
* Subject to change upon speed of equipment or quality of soil												
Number of Teeth in Each Sprocket												
Rear Sprocket		14	14	13	13	11	11	10	11	10	10	9
Front Sprocket		9	10	10	11	10	11	11	13	13	14	14
# of Holes in Seed Roll	3 Hole	20	18	16	15	14	12	11	11	9	9	8
	4 Hole	14	13	12	11	10	9	9	8	7	7	6
	6 Hole	10	9	8	7	7	6	5	5	5	4	4
	12 Hole	5	4	4	3	3	3	2	2	2	2	1
	24 Hole	2.5	2	2	1.5	1.5	1.5	1	1	1	1	0.5

Setting spacing



Fig C



Fig D

8. Spacing is done two ways. First by the number of holes in the seed roller. Second, by using a combination of 6 sprockets that come with the seeder. (Chart is in this manual or on the side of seeder)
9. First, remove the chain guard that is by the front drive wheel, by loosening the two thumb screws. Look at the spacing chart on the chain guard. The top two lines are your sprocket sizes. The numbers on the side are the roller holes available. The shaded area is the spacings available by re-arranging the various sprockets. The sprocket just slides off. Use the metal chain tightener when using the smaller sprockets. (Fig C)
10. With the larger sprockets the chain tightener is not needed. Run the chain straight as in Fig D. If there is too much slack, run chain over stud for thumb screw, but without the chain tightener. Be sure to store chain tightener in safe place when not using. (Fig D)

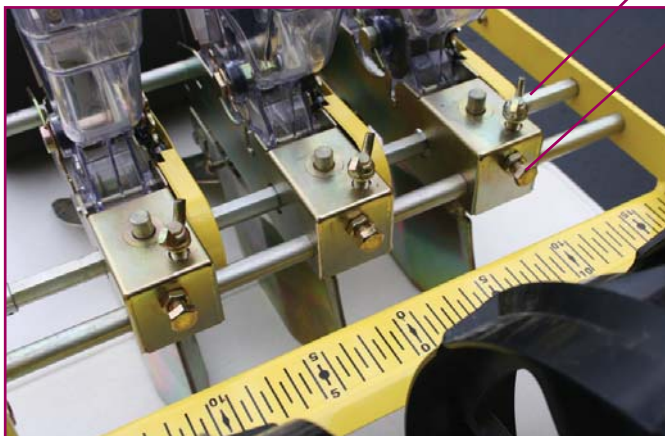


Fig E



Fig F

11. For shoe depth adjustment, loosen nut and then loosen bolt just ahead of hopper. Move shoe up or down and retighten bolt, then tighten nut against frame to lock shoe in place.(Fig E) The soil covering blade can be adjusted for more or less pressure by loosening the screw and resetting. (Fig F)

Setting Row Spacing

12. Row spacing can be adjusted by loosening the winged bolt on the hopper block and sliding them to the desired row widths. (Fig E)

Optional Shoes

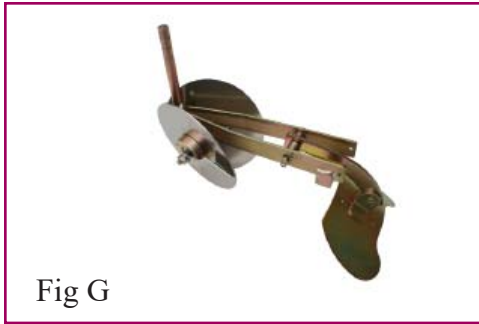


Fig G

TP-1000D
Double Disc Opener
Used for trashy soil conditions

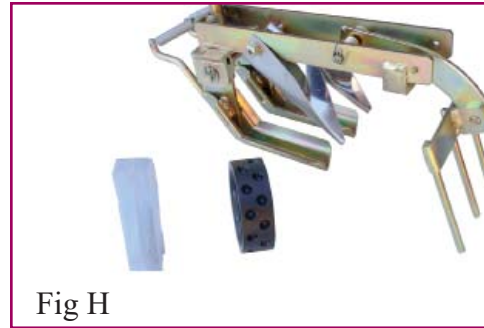


Fig H

JPDS -
Double Shoe
One row, two lines of seed at 2"

13. The optional double shoe comes with a double shoe guide which has a splitter in the middle. By using the 24 or 36 hole rollers you can have two rows of seeds 2" apart. (Fig H)



