Taylor-Way

REG. U. S. PAT. OFF.

PARTS LIST

Setting-up and Operating Instructions for

EXTRA HEAVY-DUTY WING TYPE TANDEM HARROW

Spring Assist or Hydraulic Folding Wings
22" OR 24" DISCS

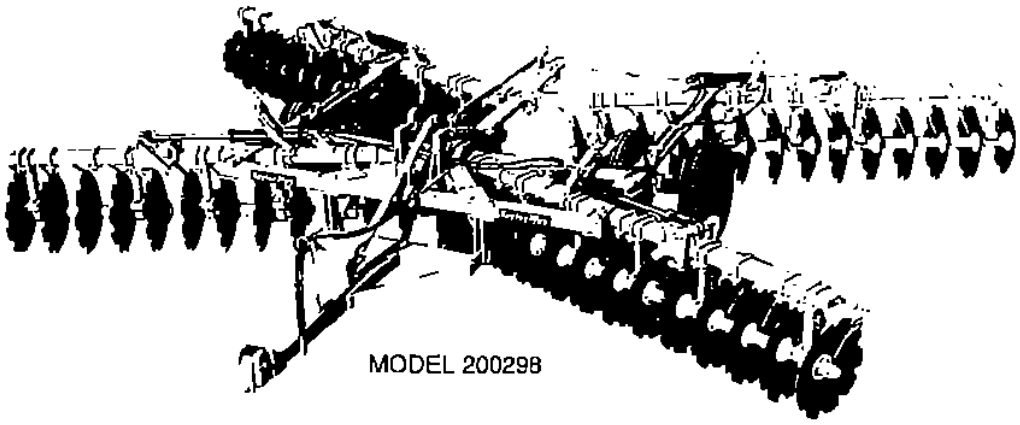
TRANSPORT WIDTH — 15 FEET, 10 INCHES

REGREASEABLE BALL BEARINGS — 10" DISC SPACING — 1¼" SQUARE AXLE

Model Number	Size of Wings	No. of Discs	No. of Bearings	Width of Cut	Approximate Weight 22"x3/16" C.O.	22"x¼" C.O.	24"x3/16" C.O.	24"x¼" C.O.	Suggested D.B.H.P.
200295	Basic Unit, Less Wings	32	16	13' 6"	5420	5610	5475	5765	90
200296	With 3-Disc Front, 4-Disc Rear	46	24	18' 3"	7055	7330	7130	7545	120
200297	With 4-Disc Front, 5-Disc Rear	50	24	19' 10"	7380	7680	7465	7915	130
200298	With 5-Disc Front, 6-Disc Rear	54	24	21' 5"	7705	8030	7800	8285	140

		9" DISC SPACING			Approximate Weight 22"x3/16" C.O.	22"x¼" C.O.	24"x3/16" C.O.	24"x¼" C.O.	Suggested D.B.H.P.
200300	Basic Unit, Less Wings	36	16	13' 7"	5560	5775	5640	5965	90
200301	With 3-Disc Front, 4-Disc Rear	50	24	17' 10"	7195	7495	7295	7745	120
200302	With 4-Disc Front, 5-Disc Rear	54	24	19' 4"	7520	7845	7630	8116	130
200303	With 5-Disc Front, 6-Disc Rear	58	24	20' 9"	7845	8195	7964	8485	140

Shipped with 15" x 6" Rims as Standard Equipment, see Optional Equipment for Floatation Rims. Tires and Hydraulic Cylinder for transport not furnished, use standard ASAE 8" stroke double or single action Hydraulic Cylinder. Four 2½" x 16" double action Hydraulic Cylinders with all hoses and fittings shipped as Standard Equipment on implements ordered with Hydraulic Folding Wings, Shipped with standard clevis unless special clevis for double lip drawbar is specified. Basic unit model shipped less Wing Springs or Hydraulic Cylinders, hoses and fittings. On implements equipped with wings the outside disc on the front wings are tapered 2" and the outside two discs on the rear wings are tapered 2" and 4" Discs are not tapered on the Basic Unit Models shipped less wings.



MODEL 200298

TAYLOR IMPLEMENT DIVISION

PITTSBURGH FORGINGS CO.

TRACTOR DRAWN Taylor-Way IMPLEMENTS

REG U S PAT OFF

ATHENS, TENNESSEE 37303—TELEPHONE (AREA CODE 615) 745-3110

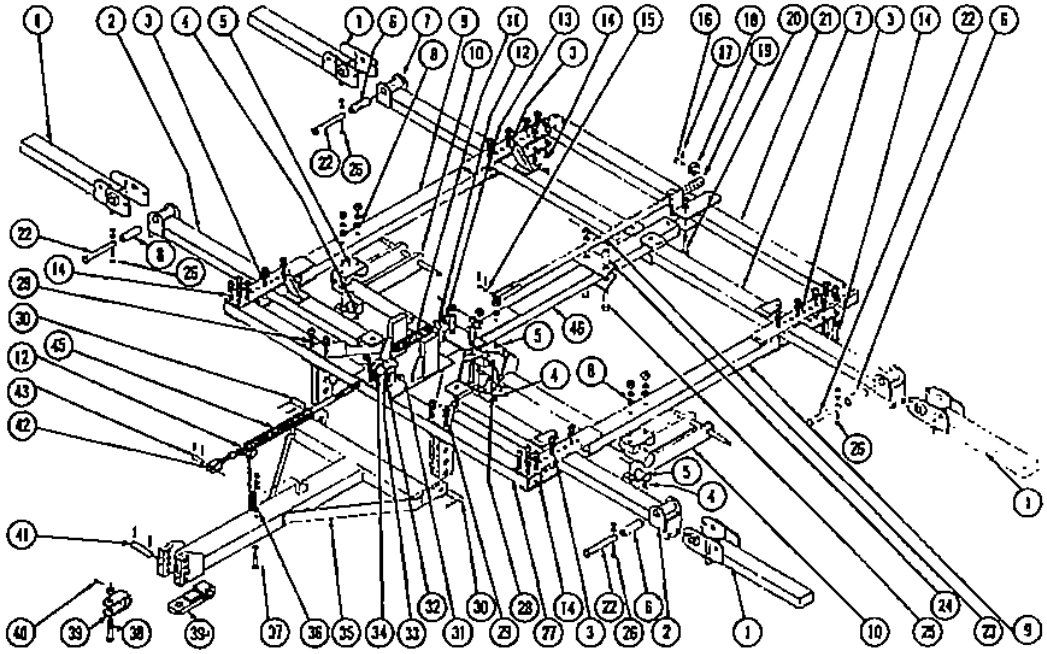
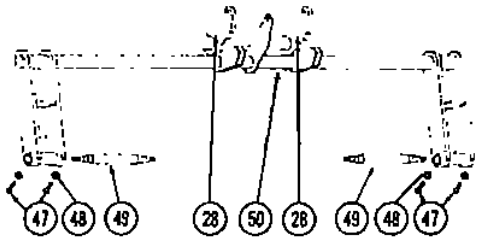


FIG. 1 — BASIC FRAME FOR MODEL 200295 THRU 200303



WHEEL LIFT ASSEMBLY

Item No.	Part Number	FOR MODEL 200 295	200 296	200 297	200 298	200 300	200 301	200 302	200 303	Description	Size
1	208507	0	2	0	0	0	2	0	0	Front Wing Frame	3D
	208517	0	2	2	0	0	2	2	0	R.F. or L.R. Wing Frame	4D
	208518	0	0	2	2	0	0	2	2	R.F. or L.R. Wing Frame	5D
	208519	0	0	0	2	0	0	0	2	Rear Wing Frame	6D
2	208501	2	2	2	2	2	2	2	2	Front Gang Frame	
		2	2	2	2	2	2	2	2	Alemite	1/8"
3		8	8	8	8	8	8	8	8	Bolt w/Nut H.T.	3/4"x5 1/2"
		8	8	8	8	8	8	8	8	Lock Washer	3/4"
4		6	6	6	6	6	6	6	6	Bolt w/Nut, H.T.	3/4"x9"
		6	6	6	6	6	6	6	6	Lock Washer	3/4"
5	207010	6	6	6	6	6	6	6	6	Wheel Axle Bearing	
		3	3	3	3	3	3	3	3	Alemite, Straight	1/8"
6	207949	0	4	4	4	0	4	4	4	Hinge Bearing	
7	208506	2	2	2	2	2	2	2	2	Rear Gang Frame	
		2	2	2	2	2	2	2	2	Alemite	1/8"
8		4	4	4	4	4	4	4	4	Flat Washer	3/4"
9	208294	2	2	2	2	2	2	2	2	Side Frame	
10	207868	1	1	1	1	1	1	1	1	Wheel Axle. Repairs Only (See Item 50)	
11	206325	1	1	1	1	1	1	1	1	Top Spring	

Item No.	Part Number	FOR MODEL 200 295	200 296	200 297	200 298	200 300	200 301	200 302	200 303	Description	Size
12	205163	2	2	2	2	2	2	2	2	Special Flat Washer	
13		1	1	1	1	1	1	1	1	Heavy Hex Nut	1⅜"
14		16	16	16	16	16	16	16	16	Bolt w/Nut	¾"x5½"
		16	16	16	16	16	16	16	16	Lock Washer	¾"
15	204215	1	1	1	1	1	1	1	1	Depth Connector Pin	
		2	2	2	2	2	2	2	2	Cotter	5/16"x1½"
16	203058	1	1	1	1	1	1	1	1	Depth Adjustment Pin	
17	205829	1	1	1	1	1	1	1	1	Hitch Pin Clip	
18	204683	1	1	1	1	1	1	1	1	Depth Adjustment Cuff	
19	206671	1	1	1	1	1	1	1	1	Depth Control Bar	
20		1	1	1	1	1	1	1	1	Bolt w/Nut	¾"x5"
		1	1	1	1	1	1	1	1	Lock Washer	¾"
21	206667	1	1	1	1	1	1	1	1	Rear Cross Frame	
22	207963	0	4	4	4	0	4	4	4	Wing Connector Pin	
23		4	4	4	4	4	4	4	4	Hex Slotted Nut	⅞"
24	206696	4	4	4	4	4	4	4	4	Bushing	
25	206758	4	4	4	4	4	4	4	4	Gang Bolt	⅞"x6½"
		4	4	4	4	4	4	4	4	Cotter	3/16"x1½"
26		0	4	4	4	0	4	4	4	Bolt w/Nut	⅜"x3½"
		0	4	4	4	0	4	4	4	Lock Washer	⅜"
27	206649	1	1	1	1	1	1	1	1	Front Cross Tube	
28	207141	2	2	2	2	2	2	2	2	Hydraulic Cylinder Bracket	
	208863	2	2	2	2	2	2	2	2	Tension Bushing	1" ID x ⅛" W
29		4	4	4	4	4	4	4	4	Bolt w/Nut	¼"x5½"
		4	4	4	4	4	4	4	4	Lock Washer	¾"
30	206666	2	2	2	2	2	2	2	2	Tongue Connector Pin	
		4	4	4	4	4	4	4	4	Cotter	⅜"x2"
31	203748	2	2	2	2	2	2	2	2	Shoulder Bolt	
		2	2	2	2	2	2	2	2	Lock Washer	⅞"
32		2	2	2	2	2	2	2	2	Bolt w/Nut	¾"x4½"
		2	2	2	2	2	2	2	2	Lock Washer	¾"
33		1	1	1	1	1	1	1	1	Alemite, Straight	⅛"
34	203742	1	1	1	1	1	1	1	1	Spring Rod Slide	
35	208388	1	1	1	1	1	1	1	1	Tongue	
	208867	1	1	1	1	1	1	1	1	Tongue Screw Jack	
36	206553	1	1	1	1	1	1	1	1	Hose Holder	
37		1	1	1	1	1	1	1	1	Bolt w/Nut	½"x5"
		1	1	1	1	1	1	1	1	Lock Washer	½"
		2	2	2	2	2	2	2	2	Flat Washer	½"
38	206123	1	1	1	1	1	1	1	1	Clevis Bolt w/Nut H.T.	1"x5½"
39	207871	1	1	1	1	1	1	1	1	Clevis	
	604005	1	1	1	1	1	1	1	1	Double Draw Bar Clevis (Optional)	
	604780	1	1	1	1	1	1	1	1	Bushing	
40	205831	1	1	1	1	1	1	1	1	Special Cotter	
41	204459	1	1	1	1	1	1	1	1	Pin	
		2	2	2	2	2	2	2	2	Cotter	½"x3"
42	206808	1	1	1	1	1	1	1	1	Spring Rod	
43	203100	1	1	1	1	1	1	1	1	Spring Rod Pin	
		2	2	2	2	2	2	2	2	Cotter	5/16"x1½"
45	204364	1	1	1	1	1	1	1	1	Spring	
46	207864	1	1	1	1	1	1	1	1	Center Frame	
47		4	4	4	4	4	4	4	4	Set Screw	¾"x1¼"
48		4	4	4	4	4	4	4	4	Jam Nut	¾"
49	206443	2	2	2	2	2	2	2	2	Stub Axle	1¾"x23"
50	208884	1	1	1	1	1	1	1	1	Wheel Axle	

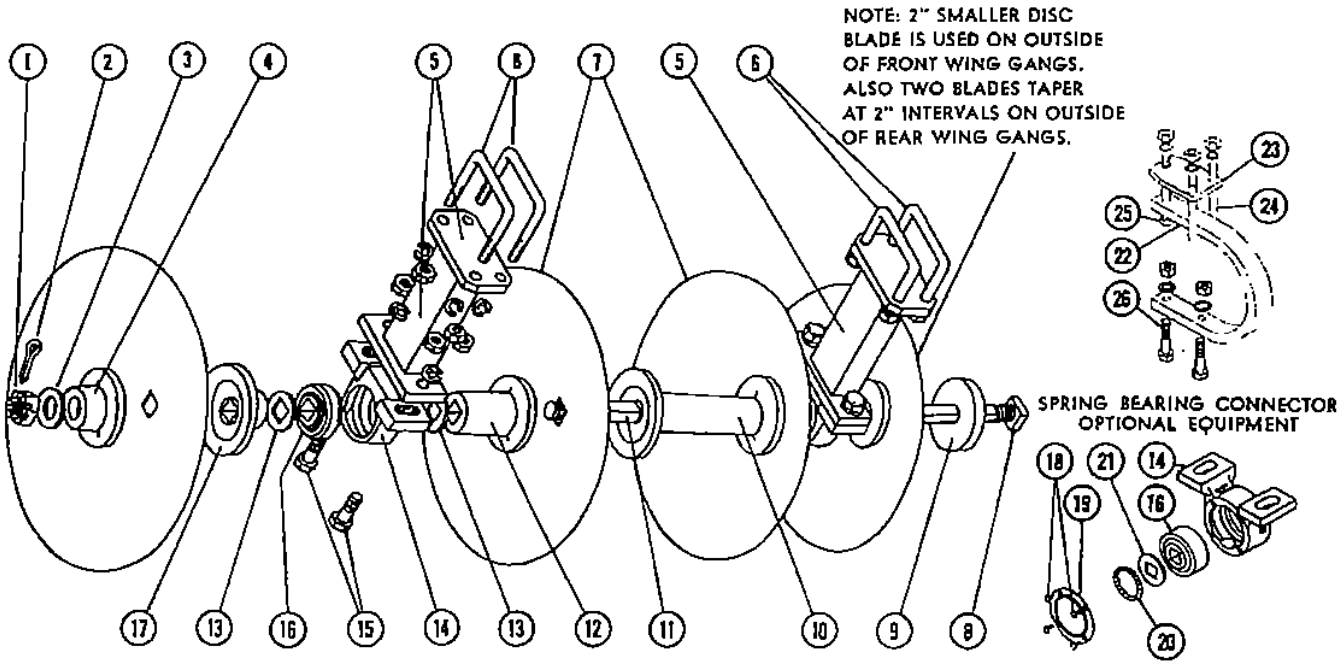


FIG. 2 — DISC GANG ASSEMBLY

Item No.	Part Number	FOR MODEL 200 295	200 296	200 297	200 298	200 300	200 301	200 302	200 303	Description
1	304042	8	12	12	12	8	12	12	12	Hex Slotted Nut
2	304142	8	12	12	12	8	12	12	12	Cotter
3	303979	8	12	12	12	8	12	12	12	Washer
4	204438	8	12	12	12	8	12	12	12	End Washer
5	206682	16	24	24	24	16	24	24	24	Bearing Connector
6	206328	32	48	48	48	32	48	48	48	U-Bolt
		64	96	96	96	64	96	96	96	Nut
		64	96	96	96	64	96	96	96	Lock Washer
7	208837	0	0	0	0	36	44	48	52	22" x 3/16" Rd. Disc
	208836	0	0	0	0	36	44	48	52	22" x 3/16" C.O. Disc
	207904	0	0	0	0	36	44	48	52	24" x 3/16" Rd. Disc
	207903	0	0	0	0	36	44	48	52	24" x 3/16" C.O. Disc
	207910	32	40	44	48	36	44	48	52	22" x ¼" Rd. Disc
	207909	32	40	44	48	36	44	48	52	22" x ¼" C.O. Disc
	207902	32	40	44	48	36	44	48	52	24" x ¼" Rd. Disc
	207901	32	40	44	48	36	44	48	52	24" x ¼" C.O. Disc
	207906	32	40	44	48	0	0	0	0	26" x ¼" Rd. Disc
	207905	32	40	44	48	0	0	0	0	26" x ¼" C.O. Disc
		Tapered Disc Blades for Wings with 22" Disc Blades								
	207912	0	4	4	4	0	4	4	4	20" x ¼" Rd. Disc
	207911	0	4	4	4	0	4	4	4	20" x ¼" C.O. Disc
	207914	0	2	2	2	0	2	2	2	18" x ¼" Rd. Disc
	207913	0	2	2	2	0	2	2	2	18" x ¼" C.O. Disc
		Tapered Disc Blades for Wings with 24" Disc Blades								
	207910	0	4	4	4	0	4	4	4	22" x ¼" Rd. Disc
	207909	0	4	4	4	0	4	4	4	22" x ¼" C.O. Disc
	207912	0	2	2	2	0	2	2	2	20" x ¼" Rd. Disc
	207911	0	2	2	2	0	2	2	2	20" x ¼" C.O. Disc
		Tapered Disc Blades for Wings with 26" Disc Blades								
	207902	0	4	4	4	0	0	0	0	24" x ¼" Rd. Disc
	207901	0	4	4	4	0	0	0	0	24" x ¼" C.O. Disc
	207910	0	2	2	2	0	0	0	0	22" x ¼" Rd. Disc
	207909	0	2	2	2	0	0	0	0	22" x ¼" C.O. Disc
8	208930	8	12	12	12	8	12	12	12	Square Nut
9	206765	8	12	12	12	8	12	12	12	Butt-Plate
10	207348	8	10	14	18	0	0	0	0	Double End Spacer (10")
	207932	0	0	0	0	12	14	18	22	Double End Spacer (9")

Item No.	Part Number	FOR MODEL 200 295	200 296	200 297	200 298	200 300	200 301	200 302	200 303	Description	Size
11	206805	0	2	0	0	0	0	0	0	3-Disc Axle	27 9/16"
	206634	8	10	10	8	0	0	0	0	4-Disc Axle	37 9/16"
	206635	0	0	2	2	0	0	0	0	5-Disc Axle	47 9/16"
	206806	0	0	0	2	0	0	0	0	6-Disc Axle	57 9/16"
	209311	0	0	0	0	0	2	0	0	3-Disc Axle	24 13/16"
	208267	0	0	0	0	4	6	6	4	4-Disc Axle	33 13/16"
	208178	0	0	0	0	4	4	6	6	5-Disc Axle	42 13/16"
	208174	0	0	0	0	0	0	0	2	6-Disc Axle	51 13/16"
12	206631	16	24	24	24	0	0	0	0	Medium Spacer, Convex 10" Spacing	
	207930	0	0	0	0	16	24	24	24	Medium Spacer, Convex 9" Spacing	
13	204330	32	48	48	48	32	48	48	48	Special Washer	
14	207020	16	24	24	24	16	24	24	24	Bearing Holder (Repairs are shipped with holes for seal cap tapping screws)	
		16	24	24	24	16	24	24	24	Alemite, Straight	1/8"
15		32	48	48	48	32	48	48	48	Bolt w/Nut	3/8"x2 1/2"
		32	48	48	48	32	48	48	48	Lock Washer	3/8"
16	207022	16	24	24	24	16	24	24	24	Ball Bearing	
17	206630	16	24	24	24	16	24	24	24	Short Spacer, Concave	
18	207862	128	192	192	192	128	192	192	192	Tapping Screw	1/4"
19	207789	32	48	48	48	32	48	48	48	Seal Cap	
20	207863	32	48	48	48	32	48	48	48	1/4" Twisted Graphite Packing	
21	209171	32	48	48	48	32	48	48	48	Special Washer	
22	207800	16	24	24	24	16	24	24	24	Spring Bearing Connector Opt.	
23	207837	16	24	24	24	16	24	24	24	Top Plate	
24	207836	16	24	24	24	16	24	24	24	U-Bolt	3/4"
		32	48	48	48	32	48	48	48	Nut	3/4"
		32	48	48	48	32	48	48	48	Lock Washer	3/4"
25		16	24	24	24	16	24	24	24	Bolt w/Nut	7/8"x6"
		16	24	24	24	16	24	24	24	Lock Washer	7/8"
26		32	48	48	48	32	48	48	48	Bolt w/Nut	7/8"x2 3/4"
		32	48	48	48	32	48	48	48	Lock Washer	7/8"
27	208550	16	24	24	24	16	24	24	24	Sealed Regreasable Bearing (Complete). Includes Items 14, 16, 18, 19, 20, 21.	