Fig I

JSS5 - 4.72in
Spreading Shoe

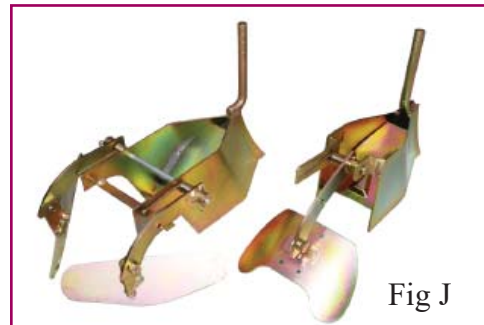


Fig J

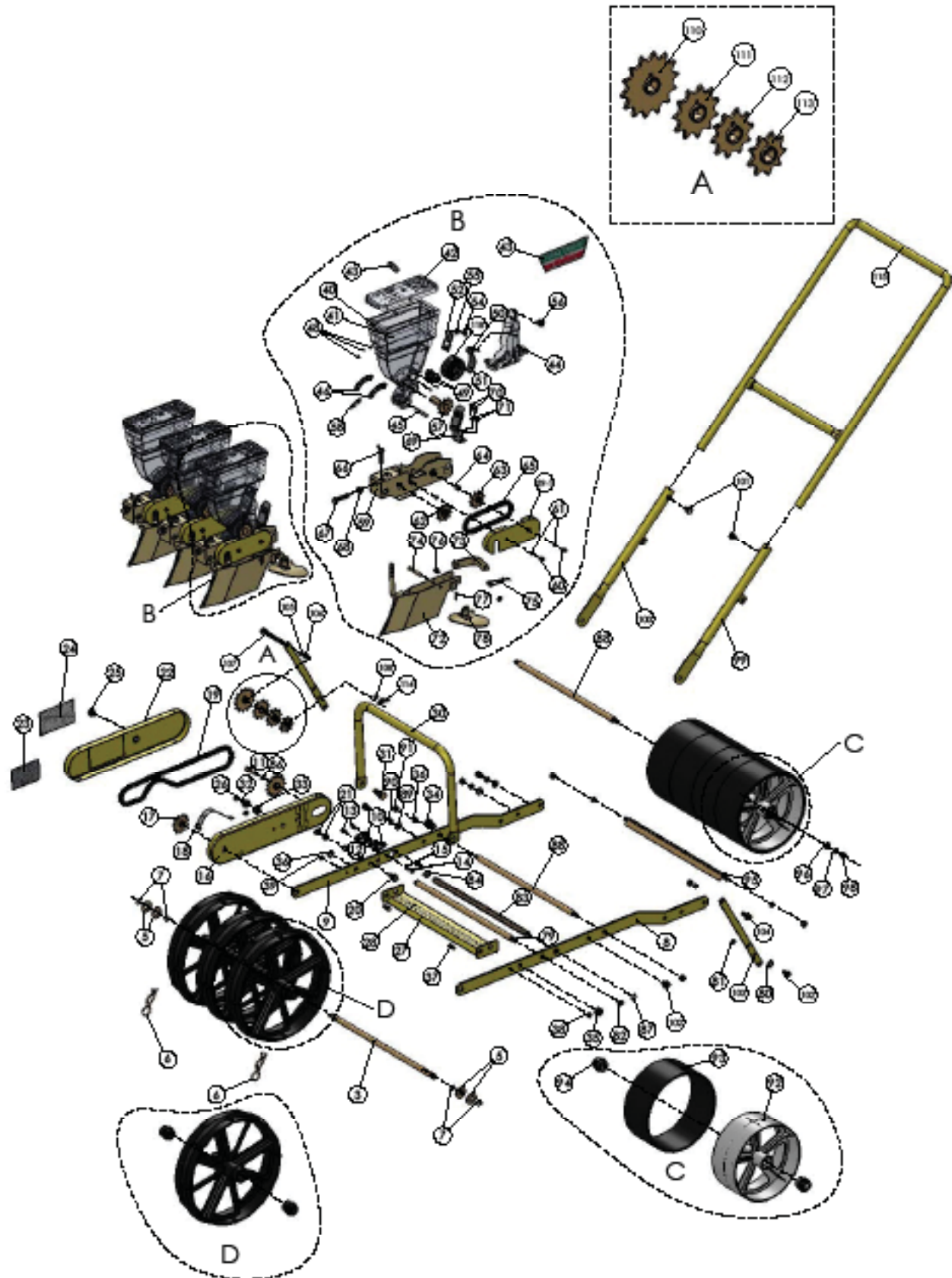
JSS3 - 2.95in **JSS2 - 2.36in**
Spreading Shoe

14. Three spreading shoes are available. 2.36", 2.95", and 4.72" wide. By using a 24 or 36" hole rollers or paddle rollers like the N, U or S many seeds can be spread over a wide area. Used for greens and other crops where a dense amount of seed is needed.

General Tips

- * Work soil so ground is loose and level. Roto-tilling is best.
- * Optimal speed is about 1.5 MPH - Actual seed spacing may vary depending on soil condition and operating speed.
- * Check seed rollers for waste or residue build up.
- * Clean roller.
- * Check seed depth
- * Check for correct seed spacing in field when starting to seed. Seed should be dry.
- * Lubricate chain and other moving parts (not the roller)
- * Check brush and guide plate for wear. Larger seeds like corn or beans may bridge in hopper. Watch for it and tap hopper to keep seeds flowing.

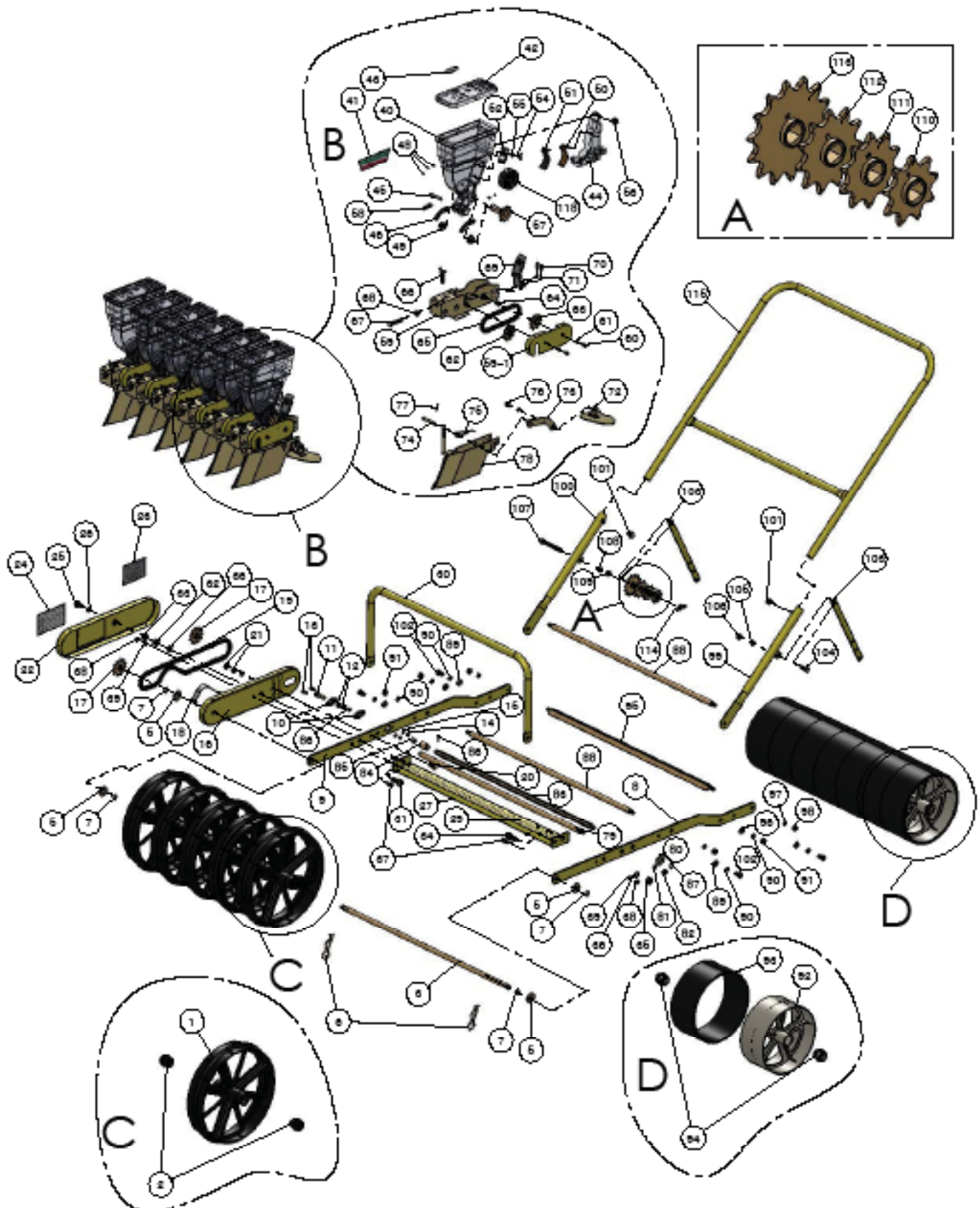
JP - 3 PARTS



JP-3 PARTS LIST

1	JPT1	Driving Wheel	62	JJP62	Hex Sprocket 10T
2	JPT2	Driving Wheel Spacer	63	JJP63	Idle Sprocket 10T
3	JPT3	Driving Wheel Shaft 012x414L	64	JJP64	DU Bushing 8x10
5	11P5	Flat Washer M12XD28x2.0T	65	JJP65	Chain #410x26L
6	JJP6	R Pin R2.9x64L	66	JJP66	Wing Bolt M8x30L
7	JJP7	C Ring	67	JJP67	Hex Bolt M8x40L
8	JPT8	Frame - L 4.5T	68	JJP68	Hex Nut M8
9	JPT9	Frame - R 4.5T	69	JJP69	Grip 1.2T
10	JJP10	Bearing Case 1.6T	70	JJP70	Hex Bolt(SUS) M4x10L
11	JJP11	Clutch Shaft 012x36.4L	71	JJP71	Spring Washer (SUS) M4
12	JJP12	Bearing	72	JJP72	Plow
13	JJP13	Bolt(+) M5x16L	73	JJP73	Plow Arm
14	JJP14	Hex Nut M5	74	JJP74	Plow Head Pin 06x45L
15	JJP15	Spring Washer M5	75	JJP75	Torsion Spring 02
16	JPT16	Chain Cover	76	JJP76	Hex Sem's Bolt M6x10L(S/W)
17	JJP17	Chain Gear 11T	77	JJP77	Snap Pin 1.5X20L
18	JJP18	Chain Tension Spring 15x0.3T	78	JJP78	Soil Recovering Plate
19	JPT19	Chain #410x58L	79	JPT79	Guide Shaft (Front) 013X399L
20	JJP76	Flange Bolt M8x20L	80	JJP104	Flat Washer M8
21	JJP68	Hex Nut M8	81	JJP90	Spring Washer M8
22	JPT22	Chain Cover 1.0T	82	JJP91	Hex Nut M8
23	JJP23	Profile Table	83	JPT83	Hex Shaft 12x376
24	JJP24	Spacing Chart	84	JJP84	Clutch Bearing Collar 016 x 23L