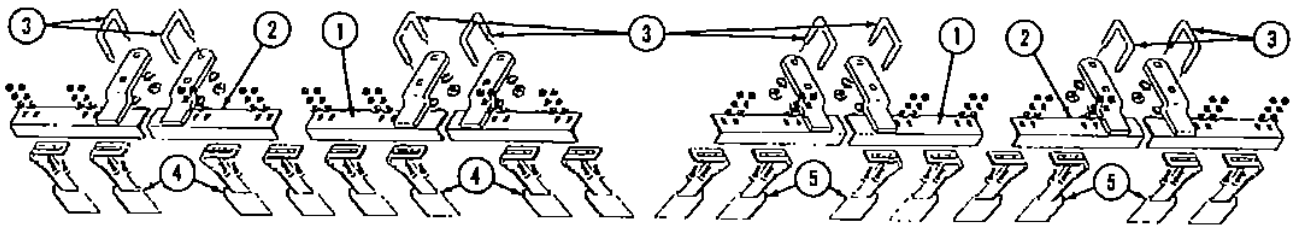


FIG. 4 — SCRAPERS & SCRAPER BARS

Item No.	Part Number	FOR MODEL 200 295	200 296	200 297	200 298	Description	Size
1	207663	4	4	4	4	8-Disc Scraper Bar	
2	207838	0	1	0	0	Right Front 3-Disc Wing Scraper Bar	
	208642	0	0	1	0	Right Front 4-Disc Wing Scraper Bar	
	207660	0	2	0	0	Rear 4-Disc Wing Scraper Bar	
	207782	0	0	2	2	Front & Rear 5-Disc Wing Scraper Bar	
	208225	0	0	0	2	Rear 6-Disc Wing Scraper Bar	
	207841	0	1	0	0	Left Front 3-Disc Wing Scraper Bar	
	208643	0	0	1	0	Left Front 4-Disc Wing Scraper Bar	
3	206328	8	16	16	16	U-Bolt	7/8"
		16	32	32	32	Nut	3/8"
		16	32	32	32	Lock Washer	3/8"
4	206838	16	23	25	27	Left Scraper	
5	206835	16	23	25	27	Right Scraper	
		64	92	100	108	Carriage Bolt w/Nut	1/2"x1 3/4"
		64	92	100	108	Lock Washer	1/2"
		64	92	100	108	Flat Washer	1/2"

Item No.	Part Number	FOR MODEL 200 300	200 301	200 302	200 303	Description	Size
1	206878	4	4	4	4	9-Disc Scraper Bar	
2	207244	0	1	0	0	Right Front 3-Disc Wing Scraper Bar	
	207241	0	1	0	0	Left Front 3-Disc Wing Scraper Bar	
	207966	0	2	0	0	Rear 4-Disc Wing Scraper Bar	
	208639	0	0	1	0	Right Front 4-Disc Wing Scraper Bar	
	208640	0	0	1	0	Left Front 4-Disc Wing Scraper Bar	
	206885	0	0	2	2	Front & Rear 5-Disc Wing Scraper Bar	
	208295	0	0	0	2	Rear 6-Disc Wing Scraper Bar	
3	206833	8	16	16	16	U-Bolt	3/4"
		16	32	32	32	Nut	3/4"
		16	32	32	32	Lock Washer	3/4"
4	206838	18	25	27	29	Left Scraper	
5	206835	18	25	27	29	Right Scraper	
		72	100	108	116	Carriage Bolt w/Nut	1/2"x1 3/4"
		72	100	108	116	Lock Washer	1/2"
		72	100	108	116	Flat Washer	1/2"

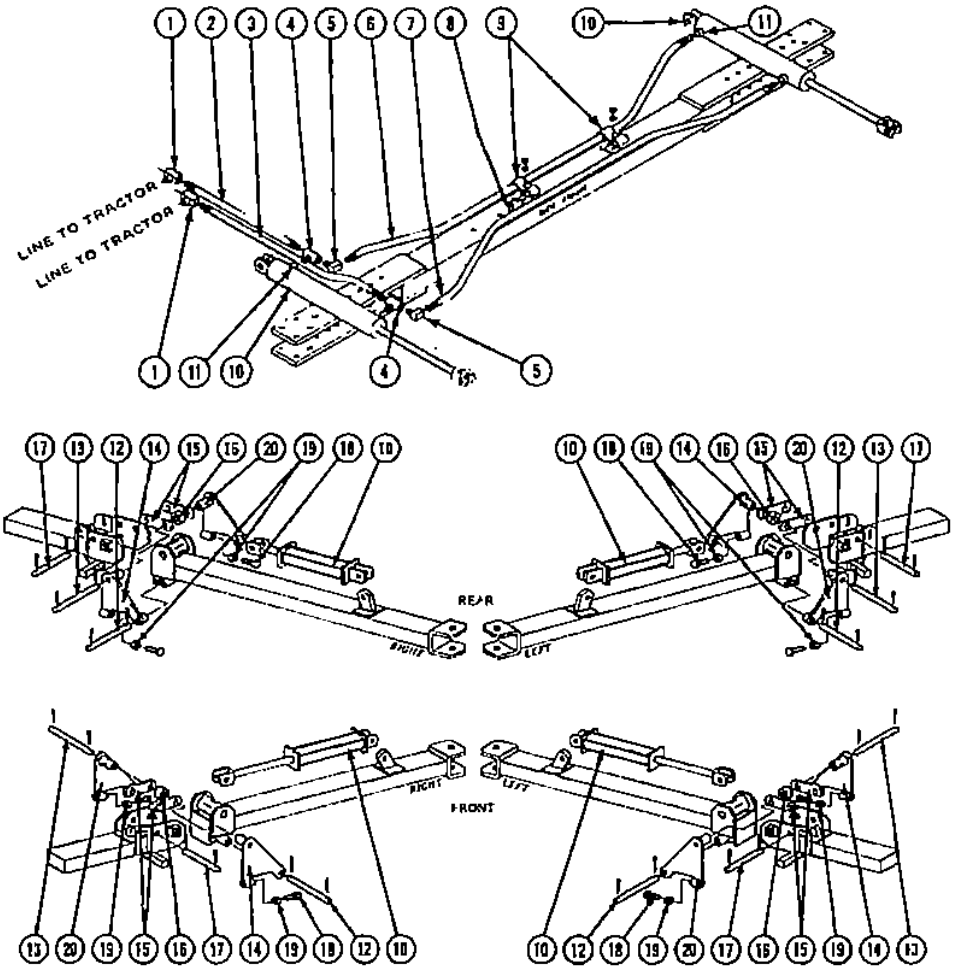


FIG. 5 — HYDRAULIC FOLDING ATTACHMENT (COMPLETE)
MACH. NO. 299057

Item No.	Part Number	FOR MODEL 200 295	200 296	200 297	200 298	200 300	200 301	200 302	200 303	Description	Size
1	207983	0	2	2	2	0	2	2	2	Hydraulic Tee (All Female)	½"
2	207975	0	2	2	2	0	2	2	2	Hydraulic Hose	41"
3	207976	0	2	2	2	0	2	2	2	Hydraulic Hose	60"
4	207981	0	4	4	4	0	4	4	4	Hydraulic Tee	½"
5	207982	0	4	4	4	0	4	4	4	Hydraulic 90° Street Ell	½"
6	207979	0	2	2	2	0	2	2	2	Hydraulic Hose	84"
7	207980	0	2	2	2	0	2	2	2	Hydraulic Hose	105"
8		0	4	4	4	0	4	4	4	Carriage Bolt w/Nut	½"x1½"
		0	4	4	4	0	4	4	4	Lock Washer	½"
9	208259	0	4	4	4	0	4	4	4	Hose Clamp	
10	208546	0	4	4	4	0	4	4	4	Hydraulic Cylinder (Prince)	2½"x16"
	208920	0	4	4	4	0	4	4	4	Hydraulic Cylinder (Hydra-Cyl.)	2½"x16"
11	208569	0	4	4	4	0	4	4	4	Flow Restrictor (Not Shown)	
12	208522	0	4	4	4	0	4	4	4	Hinge Pin	
		0	8	8	8	0	8	8	8	Cotter	⅜"x2"
13	208492	0	4	4	4	0	4	4	4	Hydraulic Cylinder Pin	
		0	8	8	8	0	8	8	8	Cotter	⅜"x2"
14	208527	0	4	4	4	0	4	4	4	Wing Lock (Left)	
15	208520	0	8	8	8	0	8	8	8	Lift Arm	
16	208528	0	4	4	4	0	4	4	4	Roller	
17	208521	0	4	4	4	0	4	4	4	Hinge Pin	
		0	8	8	8	0	8	8	8	Cotter	⅜"x2"
18		0	8	8	8	0	8	8	8	Bolt, H.T.	⅞"x2"
19		0	8	8	8	0	8	8	8	Jam Nut	⅞"
20	208523	0	4	4	4	0	4	4	4	Wing Lock (Right)	

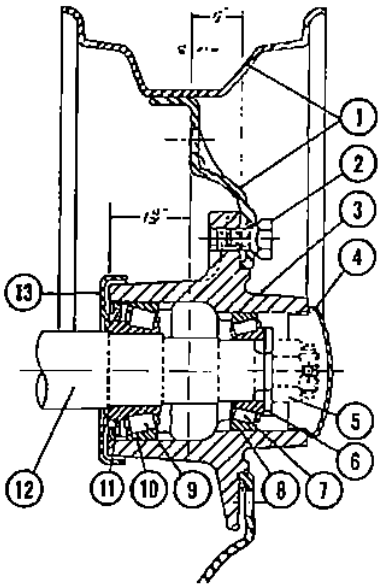


FIG. 3 — WHEEL HUB ASSEMBLY

Wheel Hub (Complete) (See Item 14)
Wheel Hub Repair Kit (See Item 15)

Item No.	Part Number	FOR ALL MODELS 200 295	thru	200 303	Description	Size
1	208634	4			15" x 6" Rims	
	207857	4			15"x10" High Flotation Rim	
2	403817	24			Lug Bolt	
3	204515	4			Wheel Hub w/Two Cups	
4	204523	4			Hub Cap	
5	204522	4			Bearing Adjustment Nut	
		4			Cotter	5/32"x1¼"
6	204521	4			Special Flat Washer	
7	204524	4			Bearing Cone	
8	203021	4			Bearing Cup	
9	204526	4			Bearing Cone	
10	204525	4			Bearing Cup	
11	204527	4			Grease Seal	
12	206443	2			Stub Axle	1¾"x23"
13	204520	4			Dust Collar	
14	207889	4			Wheel Hub (Complete). Includes Items 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, & 13.	
15	207937	4			Wheel Hub Repair Kit. Includes Items 7, 8, 9, 10, & 11.	