25	JJP25	Knob M6x11L	85	JJP85	One Way Clutch Bearing
26	JJP26	Flat Washer M6	86	JJP86	Spring Pin 3 x 16L
27	JPT27	Row Marker B.R.K.	87	JJP70	C-Ring
28	JPT28	Grid Nameplate	88	JPT88	Guide Shaft(rear), Suppression Wheel 013x411L
29	JPT29	Row Stickers	89	JJP104	Flat Washer M8
30	JPT30	Carrier Handle 019.1x1.6T	90	JJP90	Spring Washer M8
31	JPT31	Hex Bolt M10x27L	91	JJP91	Hex Nut M8
32	JPT32	Hex Jamb Nut M10	92	JJP92	Packing Wheel
33	JPT33	Hex Nut M10	93	JJP93	Packing Wheel Rubber 88x633Lx5.0T
34	JPT34	Hex Bolt M10x20L	94	JJP94	Packing Wheel Spacer
35	JPT32	Hex Jamb Nut M10	95	JPT95	Packing Wheel Scraper
36	JPT36	Spring Washer M10	96	JJP104	Flat Washer M8
37	JPT37	Hex Bolt M6x15L	97	JJP90	Spring Washer M8
38	JJP33	Hex Nut M6	98	JJP91	Hex Nut M8
39	JJP35	Spring Washer M6	99	JPT99	T-Handle B Assy(L)
40	JJP40	Hopper	100	JPT100	T-Handle B Assy(R)
41	JJP41	CLEAN SEEDER Stickers	101	JJP101	Knob M6x11L
42	JJP42	Hopper Cover	102	JPT102	Hex Sem's Bolt M8x16L
43	JJP43	Spot Seeding Mark Sticker	103	JPT103	Handle B Support 3.2T
44	JJP44	Hopper Case	104	JJP76	Flange Bolts M8x20L
45	JJP45	Hopper Case Shaft 06x46L	105	JJP90	Spring Washer M8
46	JJP46	Roll Rib	106	JJP91	Hex Nut M8
48	JJP48	(+) Truss Bolt (SUS) M2x5L	107	JPT107	Hex Bolt M8X60L
49	JJP49	Oilless Bushing	108	JJP90	Spring Washer M8
50	JJP50	Guide Plate 0.5T	109	JJP91	Hex Nut M8
52	JJP53	Brush	110	JJP110	Sprocket 9T
54	JJP54	Wing Bolt M5x8L	111	JJP111	Sprocket 10T
55	JJP55	Flat Washer M5	112	JJP112	Sprocket 13T
56	JJP56	Knob M5x9L	113	JJP113	Sprocket 14T
57	JJP57	Hopper Sprocket	114	JPT114	Wing Nut M8
58	JJP58	R Pin R2 x44L (16)	115	JPT115	Handle C
59	JJP59	Hopper Block	A	JJPD	Spacing Sprocket Set
59-1	JJP59-T	Chain Cover 1.0T	B	JPROWADD	Complete Hopper & Block Assembly
60	JJP60	Hex Bolt M5X10L	C	JPTC	3-Row Packing Wheel Assembly
61	JJP15	Spring Washer M5	D	JPTD	3-Row Drive Wheel Assembly

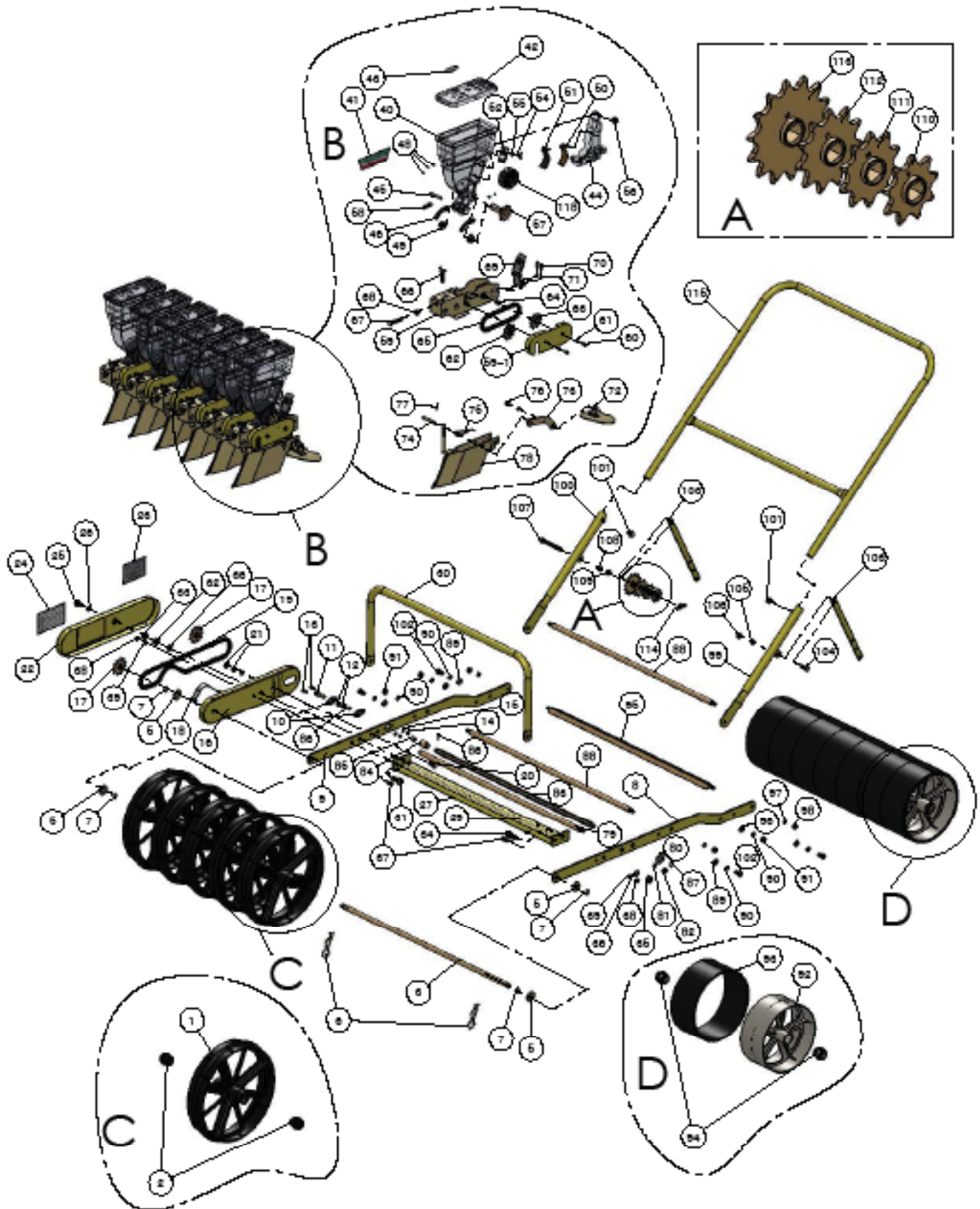
JP - 6 PARTS



JP-6 PARTS LIST

1	JPT1	Driving Wheel	63	JJP63	Idle Sprocket 10T
2	JPT2	Driving Wheel Spacer	64	JJP64	DU Bushing 8x10
3	JPT3	Driving Wheel Shaft 012x414L	65	JJP65	Chain #410x26L
5	11P5	Flat Washer M12XD28x2.0T	66	JJP66	Wing Bolt M8x30L
6	JJP6	R Pin R2.9x64L	67	JJP67	Hex Bolt M8x40L
7	JJP7	C Ring	68	JJP68	Hex Nut M8
8	JPT8	Frame- L 4.5T	69	JJP69	Grip 1.2T
9	JPT9	Frame - R 4.5T	70	JJP70	Hex Bolt(SUS) M4x10L
10	JJP10	Bearing Case 1.6T	71	JJP71	Spring Washer (SUS) M4
11	JJP11	Clutch Shaft 012x36.4L	72	JJP72	Plow
12	JJP12	Bearing	73	JJP73	Plow Arm
13	JJP13	Bolt(+) M5x16L	74	JJP74	Plow Head Pin 06x45L
14	JJP14	Hex Nut M5	75	JJP75	Torsion Spring 02
15	JJP15	Spring Washer M5	76	JJP76	Sem's Bolt M6x10L(S/W)
16	JPT16	Chain Cover	77	JJP77	Snap Pin 1.5X20L
17	JJP17	Chain Gear 11T	78	JJP78	Soil Recovering Plate
18	JJP18	Chain Tension Spring 15x0.3T	79	JPT79	Guide Shaft (Front) 013X657L
19	JPT19	Chain #410x58L	80	JJP104	Flat Washer M8
20	JJP76	Flange Bolt M8x20L	81	JJP90	Spring Washer M8
21	JJP68	Hex Nut M8	82	JJP91	Hex Nut M8
22	JPT22	Chain Cover 1.0T	83	JPT83	Hex Shaft 12x635
23	JJP23	Profile Table	84	JJP84	Clutch Bearing Collar 016 x 23L
24	JJP24	Spacing Chart	85	JJP85	One Way Clutch Bearing
25	JJP25	Knob M6x11L	86	JJP86	Spring Pin 3 x 16L
26	JJP26	Flat Washer M6	87	JJP70	C-Ring S-12
27	JPT27	Row Marker B.R.K.	88	JPT88	Guide Shaft(rear), Suppression Wheel 013x6'
28	JPT28	Grid Nameplate	89	JJP63	Hex Sprocket 10T
29	JPT29	RowStickers	90	JJP64	Idle Sprocket 10T