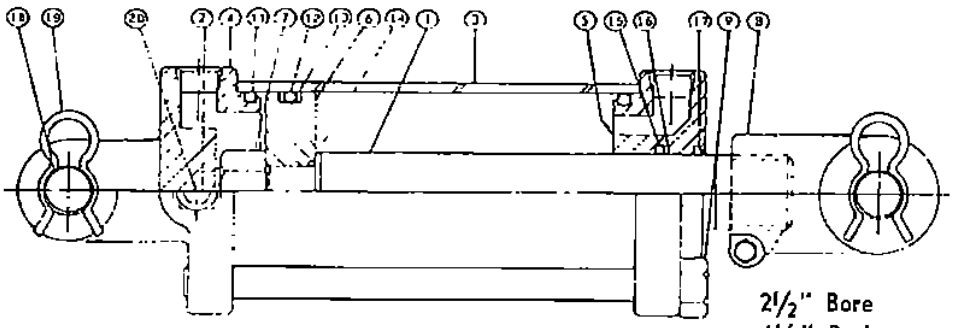


FIG. 6 — 2½"x16" HYDRAULIC CYLINDER

Hydraulic Cylinder Complete (See Item 21)
Cylinder Seal Kit (See Item 10)

Item No.	Prince Part Number	Hydra-Cyl. Part Number	FOR MODEL 200 295	200 296	200 297	200 298	200 300	200 301	200 302	200 303	Description	Size
1	208601	208902	0	4	4	4	0	4	4	4	Piston Rod	
2	208602	208903	0	4	4	4	0	4	4	4	Pipe Plug	
3	208603	208904	0	4	4	4	0	4	4	4	Tube	
4	208604	208905	0	4	4	4	0	4	4	4	Butt	
5	208605	208906	0	4	4	4	0	4	4	4	Gland	
6	208606	208907	0	4	4	4	0	4	4	4	Piston	
7	208607	208908	0	4	4	4	0	4	4	4	Lock Nut	
8	208493	208909	0	4	4	4	0	4	4	4	Clevis Assembly	
9	208608	208910	0	16	16	16	0	16	16	16	Tie Rod	
10	208518	208618	0	4	4	4	0	4	4	4	Seal Kit (Includes Items 11 thru 16)*	
*11	208609	208609	0	8	8	8	0	8	8	8	O-Ring	
*12	208610	208610	0	4	4	4	0	4	4	4	O-Ring	
*13	208611	208611	0	8	8	8	0	8	8	8	BU-Washer	
*14	208612	208612	0	4	4	4	0	4	4	4	O-Ring	
*15	208513	208613	0	4	4	4	0	4	4	4	O-Ring	
*16	208514	208614	0	4	4	4	0	4	4	4	BU-Washer	
17	208615	208615	0	4	4	4	0	4	4	4	Wiper	
18	208616	208616	0	4	4	4	0	4	4	4	Clevis Pin	
19	208617	208617	0	8	8	8	0	8	8	8	Hair Pin Clip	
20	208569	208569	0	4	4	4	0	4	4	4	Flow Restrictor (Not Shown)	
21	208546	208920	0	4	4	4	0	4	4	4	Hyd. Cylinder (Complete)	2½"x16"

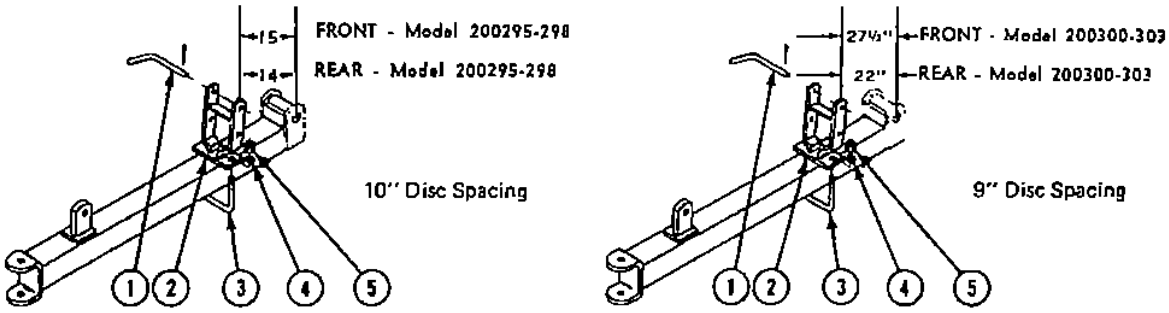


FIG. 7 — WING LATCH ATTACHMENT

Note: Wing Latch Works on Both Spring & Hydraulic Folding Attachments.

MACHINERY NOS. 299057 & 299058

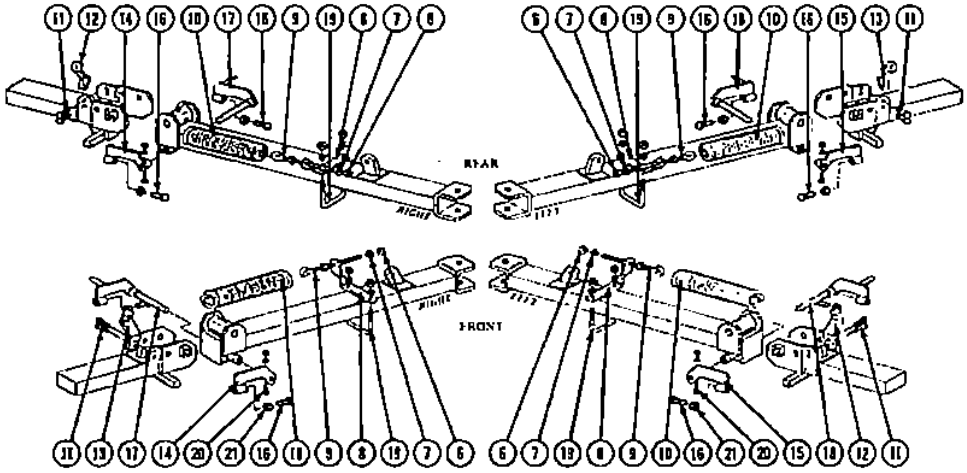


FIG. 8 — SPRING FOLDING ATTACHMENT

Machinery No. 299058

Item No.	Part Number	FOR MODEL 200 295	200 296	200 297	200 298	200 300	200 301	200 302	200 303	Description	Size
1	208540	0	4	4	4	0	4	4	4	Wing Latch Pin	
	205831	0	4	4	4	0	4	4	4	Special Cotter	
2	208556	0	0	0	0	0	2	2	2	Front Wing Stop 20⅛" Long @ 59°	9" Disc Spacing
	208551	0	0	0	0	0	2	2	2	Rear Wing Stop 18⅛" Long @ 67°	9" Disc Spacing
	208622	0	2	2	2	0	0	0	0	Front Wing Stop 22" Long	10" Disc Spacing
	208625	0	2	2	2	0	0	0	0	Rear Wing Stop 18⅛" Long	10" Disc Spacing
3	206833	0	4	4	4	0	4	4	4	U-Bolt	¾"
4		0	8	8	8	0	8	8	8	Lock Washer	¾"
5		0	8	8	8	0	8	8	8	Nut	¾"
6		0	8	8	8	0	8	8	8	Nut	¾"
7		0	4	4	4	0	4	4	4	Flat Washer	¾"
8	208317	0	4	4	4	0	4	4	4	Eye Bolt Conn. Brkt.	
9	206872	0	4	4	4	0	4	4	4	Eye Bolt	
10	206841	0	4	4	4	0	4	4	4	Extension Spring	
11		0	8	8	8	0	8	8	8	Bolt	⅝"x2"
		0	8	8	8	0	8	8	8	Lock Washer	⅝"
		0	8	8	8	0	8	8	8	Nut	⅝"
12	208937	0	2	2	2	0	2	2	2	L.F. & R.R. Spring Brkt.	
13	208938	0	2	2	2	0	2	2	2	R.F. & L.R. Spring Brkt.	
14	208532	0	2	2	2	0	2	2	2	Right Wing Lock	
15	208633	0	2	2	2	0	2	2	2	Left Wing Lock	
16		0	8	8	8	0	8	8	8	Bolt, H.T.	⅞"x2"
17	208529	0	2	2	2	0	2	2	2	Right Wing Lock	
18	208632	0	2	2	2	0	2	2	2	Left Wing Lock	
19	206833	0	4	4	4	0	4	4	4	U-Bolt	
		0	8	8	8	0	8	8	8	Lock Washer	¾"
		0	8	8	8	0	8	8	8	Nut	¾"
20		0	4	4	4	0	4	4	4	Bolt w/Nut, H.T.	⅜"x2"
		0	4	4	4	0	4	4	4	Lock Washer	⅜"
21		0	8	8	8	0	8	8	8	Jam Nut	⅞"