30	JPT30	Carrier Handle 019.1x1.6T.	91	JJP65	DU Bushing 8x11
31	JPT31	Hex Bolt M10x27L	92	JJP66	Chain #410x26L
32	JPT32	Hex Jamb Nut M10	93	JJP67	Wing Bolt M8x30L
33	JPT33	Hex Nut M10	94	JJP68	Hex Bolt M8x40L
34	JPT34	Hex Bolt M10x20L	95	JJP69	Hex Nut M9
36	JPT36	Spring Washer M10	96	JJP70	Grip 1.2T
37	JPT37	Hex Bolt M6x15L	97	JJP71	Hex Bolt(SUS) M4x10L
38	JJP33	Hex Nut M6	98	JJP63	Hex Sprocket 10T
39	JJP35	Spring Washer M5	99	JJP64	Idle Sprocket 10T
40	JJP40	Hopper	100	JJP65	DU Bushing 8x11
41	JJP41	CLEAN SEEDER Stickers	101	JJP66	Chain #410x26L
42	JJP42	Hopper Cover	102	JJP67	Wing Bolt M8x30L
43	JJP43	Spot Seeding Mark Sticker	103	JJP68	Hex Bolt M8x40L
44	JJP44	Hopper Case	104	JJP69	Hex Nut M9
45	JJP45	Hopper Case Shaft 06x46L	105	JJP70	Grip 1.2T
46	JJP46	Roll Rib	106	JJP71	Hex Bolt(SUS) M4x10L
48	JJP48	(+) Truss Bolt (SUS) M2x5L	107	JJP72	Spring Washer (SUS) M5
49	JJP49	Oilless Bushing	108	JJP73	Plow
50	JJP50	Guide Plate 0.5T	109	JJP74	Plow Arm
52	JJP53	Brush	110	JJP75	Plow Head Pin 06x45L
54	JJP54	Wing Bolt M5x8L	111	JJP76	Torsion Spring 03
55	JJP55	Flat Washer M5	112	JJP77	Sem's Bolt M6x10L(S/W)
56	JJP56	Knob M5x9L	113	JJP78	Snap Pin 1.5X20L
57	JJP57	Hopper Sprocket 10T	114	JJP79	Soil Recovering Plate
58	JJP58	R Pin R2x44L (I6)	115	JPT80	Guide Shaft (Front) 013X657L
59	JJP59	Hopper Block	A	JJPD	Spacing Sprocket Set
59-1	JJP59-T	Chain Cover 1.0T	B	JPROWADD	Complete Hopper & Block Assembly
60	JJP60	Hex Bolt M5X10L	C	JPSC	6-row Drive Wheel Assembly
61	JJP15	Spring Washer M5	D	JPSD	6-Row Packing Wheel Assembly
62	JJP62	Hex Sprocket 10T			