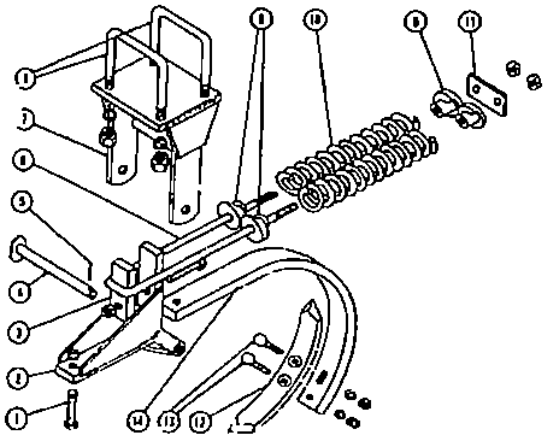


FIG. 9 — BALK BREAKER ATTACHMENT — MACH. NO. 299046

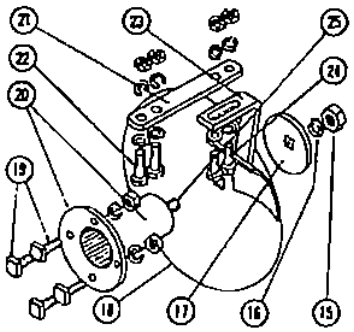


FIG. 10 — FURROW FILLER ATTACHMENT — MACH. NO. 200086

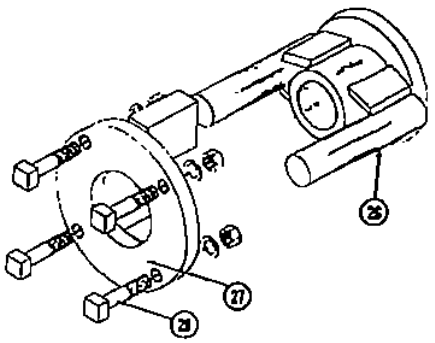


FIG. 11 — GANG COUPLER MACHINERY NUMBER 200093

Item No.	Part Number	FOR MODEL 200 295	200 296	200 297	200 298	200 300	200 301	200 302	200 303	Description	Size
1		2	2	2	2	2	2	2	2	Bolt	5/8"x2¾"
		2	2	2	2	2	2	2	2	Lock Nut	5/8"
2	207496	1	1	1	1	1	1	1	1	Shank Hinge Assembly	
3	207527	1	1	1	1	1	1	1	1	Upright	
4	206607	1	1	1	1	1	1	1	1	Hinge Pin	
5		1	1	1	1	1	1	1	1	Cotter	5/16"x1½"
6	603012	1	1	1	1	1	1	1	1	U-Bolt w/Lock Nuts	5/8"
7	207503	1	1	1	1	1	1	1	1	Balk Breaker Anchor Assy.	
8	206328	2	2	2	2	2	2	2	2	U-Bolt w/Nuts	⅞"
		4	4	4	4	4	4	4	4	Lock Washer	⅞"
9	603009	4	4	4	4	4	4	4	4	Spring Cap	
10	603011	2	2	2	2	2	2	2	2	Compression Spring	
11	603059	1	1	1	1	1	1	1	1	Strap	
12	206727	1	1	1	1	1	1	1	1	Chisel	
13		2	2	2	2	2	2	2	2	Plow Bolt w/Nuts, High Tensile	7/16"x2¼"
		2	2	2	2	2	2	2	2	Lock Washer	7/16"
14	207434	1	1	1	1	1	1	1	1	16" Shank	
15		2	2	2	2	2	2	2	2	Nut	1⅛"
16		2	2	2	2	2	2	2	2	Lock Washer	1⅛"
17	207021	2	2	2	2	2	2	2	2	Furrow Filler Butt Plate	
18	205003	2	2	2	2	2	2	2	2	18" Round Disc	
	204004	2	2	2	2	2	2	2	2	20" Round Disc	
19		8	8	8	8	8	8	8	8	Bolt w/Nut Square Head	½"x2"
		8	8	8	8	8	8	8	8	Lock Washer	
20	206834	2	2	2	2	2	2	2	2	Furrow Filler Spacer	
21	207137	2	2	2	2	2	2	2	2	Furrow Filler Scraper Bar	
22		4	4	4	4	4	4	4	4	Bolt w/Nut	½"x2½"
		4	4	4	4	4	4	4	4	Flat Washer	½"
		4	4	4	4	4	4	4	4	Lock Washer	½"
23	207603	1	1	1	1	1	1	1	1	Left Scraper for Right Rear	
	207600	1	1	1	1	1	1	1	1	Right Scraper for Left Rear	
24		4	4	4	4	4	4	4	4	Bolt w/Nut	½"x2"
		4	4	4	4	4	4	4	4	Flat Washer	½"
		4	4	4	4	4	4	4	4	Lock Washer	½"
25		2	2	2	2	2	2	2	2	Bolt	1⅛"x3"
26	207318	4	8	8	8	4	8	8	8	End Washer Drive	
27	207323	4	8	8	8	4	8	8	8	Butt Plate Driver	
28		16	32	32	32	16	32	32	32	Bolt w/Nut	½"x2¼"
		16	32	32	32	16	32	32	32	Lock Washer	½"

BUNDLING LIST

General

Right and left are determined by standing at the rear of the harrow. All items designated as right and left fit into their respective positions on the front section. When used on the rear section, the procedure is reversed and items designated as right will fit on the left side and vice versa.

These harrows are shipped "knocked down" and are bundled into thirteen bundles for the basic harrow and eight additional bundles for the wings consisting of the following:

Bundle Number	Bundles Required 200 295	200 296	200 297	200 298	200 300	200 301	200 302	200 303	Description
201424	1	1	1	1	1	1	1	1	Tongue Bundle w/Single Drawbar Clevis*
201396	1	1	1	1	1	1	1	1	Tongue Bundle w/Double Drawbar Clevis*
200909	1	1	1	1	1	1	1	1	Front and Rear Cross Frames
201069	1	1	1	1	1	1	1	1	Center Frame Bundle
201340	1	1	1	1	1	1	1	1	Side Frames
201151	1	1	1	1	1	1	1	1	Wheel Axle Bundle w/Hubs
201449	4	4	4	4	4	4	4	4	15"x6" Rims**
201209	4	4	4	4	4	4	4	4	15"x10" High Flotation Rims**
201580	0	0	0	0	1	1	1	1	Right Front 9-Disc Gang Frame 9"
201581	0	0	0	0	1	1	1	1	Left Front 9-Disc Gang Frame 9"
201582	0	0	0	0	1	1	1	1	Right Rear 9-Disc Gang Frame 9"
201583	0	0	0	0	1	1	1	1	Left Rear 9-Disc Gang Frame 9"
201584	0	0	0	0	0	1	0	0	Right Front 3-Disc Wing Gang Frame 9"
201585	0	0	0	0	0	1	0	0	Left Front 3-Disc Wing Gang Frame 9"
201586	0	0	0	0	0	1	0	0	Right Rear 4-Disc Wing Gang Frame 9"
201587	0	0	0	0	0	1	0	0	Left Rear 4-Disc Wing Gang Frame 9"
201588	0	0	0	0	0	0	1	0	Right Front 4-Disc Wing Gang Frame 9"
201589	0	0	0	0	0	0	1	0	Left Front 4-Disc Wing Gang Frame 9"
201590	0	0	0	0	0	0	1	0	Right Rear 5-Disc Wing Gang Frame 9"
201591	0	0	0	0	0	0	1	0	Left Rear 5-Disc Wing Gang Frame 9"
201592	0	0	0	0	0	0	0	1	Right Front 5-Disc Wing Gang Frame 9"
201593	0	0	0	0	0	0	0	1	Left Front 5-Disc Wing Gang Frame 9"
201594	0	0	0	0	0	0	0	1	Right Rear 6-Disc Wing Gang Frame 9"
201595	0	0	0	0	0	0	0	1	Left Rear 6-Disc Wing Gang Frame 9"
201230	1	1	1	1	0	0	0	0	Right Front 8-Disc Gang Frame 10"
201231	1	1	1	1	0	0	0	0	Left Front 8-Disc Gang Frame 10"
201232	1	1	1	1	0	0	0	0	Right Rear 8-Disc Gang Frame 10"
201233	1	1	1	1	0	0	0	0	Left Rear 8-Disc Gang Frame 10"
201234	0	1	0	0	0	0	0	0	Right Front 3-Disc Wing Gang Frame 10"
201235	0	1	0	0	0	0	0	0	Left Front 3-Disc Wing Gang Frame 10"
201236	0	1	0	0	0	0	0	0	Right Rear 4-Disc Wing Gang Frame 10"
201237	0	1	0	0	0	0	0	0	Left Rear 4-Disc Wing Gang Frame 10"
201238	0	0	1	0	0	0	0	0	Right Front 4-Disc Wing Gang Frame 10"
201239	0	0	1	0	0	0	0	0	Left Front 4-Disc Wing Gang Frame 10"
201240	0	0	1	0	0	0	0	0	Right Rear 5-Disc Wing Gang Frame 10"
201241	0	0	1	0	0	0	0	0	Left Rear 5-Disc Wing Gang Frame 10"
201242	0	0	0	1	0	0	0	0	Right Front 5-Disc Wing Gang Frame 10"
201243	0	0	0	1	0	0	0	0	Left Front 5-Disc Wing Gang Frame 10"
201244	0	0	0	1	0	0	0	0	Right Rear 6-Disc Wing Gang Frame 10"
201245	0	0	0	1	0	0	0	0	Left Rear 6-Disc Wing Gang Frame 10"
201164	0	1	1	1	0	1	1	1	Wing Spring Bundle
201229	0	1	1	1	0	1	1	1	Hydraulic Hose Bundle
201383	0	4	4	4	0	4	4	4	Hydraulic Cylinder, 2½"x16"
201323	0	1	1	1	0	1	1	1	Spring Holder Bundle
201384	0	4	4	4	0	4	4	4	Hydraulic Wing Lock Bundle
201385	0	1	1	1	0	1	1	1	Manual Wing Lock Bundle
201395	0	1	1	1	0	0	0	0	Wing Stop Bundle 10" Disc Spacing
201386	0	0	0	0	0	1	1	1	Wing Stop Bundle 9" Disc Spacing
201555	1	1	1	1	1	1	1	1	Tongue Jack
TOTAL	14	22/28	22/28	22/28	14	22/28	22/28	22/28	w/Spring Folding Attachment w/Hydraulic Folding Attachment

* Denotes Optional Tongue Bundles.
** Denotes Optional Rims.

Bundle Number	Bundles Required 299 046	299 057	200 093	299 058	Description
201033	1	0	0	0	Bulk Breaker Attachment
201054	0	0	1	0	Gang Coupler
201229	0	1	0	0	Hydraulic Hose Bundle
201383	0	4	0	0	Hydraulic Cylinder 2½"x16"
201025	0	0	0	1	Spring Bundle
201323	0	0	0	1	Spring Holder Bundle
201384	0	4	0	0	Hydraulic Wing Lock Bundle
201385	0	0	0	1	Manual Wing Lock Bundle
TOTAL	1	9	1	3	

Extra Equipment

If implements are ordered with extra equipment these bundles will be shipped as shown below:

Machinery No. 299046 — Balk Breaker Attachment

Machinery No. 299057 — Hydraulic Folding Attachment (Used on Models 200296 thru 200303).

Machinery No. 299058 — Spring Folding Attachment (Used on Models 200296 thru 200303).

Machinery No. 200093 — Gang Coupler (When shipped assembled with implement included in gang bundles).

Bundle Number Tags

Bundles for Disc Gang Assemblies may vary with the type of bearing connector; use of gang connectors; size of disc blade and type of bearing. Two bundle number tags are attached to disc gang assemblies to fully describe the bundle.

BUNDLE NO. TAG

○ X X X X X X

SAME AS OLD TAG

BUNDLE DESCRIPTION TAG

○ X – X X – X

Type of Bearing Connector; or Use of Gang Connectors

Code No.	Description
1	Standard Bearing Connectors
2	Spring Bearing Connectors
3	Standard Bearing Connectors with Gang Connectors
4	Spring Bearing Connectors with Gang Connectors

Disc Blade

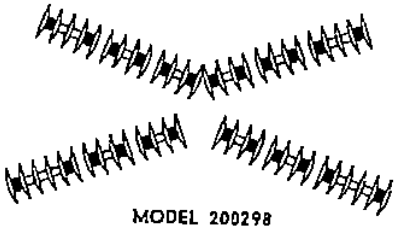
Code No.	Part No.	Diameter	Axle or Housing Size	Cut-Out or Round
62	208836	22"x3/16"	1½" Sq.	C.O.
63	208837	22"x3/16"	1½" Sq.	Rd.
43	207903	24"x3/16"	1½" Sq.	C.O.
44	207904	24"x3/16"	1½" Sq.	Rd.
24	207909	22"x¼"	1½" Sq.	C.O.
25	207910	22"x¼"	1½" Sq.	Rd.
41	207901	24"x¼"	1½" Sq.	C.O.
42	207902	24"x¼"	1½" Sq.	Rd.

Type of Bearing

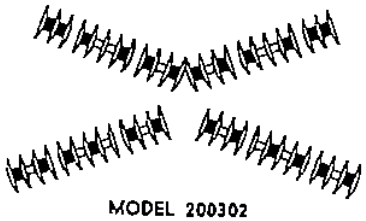
Code No.	Description
7	1½" Regreasable Bearing
8	1½" Special Regreasable Bearing

DIAGRAM SHOWING RESPECTIVE POSITIONS OF BEARINGS AND AXLES

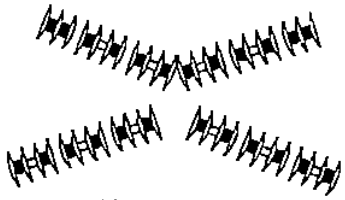
MODEL 200295



MODEL 200298

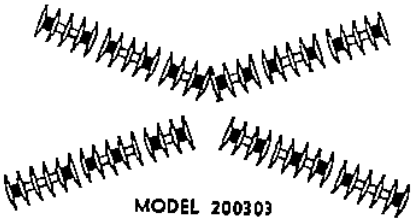


MODEL 200302



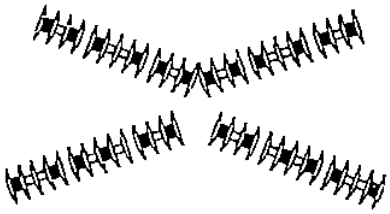
MODEL 200296

MODEL 200300



MODEL 200303

MODEL 200297



MODEL 200301

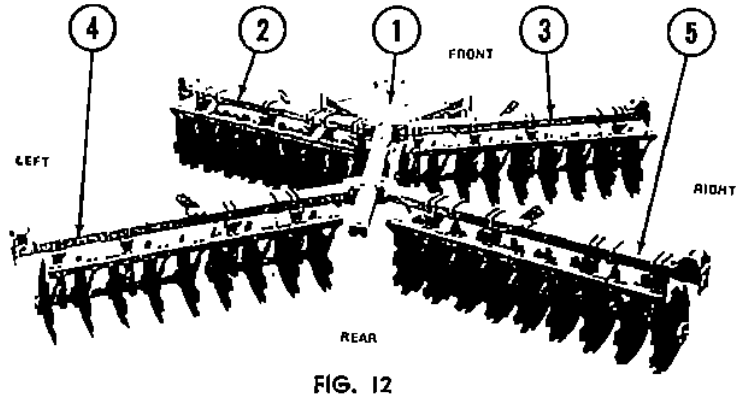


FIG. 12

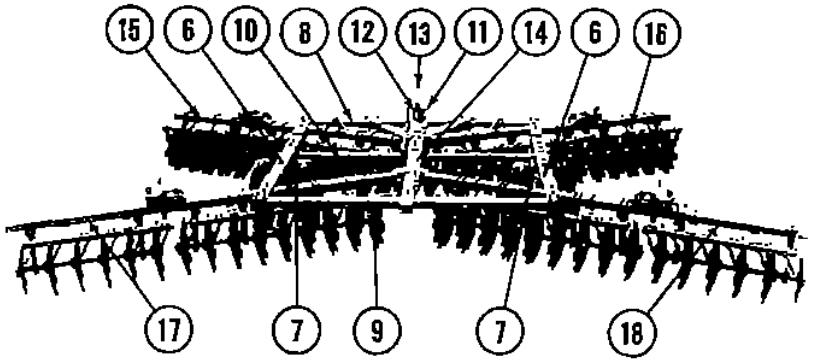


FIG. 13

Basic Harrow Assembly

1. Remove all bundling wire and proceed as follows: Note: Right and Left are determined by standing at the rear and looking at the harrow.
2. Position the *Center Frame Bundle* (Item 1, Fig. 12) Bundle No. 201069 in the center of the work area. Block the center frame bundle up approximately 3 feet off the ground level.
3. Position the *Left and Right Front Gang Bundles* (Bundle Nos. 201580, 201581) (Items 2 and 3) as shown in Fig. 12. Block up the bundles so they will be in an upright position. Remove the gang bolt (⅞" x 6½") and bushings. Position the spacer bushing into the center frame bracket and attach the ends of each front gang bundle onto the bracket provided on the center frame bundle (Item 1).
4. Set the *Right and Left Rear Gang Bundles* (Bundle No. 201582, 201583, Items 4 and 5, Fig. 12) in position as described in Step 3 and secure to the center frame (Item 1) as shown in Fig. 77.
5. Remove the bolts from both ends of the *Side Frame Bundle* (Item 6, Fig. 13) Bundle No. 201340. Spread the front and rear gang frame bundles (Items 2, 3, 4 and 5) by pushing the front gang frames forward and the rear gang frames towards the rear. Position the side frame members so that the wheel axle bearing (Item 7) is to the front and downward. Slide the open end of the side frame member over the front gang-tube approximately 53" from the gang connector cuff. Then slide the other end of the side frame over the rear gang tube. Close the front and rear bundle by pushing the front gang bundle backward and the rear gang bundle forward. Repeat this procedure on the other side.
6. Remove the four ¾" x 5½" and the two ¾" x 6½" bolts from the front of the center frame bundle (Item 1). Insert the *Front Cross Frame Member* (Item 8) found in bundle number 200909, with the holes in the center of the front cross frame member to the front. Align all holes in the front cross frame with the holes in the center frame and side frame. Bolt into position but do not tighten the bolts.
7. Remove the one ¾" x 5½" bolt from the *Rear Cross Frame* (Item 9, found in bundle number 200909), attach the rear cross frame to the rear of the center frame and to the side frames. Bolt into position but do not tighten the bolts.
8. Position the *Wheel Axle Bundle* (Item 10), bundle number 201151, under the side frames and the center frame with the wheel axle for rubber tires to the rear of the harrow and the hydraulic cylinder bracket upward. Remove the wheel axle bearing (Item 7) from the center frame and side frames. Raise the wheel axle (Item 10) and position three wheel axle bearings with the alemites to the rear between the wheel axle (Item 10) and the center frame (Item 1); side frame (Item 6). Secure the wheel axle with the wheel axle bearings and ¾" x 9" bolts previously removed.
9. Remove the two pins from the front bottom of the center frame bundle (Item 1). Position the *Tongue Bundle* (Item 11), Bundle No. 201424, with the spring rod bracket upward between the tongue connector brackets on the front of the center frame and secure with the two pins previously removed. Connect the spring rod (Item 12) to the tongue (Item 11) with the pin found in the tongue end of the spring rod. Connect the other end of the spring rod to the center frame with the two ⅞" shoulder bolts found at the connecting point. Connect the hose holder (Item 13) to the tongue with the bolt provided.
10. Remove the pins from the depth adjustment bar (Item 14) place the rear of the depth adjustment bar through the opening provided at the rear of the center frame. Connect the front of the depth adjustment bar to the bracket provided on the wheel axle (Item 10) and secure with the pin and cotter provided. Replace the depth adjustment cuff, pin and cotter on the depth adjustment bar behind the depth bar bracket.
11. Position the front and rear gang bundles (Items 2, 3, 4 and 5) at the desired angle. Note: The left front and right front gang must be at the same angle. Left rear and right rear gang must have the same angle. Put one ¾" x 5½" heat treated bolt in front and one ¼" x 5½" heat treated bolt behind each gang frame holding the disc gang bundle in the desired angle.
12. Adjust all scrapers, mount wheels, and tighten all bolts.

Wing Assembly

Note: The rear wing gangs have one more disc, 4" smaller than on the front wing gangs.

1. Remove the wing connector pin from the wing gang frame (Items 15, 16, 17 and 18). Place the wing bundles in their respective positions and pin into position with the wing connector pins previously removed.
2. Remove the U-bolt (Item 3, Fig. 7) from the wing stop (Item 2). Position the wing stop in its proved position (see dimension, Fig. 7) and secure with the U-bolt previously removed.

   Note: Wing stops are made different for front and rear. Long wing stop works on front gang, short wing-stop on rear gang.