JP - 6W PARTS



JP-6W PARTS LIST

1	JPT1	Driving Wheel	62	JJP62	Hex Sprocket 10T
2	JPT2	Driving Wheel Spacer	63	JJP63	Idle Sprocket 10T
3	JPW3	Driving Wheel Shaft 012x674L	64	JJP64	DU Bushing 8x10
5	11P5	Flat Washer M12XD28x2.0T	65	JJP65	Chain #410x26L
6	JJP6	R Pin R2.9x64L	66	JJP66	Wing Bolt M8x30L
7	JJP7	C Ring	67	JJP67	Hex Bolt M8x40L
8	JPT8	Frame- L 4.5T	68	JJP68	Hex Nut M8
9	JPT9	Frame - R 4.5T	69	JJP69	Grip 1.2T
10	JJP10	Bearing Case 1.6T	70	JJP70	Hex Bolt(SUS) M4x10L
11	JJP11	Clutch Shaft 012x36.4L	71	JJP71	Spring Washer (SUS) M4
12	JJP12	Bearing	72	JJP72	Plow
13	JJP13	Bolt(+) M5x16L	73	JJP73	Plow Arm
14	JJP14	Hex Nut M5	74	JJP74	Plow Head Pin 06x45L
15	JJP15	Spring Washer M5	75	JJP75	Torsion Spring 02
16	JPT16	Chain Cover	76	JJP76	Sem's Bolt M6x10L(S/W)
17	JJP17	Chain Gear 11T	77	JJP77	Snap Pin 1.5X20L
18	JJP18	Chain Tension Spring 15x0.3T	78	JJP78	Soil Recovering Plate
19	JPT19	Chain #410x58L	79	JPT79	Guide Shaft (Front) 013X657L
20	JJP76	Flange Bolt M8x20L	80	JJP104	Flat Washer M8
21	JJP68	Hex Nut M8	81	JJP90	Spring Washer M8
22	JPT22	Chain Cover 1.0T	82	JJP91	Hex Nut M8
23	JJP23	Profile Table	83	JPT83	Hex Shaft 12x635
24	JJP24	Spacing Chart	84	JJP84	Clutch Bearing Collar 016 x 23L
25	JJP25	Knob M6x11L	85	JJP85	One Way Clutch Bearing
26	JJP26	Flat Washer M6	86	JJP86	Spring Pin 3 x 16L
27	JPW27	Row Marker B.R.K.	87	JJP70	C-Ring S-12
28	JPW28	Grid Nameplate	88	JPT88	Guide Shaft(rear), Suppression Wheel 013x670L
29	JPW29	Row Stickers	89	JJP104	Flat Washer M8
30	JPW30	Carrier Handle 019.1x1.6T	90	JJP90	Spring Washer M8
31	JPT31	Hex Bolt M10x27L	91	JJP91	Hex Nut M8
32	JPT32	Hex Jamb Nut M10	92	JJP92	Packing Wheel
33	JPT33	Hex Nut M10	93	JJP93	Packing Wheel Rubber 88x633Lx5.0T
34	JPT34	Hex Bolt M10x20L	94	JJP94	Packing Wheel Spacer
35	JPT32	Hex Jamb Nut M10	95	JPT95	Packing Wheel Scraper
36	JPT36	Spring Washer M10	96	JJP104	Flat Washer M8
37	JPT37	Hex Bolt M6x15L	97	JJP90	Spring Washer M8
38	JJP33	Hex Nut M6	98	JJP91	Hex Nut M8
39	JJP35	Spring Washer M6	99	JPT99	T-Handle B Assy(L)
40	JJP40	Hopper	100	JPT100	T-Handle B Assy(R)
41	JJP41	CLEAN SEEDER Stickers	101	JJP101	Knob M6x11L
42	JJP42	Hopper Cover	102	JPT102	Hex Sem's Bolt M8x16L
43	JJP43	Spot Seeding Mark Sticker	103	JPT103	Handle B Support 3.2T
44	JJP44	Hopper Case	104	JJP76	Flange Bolts M8x20L
45	JJP45	Hopper Case Shaft 06x46L	105	JJP90	Spring Washer M8
46	JJP46	Roll Rib	106	JJP91	Hex Nut M8
48	JJP48	(+) Truss Bolt (SUS) M2x5L	107	JPT107	Hex Bolt M8X60L
49	JJP49	Oilless Bushing	108	JJP90	Spring Washer M8
50	JJP50	Guide Plate 0.5T	109	JJP91	Hex Nut M8
52	JJP53	Brush	110	JJP110	Sprocket 9T
54	JJP54	Wing Bolt M5x8L	111	JJP111	Sprocket 10T
55	JJP55	Flat Washer M5	112	JJP112	Sprocket 13T
56	JJP56	Knob M5x9L	113	JJP113	Sprocket 14T
57	JJP57	Hopper Sprocket	114	JPT114	Wing Nut M8
58	JJP58	R Pin R2 x44L (16)	115	JPW115	Handle C
59	JJP59	Hopper Block	A	JJPD	Spacing Sprocket Set
59-1	JJP59-T	Chain Cover 1.0T	B	JPWADD	Complete Hopper & Block Assembly
60	JJP60	Hex Bolt M5X10L	C	JPWC	6-Row Wide Drive Wheel Assembly
61	JJP15	Spring Washer M5	D	JPWD	6-Row Wide Packing Wheel Assembly