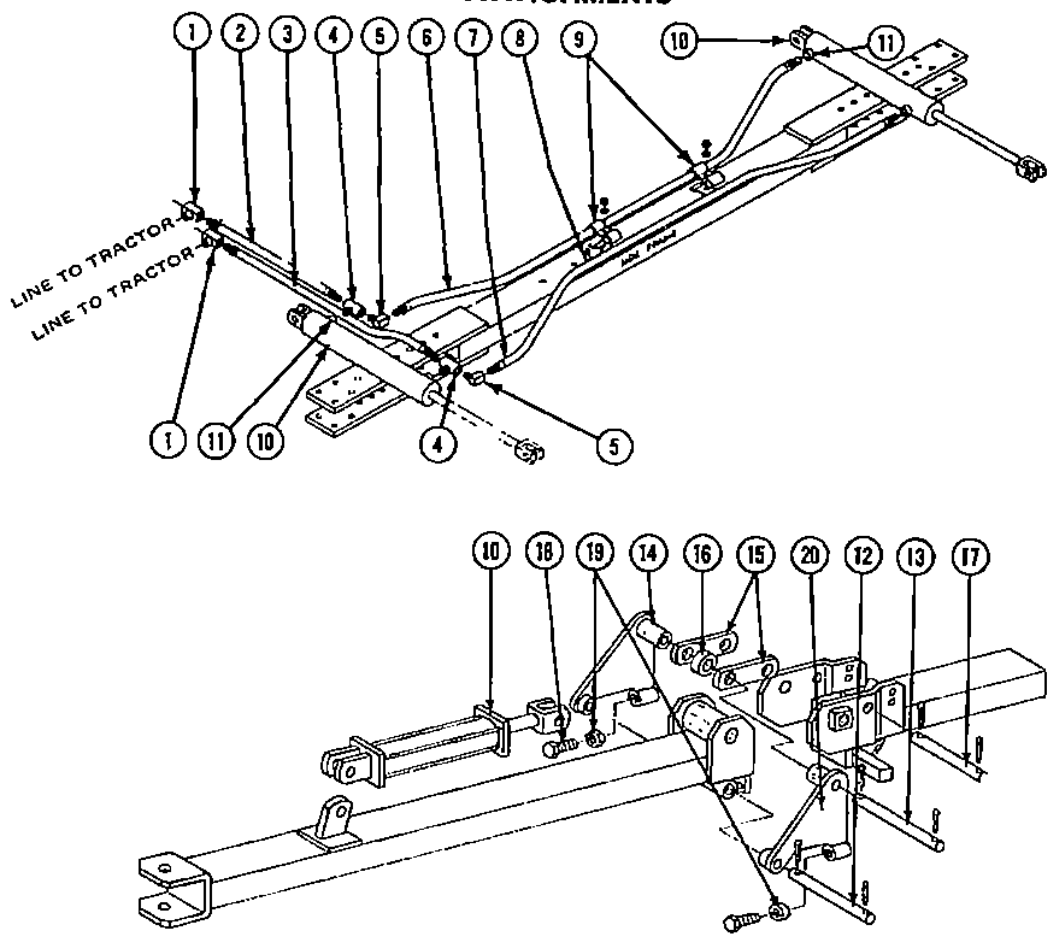


FIG. 14 — HYDRAULIC FOLDING ATTACHMENT (COMPLETE)
MACH. NO. 299057

Hydraulic Folding Attachment

See Figure 14 MACHINERY NO. 299057

1. Connect the right and left hydraulic wing lock (Item 14 and 20, Fig. 14) to the gang frame by using the hinge pin (Item 12, Fig. 14). Insert the two ⅜"x2" cotters in the hinge pin to secure the right and left hydraulic wing locks.
2. Adjust the cylinder cuff to the length of 31½" between the pin centers. Connect the butt end of the hydraulic cylinder (Item 10) to the hydraulic cylinder bracket on the gang frame.

> For cylinders mounted on front gangs: turn the cylinder so that the hydraulic hose ports are toward the rear of the harrow.
>
> For cylinders mounted on the rear gangs: turn the cylinder so that the hydraulic hose ports are toward the front of the harrow.
>
> Fasten the hydraulic cylinders to the brackets with the pins provided.

3. Insert the hydraulic cylinder pin (Item 13) through the hole in the left hydraulic wing lock (Item 14). Position one lift arm (Item 15) so that the pin can slide through the slotted hole. Push the pin through one side of the hydraulic cylinder cuff. Place the roller (Item 16) between the cuff. Push the pin through the roller and the other side of the hydraulic cylinder cuff. Place the second lift arm (Item 15) in the position so that the pin can be pushed through the slotted hole and into the hole in the right hydraulic wing lock (Item 20). Key the pin with the two cotters (⅜"x2").
4. Connect the lift arm (Item 15) to the wing gang frame, by inserting the pin (Item 17) through the wing frame and the two lift arms. Secure with the two cotters (⅜"x2").
5. Item 14 and 20 will already be assembled. Screw the ⅞"x2" adjustment bolts into the hydraulic wing lock as far as they will go.
6. Connect the flow restrictor (Item 11) to the butt end of the hydraulic cylinder as shown by the arrow in Fig. 14. Connect the hydraulic tees (Item 4) to the four ports in the front hydraulic cylinders. Connect the two hydraulic hoses (41" long) (Item 2) to the inside hydroulic tee of the cylinder. Connect the two hydraulic hoses (60" long) (Item 3) to the outside tees of the hydraulic cylinder. Connect the two (41" long) hoses together with the all female hydraulic tee (Item 1). Connect the two (60" long) hydraulic hoses together with the all female hydraulic tee (Item 1). Connect the 90° hydraulic street ell (Item 5) to the hydraulic tee on the front hydraulic cylinders. Connect the (84" long) hydraulic hose (Item 6) to the butt end of the front hydraulic cylinder. Connect the other end of the 84" long hydraulic hose to the butt end of the rear hydraulic cylinder. Connect the (105" long) hydraulic hose (Item 7) to the rod end of the hydraulic cylinder. Connect the other end of the hose to the rod end of the rear hydraulic cylinder. Connect the hydraulic hose (Items 6 and 7) to the side frame with equal slack between front and rear with the hose clamps (Item 9). Tighten clamp down to secure hose.
7. Extend the hydraulic cylinder rod to the full length. Adjust the adjustment bolts (Item 18, Fig. 14) so that they are snug, not tight, on the wing lock bar. Lock the adjustment nut (Item 19).

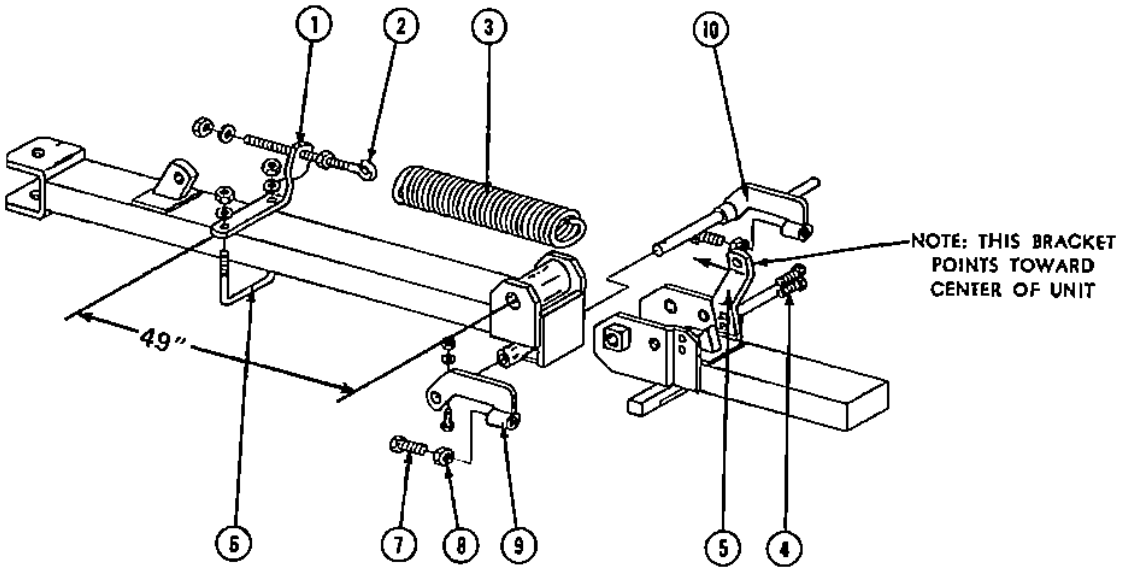


FIG. 15 — SPRING FOLDING ATTACHMENT
MACHINERY NO. 299058

Spring Folding Attachment

See Figure 15 MACHINERY NO. 299058

1. Remove the nuts from the U-bolt of the spring connector bracket bundle (201323) and separate the four (Item 1) brackets and U-bolts (Item 6).
2. Position the spring connector bracket (Item 1) on the gang frame tube approximately 49" from the wing connector pin. Fasten with the U-bolts previously removed.
3. Bolt the spring connector bracket (Item 5) to the wing as shown in the figure by using the two ⅝"x2" bolts (Item 4).
4. Connect one end of the spring (Item 3) to the hole in the top of the spring connector bracket (Item 5).
5. Connect the eye bolt (Item 2) to the other end of the spring (Item 3).
6. Raise the wing to approximately 45° angle and insert the eye bolt through the hole in the spring connector bracket Secure with the nut and flat washer.
7. Adjust the tension in the extension spring with the nut on the eye bolt until the wing assemblies can be raised and lowered easily.
8. Insert the wing lock (Item 10) through the bushing under the gang frame tube as shown in the figure. Position the other wing lock (Item 9) over the pin and secure with the bolt (¾"x2").
9. With the wing in the full downward position, adjust the adjustment bolt and nut (Items 7 and 8) until the bolt puts a slight pressure on the wing bar.
10. By pushing down on the end of the wing the manual wing latch can be raised allowing the wing to be folded.

Extra Equipment

Gang Coupler Attachment

MACHINERY NO. 200093

1. Remove the nut, washer and end washer (Items 1, 2, 3 and 4, Fig. 2) from the axle (Item 11, Fig. 2) in the opening where the two axles are to be connected. Slip the axle (Item 11, Fig. 2) back approximately 1½". This will give sufficient clearance to install the coupler. *On the front gangs, start on the outside and work to the inside. On the rear gangs start on the inside and work to the outside.*
2. With the bolts provided, mount the butt plate driver (Item 27, Fig. 11) to the butt plate (Item 9, Fig. 2). Tighten all bolts evenly and securely. Replace the end washer (Item 4, Fig. 2) with the end washer drive (Item 26, Fig. 11) of the coupler.
3. Slip the axle back into its original position and replace the washer and nut (Item 1 and 3, Fig. 2). Tighten securely.

Balk Breaker Attachment

MACHINERY NO. 299046

Remove the two U-bolts (Item 8, Fig. 9) from the Balk Breaker Connector (Item 7, Fig. 9). Mount the Balk Breaker Attachment on the Center Frame (Item 46, Fig. 1) directly behind the Wheel Axle Bearings (Item 5, Fig. 1) and secure in place with the U-bolts previously removed.