Available Seed Rollers

A - 6	\$21	R-24	\$26
AA - 6	\$21	S-4	\$31
BL-12	\$31	U-4	\$31
C-6	\$21	X-4	\$21
C-12	\$21	X-6	\$21
F-6	\$21	X-12	\$21
F-12	\$21	X-24	\$26
F-24	\$26	XY-4	\$31
G-6	\$26	XY-12	\$31
G-12	\$21	XY-24	\$31
J-2	\$21	XY-36	\$41
J-4	\$21	XYY-12	\$31
J-8	\$21	XYY-24	\$31
L-12	\$21	XYY-36	\$41
L-24	\$26	Y-4	\$21
LJ-6	\$21	Y-6	\$21
LJ-12	\$21	Y-12	\$21
LJ-24	\$26	Y-24	\$26
M-6	\$21	YX-4	\$21
M-12	\$21	YX-6	\$21
MJ-4	\$21	YX-12	\$21
MJ-6	\$21	YX-24	\$26
MJ-12	\$21	YYJ-6	\$21
MJ-24	\$26	YYJ-12	\$21
MM-12	\$21	YYJ-24	\$26
MM-24	\$26	YYX-12	\$21
N-6	\$31	YYX-24	\$26
Q-6	\$21	YYX-36	\$31
Q-12	\$21	Z-Blank	\$21
R-12	\$21	Custom	\$41

Roller	Hole Size		Hole Depth
	mm	Inches	
A	13.5	17/32	6.0
AA	12	15/32	6.0
B	10	25/64	7.5
C	11	16-Jul	5.5
R	9	23/64	3.5
G	9	23/64	4.5
Q	8	5/16	3.0
LJ	7.5	19/64	3.7
LJ	7	17/64	2.5
MM	6	15/61	2.5
MJ	6	15/64	3.5
M	5	13/64	2.0
F	5	13/64	2.5
X	4	5/32	2.0
Y	3.5	9/64	1.5
YYJ	3	1/8	1.7
YX	2.5	7/64	1.5

Seed Name or a Seed of Comparable Size:	Recommended Roller
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Arugula	YX
Basil	YYJ
Bean-Green	N
Beet	LJ
Broccoli	Y
Cabbage	Y
Carrot	Y
Carrot (coated)	MJ
Cauliflower	Y
Cilantro	MJ
Chia	YYJ
Collard	Y
Corn	A, AA, N
Cotton	C
Cucumber	J
Cut Flower	Send Samples
Flax	LJ
Kale	X
Lettuce (Coated)	MJ
Lettuce (Raw)	XY
Mache	F
Mustard	YYJ
Okra	LJ
Onion (Coated)	MJ
Onion (Raw)	X
Pea	BL
Pepper	MJ
Radish	X
Rutabaga	Y
Sorghum	MJ
Sorghum (Coated)	LJ
Soy	BL
Spinach	F
Sunflower	Send Samples
Swiss Chard	LJ
Tree Seed	Send Samples
Turnip	YYJ
Blank Roller	Z