Furrow Filler Attachment

MACHINERY NO. 200085

Remove the four ½" x 2" Bolts (Item 19, Fig. 10) from each furrow Filler Spacer (Item 20, Fig. 10). Mount the Furrow Filler Spacers onto the Butt-Plates (Item 9, Fig. 2) on the outside rear of the harrow. To mount the Furrow Filler Spacers insert the heads of the ½" x 2" Bolts into the four slots provided on the outside of each Butt-Plate. Secure the Furrow Filler Spacers to the Butt-Plates with the bolts provided. Mount the Discs (Item 18, Fig. 10) onto the Furrow Filler Spacer and tighten into position, using the Furrow Filler Butt-Plates (Item 17, Fig. 10), Lock Washers (Item 16, Fig. 10), and Nuts (Item 15, Fig. 10) provided. Any Disc with a 1⅛" Square Center Hole can be used. For best results, use a Disc that is 4"-6" smaller than the Discs on the harrow. To mount the Furrow Filler Scrapers (Item 23, Fig. 10) onto the harrow, remove the outside Scrapers (Items ⅓ & 5, Fig. 4) on the outside rear of the harrow and mount the Furrow Filler Scraper Bars (Item 21, Fig. 10) onto the Scraper Bars (Items 1 & 2, Fig. 4) with the Scrapers previously removed. Adjust the Scrapers and tighten all bolts.

OPERATING INSTRUCTIONS
Wing-Type Wheel Mounted Tandem Harrow

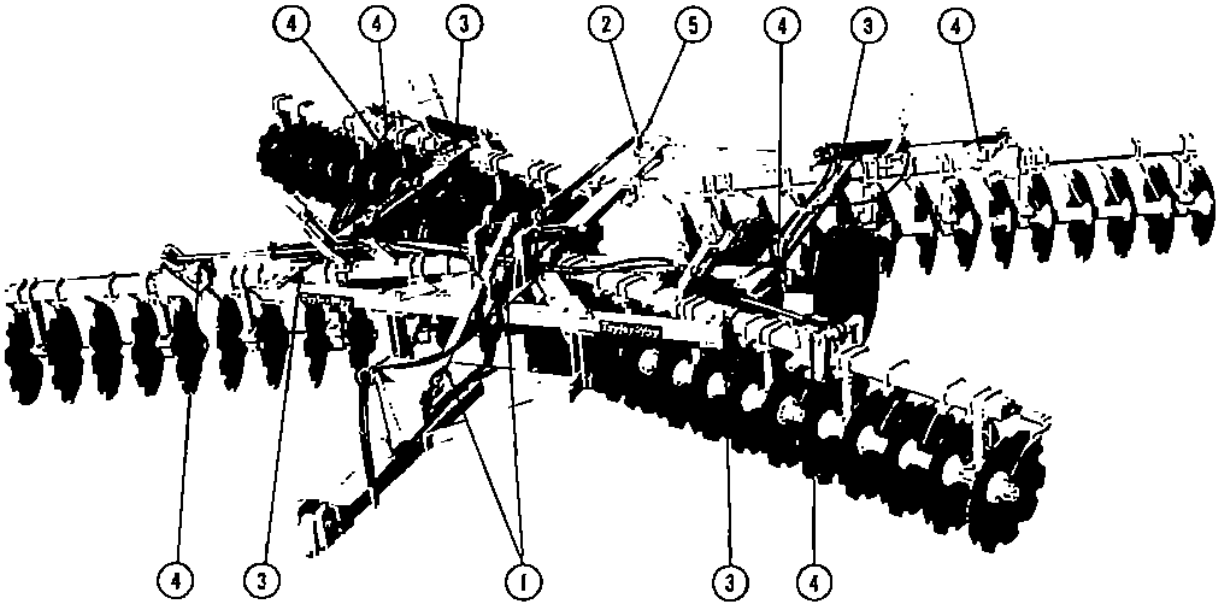


FIG. 16 — OPERATING INSTRUCTIONS

Front to Rear Leveling

See Item 1, Figure 16

To level the harrow from front to rear, use the Spring Adjusting Rod (Item 1, Fig. 16). Loosen the 1⅜" Nut (Item 13, Fig. 1) so that no pressure is exerted on the Top Spring (Item 11, Fig. 1) when the harrow is down and in its plowing position. Note: The Bottom Spring is easier to adjust when the harrow is in the transport position. With the Top Spring loose, tighten the Bottom Spring (Item 45, Fig. 1) by screwing up on the Wing Nut located on the Spring Adjusting Rod to increase the cutting depth of the rear section. To decrease the cutting depth of the rear section, loosen the Bottom Spring by screwing down on the Wing Nut. After the cutting depth has been adjusted, lift the harrow to its transport position and tighten the Top Spring by screwing down on the 1⅜" Nut located on top of the Spring Adjusting Rod until the harrow is approximately level.

If the Tongue (Item 35, Fig. 1) needs to be adjusted to compensate for the draw bar height of the tractor, remove the two Pins securing the Tongue to the Center Frame (Item 30, Fig. 1) and move the Tongue up or down as required.

Depth of Cut

See Item 2, Figure 16

The depth of cut is controlled by the use of a ASAE standard 8" stroke single or double action Hydraulic Cylinder with a 3½" or larger bore or by use of the Depth Adjustment bar, Cuff, Pin and Cotter (Item 2, Fig. 15). To adjust the depth of cut using the Depth Adjustment Bar, remove the Depth Adjustment Pin and Cotter and slide the Depth Adjustment Cuff forward to decrease the depth of cut, and to the rear to increase the depth of cut. For transport, move the Depth Adjustment Cuff to the foremost hole. Never pin the Depth Adjustment Cuff in front of the slide which the Depth Adjustment Bar travels through on the rear of the harrow. Also, do not place a wedge or any other object between the rear Hydraulic Cylinder Bracket and the Bracket Holder welded to the Wheel Axle (Item 10, Fig. 1) to make the harrow lift higher in the transport position.

Adjustment for Disc Angle

See Item 3, Figure 16

The disc angle is changed by removing the ¾" x 5½" bolts behind each Gang Frame (Item 3, Fig. 16) and shifting the outside ends of each Gang Frame forward or rearward until the desired amount of angle is obtained. Reinsert the bolts behind each Gang Frame and tighten. Always have the same amount of angle in both Front Gang Assemblies and the same amount of angle in both Rear Gang Assemblies.

Adjusting for Balk

Loosen the U-Bolts holding the Bearing Connectors (Item 6, Fig. 2) and the Scraper Bars (Item 3, Fig. 4) onto the Front Gang Frames (Item 2, Fig. 1) and move all front Disc Gang Assemblies (Fig. 2) in toward the center until the inside discs are touching. Make sure all U-Bolts are moved the same distance toward the center before tightening. Be sure that the disc axles do not touch in the center.

Adjusting for Ridging or Furrowing

Loosen the U-Bolts holding the Bearing Connectors (Item 6, Fig. 2) and the Scraper Bars (Item 3, Fig. 4) onto the Rear Gang Frames (Item 7, Fig. 1) and move all rear Disc Gang Assemblies (Fig. 2) out if the harrow is ridging and in if the harrow is not filling up the furrow left by the center of the front gangs. Make sure that all U-Bolts are moved the same distance toward or away from the center of the harrow. The speed that the harrow is to be pulled will affect these adjustments; therefore, adjustments should be made for the speed that the harrow will normally be pulled.

Lubrication

See Item 4, Figure 16

The bearing (Items 7 and 9, Fig. 3) used in the Wheel Hub Assemblies are packed with grease at the factory prior to shipment. These bearings should be checked and adjusted periodically and repacked with grease. The harrow should be greased at all alemite fittings as often as necessary to insure ease of operation and long life of the working parts. These points are indicated as (Item 4, Fig. 16). The ball bearings (Item 16, Fig. 2) are regreasable ball bearings and should be greased daily when operating.

Transporting Harrow

See Item 5, Figure 16

When transporting the harrow at transport speeds always have the Wing Assemblies folded over on top of the basic harrow. Fold the wings and pin the wings in the folded position with the wing latch pin (Item 1, Fig. 7) provided.

Pin the depth control bar in transport position when transporting. Remove the depth adjustment pin (Item 16, Fig. 1) and the depth adjustment cuff (Item 18, Fig. 1). Position the depth adjustment cuff over the hole closest to the front of the unit and replace the depth adjustment pin.

Spring Folding Attachment

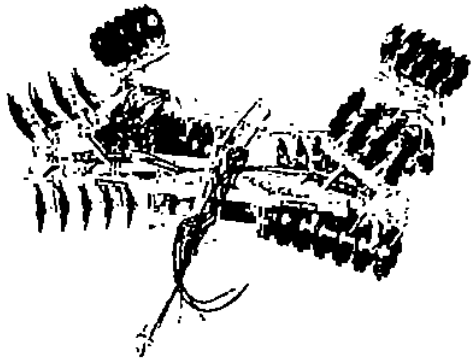
The wing lock may be adjusted to increase pressure on the wing lock bar. However the adjustment bolts must not be so tight that the wing lock cannot be pulled up by hand. Applying pressure on the wing will loosen the lock so it can easily be raised.

Hydraulic Folding Attachment

The wing lock may be adjusted to increase pressure on the wing lock bar. However the adjustment bolts must not be so tight that the wing lock cannot go over the wing lock bar. Adjust bolts to allow the wing lock to go over the bar with only a small force. Adjustment may be made on the hydraulic cylinder cuff to raise or lower the adjustment bolt on the wing lock bar. The adjustment bolts should stop when the hydraulic cylinder is fully extended in the center of the wing lock bar. Be careful not to lower wing when center is already in plowing position.

TRANSPORT WIDTH — 15 FEET, 10 INCHES

Disc Clearance Height = 9 inches



⚠ SAFETY ⚠

General

1. Do not walk on unit.
2. Use extreme caution around disc blades.
3. Do not try to adjust unit while moving.
4. Keep all bolts tight; all pins in place.
5. Do not alter design of unit.

Transporting

1. Use slow-moving emblem.
2. Do not exceed 15 mph.
3. Pin and lock transport bar before moving.
4. Do not transport without keying hitch bolt.
5. Always insert safety lock pin after folding wing.

Folding Wings

1. Do not allow anyone to stand near wings being folded or unfolded.
2. Do not remove hydraulic cylinders without inserting safety pin.
3. Always insert safety lock pin after folding spring assist wings.

TAYLOR IMPLEMENT DIVISION

PITTSBURGH FORGINGS CO.

TRACTOR DRAWN *Taylor-Way* IMPLEMENTS

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